FINAL REPORT

INTERLABORATORY VALIDATION OF THE MALE PUBERTAL ASSAY

ASSESSMENT OF PUBERTAL DEVELOPMENT AND THYROID FUNCTION IN JUVENILE MALE RATS

EPA CONTRACT NUMBER 68-W-01-023
WORK ASSIGNMENT 4-15

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SUMMARY AND DISCUSSION

This report discusses the methods and results of the interlaboratory statistical analysis of the male pubertal assay conducted under Work Assignment 4-15 of the USEPA endocrine Disruptor Screening Program, Interlaboratory Validation of the Male Pubertal Assay. Three laboratories, Argus, WIL, and Huntingdon conducted the assay in accordance with the test method specified by EPA. Each laboratory tested a corn oil control group and two doses each of four chemicals: DE-71 (30 and 60 mg/kg/day), vinclozolin (30 and 100 mg/kg/day), 2-chloronitrobenzene (25 and 100 mg/kg/day), and dibutyl phthalate (500 and 1000 mg/kg/day) with n=15 juvenile male rats per group. The animals were dosed daily from post natal day 23 to post natal day 53, during which time growth and body weight data and PPS status were determined. They were sacrificed on post natal day 53 (nominally), at which time a suite of organ weights and hormonal concentrations were determined.

The principal results of the statistical analysis are summarized below. Unless specified otherwise, the significant levels are at least 0.05.

1. The initial body weights (at PND22) for all treatment groups were about same within individual laboratories. Initial body weights at Argus Laboratories were consistently greater than those at Huntingdon, which in turn were consistently greater than those at WIL.

2. The test chemicals slowed down body weight growth. The high doses of Vinclozolin and 2-Chloronitrobenzene, the low dose of DE-71, and both doses of Dibutyl Phthalate were significantly lower than the vehicle control for the final body weights and the body weight gains, averaged across all laboratories and for some individual laboratories. In addition, the low dose of Vinclozolin was significantly lower than the vehicle control for Huntingdon. Similar reductions were observed for final body weights as a percent of control.

3. The test chemicals delayed time to preputial separation. Both doses of Vinclozolin and Dibutyl Phthalate had significantly higher age at preputial separation than the control group, averaged across all laboratories and for most individual laboratories. The high doses of DE-71 and 2-Chloronitrobenzene had significantly greater ages at PPS than the vehicle control group, averaged across all laboratories and for some individual laboratories. For each control group and test chemical group the animals at Argus Laboratories reached PPS earlier than those at WIL or Huntingdon Laboratories, which were similar to one another.

4. Most test chemical groups had higher body average weights at PPS than the control groups, perhaps due to the delay of preputial separation. For both doses of Vinclozolin and Dibutyl Phthalate the averages ages at PPS were significantly higher than the vehicle control group, averaged across all laboratories and for some individual laboratories. The high dose group of 2-Chloronitrobenzene had significantly greater age at preputial separation than the control group, averaged across all laboratories and for some individual laboratories. The high dose of DE-71 and the low dose of 2-Chloronitrobenzene were significantly higher than the control group for some individual laboratories. Nearly all the control and test chemical groups at Argus Laboratories had lower average body weights at PPS than the corresponding animals at WIL and Huntingdon Laboratories.

5. There were laboratory-to-laboratory differences in organ weights for each of the control and test chemical groups. Organ weights at Argus Laboratories were consistently higher than those at the other two laboratories for paired adrenals, dorsolateral prostate, paired epididymides, paired kidneys, levator ani bulbocavernosus muscles, and pituitary. Organ weights at WIL Laboratories were lower than those at the other two laboratories for paired epididymides and levator ani bulbocavernosus muscles. Organ weights for Huntingdon Laboratories were lower than those at the other two laboratories for dorsolateral prostate, paired kidneys, and pituitary. These differences enlarged the laboratory-to-laboratory variation and the associated confidence intervals averaged across laboratories.

6. There were laboratory-to-laboratory differences in hormonal assay values for each of the control and test chemical groups. At Argus Laboratories serum thyroxine was consistently the largest among the three laboratories. At WIL Laboratories thyroid stimulating hormone was consistently larger than at the other two laboratories and serum testosterone was the largest for the DE-71 groups. At Huntingdon Laboratories serum thyroxine was consistently the lowest for each of the dose groups and thyroid stimulating hormone was the lowest or very close to the lowest for each of the dose groups. Serum testosterone was consistent among the laboratories, except for DE-71, for which WIL Laboratories was larger than the other laboratories.

7. For DE-71, the thyroid stimulating hormone assay indicated increases relative to control in each of the laboratories individually and averaged across laboratories. At WIL Laboratories the increases were significant for both the low and high DE-71 dose groups. At Argus Laboratories the increases were not significant. At Huntingdon Laboratories the increase was significant at the high dose but not the low. Despite the significant increases at WIL and Huntingdon Laboratories the increases were not significant when the results were combined across laboratories. This is because the substantial laboratory-to-laboratory variation in assay results masked the dose group vs. control group differences. The reported TSH values for the control and high DE-71 dose in the three laboratories and combined across laboratories were as follows:

Laboratory	TSH Control	TSH DE-71 (60)	Significance
Argus	9.63	13.16	NS
WIL	15.79	26.00	*
Huntingdon	4.58	8.96	*
Combined	9.97	14.75	NS

The TSH assay results varied by nearly a factor of three across laboratories. The within laboratory CVs at the high dose were 33.3% (Argus), 53.5% (WIL), and 49.1% (Huntingdon). The among laboratory CV was 44.3%. These high CVs for TSH at DE-71 60 indicate high variability within laboratories and poor agreement in average values among laboratories. This results in inflated variability of the combined average, which in turn results in the lack of significance of the comparison combined across laboratories.

8. Averaged across laboratories the following significant growth and body weight changes relative to controls were observed:

    a. At the high dose of DE-71
        i. Increased – Age at PPS

    b. At the high dose of Vinclozolin
        i. Increased – Age at PPS, body weight at PPS
        ii. Decreased – Final body weight

    c. At the high dose of 2-Chloronitrobenzene
        i. Increased – Age at PPS, body weight at PPS
        ii. Decreased – Final body weight

    d. At the high dose of Dibutyl Phthalate
        i. Increased – Age at PPS, body weight at PPS
        ii. Decreased – Final body weight

9. Averaged across laboratories the following significant organ weight changes relative to controls were observed:

    a. At the high dose of DE-71
        i. Increased – Liver
        ii. Decreased – LABC muscles

    b. At the high dose of Vinclozolin
        i. Increased – Adrenals, left and right testes
        ii. Decreased – Dorsolateral prostate, ventral prostate, epididymides, LABC muscles, seminal vesicle

    c. At the high dose of 2-Chloronitrobenzene
        i. Increased – Kidneys, liver
        ii. Decreased – LABC muscles, pituitary, seminal vesicle, ventral prostate

    a. At the high dose of Dibutyl Phthalate
        i. Increased – Liver
        ii. Decreased – Epididymides, LABC muscles, seminal vesicle, left and right testes, ventral prostate

10. Averaged across laboratories the following significant hormonal changes relative to controls were observed:

    a. At the high dose of DE-71
        i. Decreased – Serum thyroxine

    b. At the high dose of Vinclozolin
        i. Increased – Serum testosterone
        ii. Decreased – Serum thyroxine

    c. At the high dose of 2-Chloronitrobenzene
        i. No significant changes

    d. At the high dose of Dibutyl Phthalate
        i. Decreased – Serum thyroxine, serum testosterone, thyroid stimulating hormone

INTRODUCTION AND BACKGROUND

Study Design

Three laboratories, Argus, WIL and Huntingdon have conducted the juvenile male rat pubertal development assay study in accordance with to the test method specified by the EPA.

Within each laboratory two doses each of four chemicals, DE-71 (30 and 60 mg/kg), Vinclozolin (30 and 100 mg/kg), 2-Chloronitrobenzene (25 and 100 mg/kg), and Dibutyl Phthalate (500 and 1000 mg/kg) were tested daily from PND23 (post natal day 23) through final sacrifice at PND53. In addition, a vehicle control (corn oil) was tested in each laboratory. There was one control group in each of Argus and WIL Laboratories, and two control groups in Huntingdon Laboratories. The four chemicals and the vehicle control were tested simultaneously at Argus and WIL Laboratories. At Huntingdon Laboratories the test was carried out in two groupings. DE-71, Vinclozolin, and a vehicle control group were tested together at one grouping. 2-Chloronitrobenzene, Dibutyl Phthalate, and a second vehicle control group were tested together in a second grouping. The sample size was n=15 juvenile male rats per group, for a total of nine groups and 135 animals for Argus and WIL Laboratories, and a total of ten groups and 150 animals for Huntingdon Laboratories.

Data Used in Analyses

The test method specifies five categories of data:

1. Growth - daily body weights (6 endpoints)
2. Age and body weight at preputial separation (PPS) (2 endpoints)
3. Hormonal analysis (3 endpoints)
    Serum testosterone

Serum thyroxine (T_4)
Thyroid stimulating hormone (TSH)

4. Organ weights - 11 organs (12 endpoints)
5. Histology
   Testicular
   Epididymal
   Thyroid

Histology data was not analyzed statistically.

Organs, except for testes, were weighed in pairs when appropriate. Testis weights were determined for the left and right testis separately. Seminal vesicle plus coagulating gland weight was determined only with fluid, and not without fluid.

For two animals at Huntingdon laboratory that were necropsied prior to preputial separation (PPS), the age at PPS was specified as age at necropsy (PND53) +1. The body weight at PPS was specified as the final body weight (PND53 weight). Both of these estimates are biased downward.

One animal (108) in Huntingdon laboratory died on PND27. Its body weights were included in the summaries and displays up to the time of death, but not beyond the date of death nor in the final body weight gain summaries. The organ weights and hormonal analysis data were not collected for this animal.

For Argus laboratories, five organ weight values in four animals were deleted by QA due to procedural errors:

- Animal 310 - Seminal Vesicles With Fluid
- Animal 317 - Adrenals and Thyroid
- Animal 389 - Epididymides
- Animal 435 – Pituitary

At day of PPS WIL Laboratories and Huntingdon Laboratories determined body weights twice – once for dose determination and a second at clinical observations. In this report the summaries for body weight at PPS were based on the dosing body weights. They may differ from summaries based on the clinical observations body weights (e.g. WIL Laboratories).

Deviations from the Statistical Analysis Plan

There were two data issues concerning Huntingdon Laboratories that resulted in deviations from the statistical analysis plan. The first data issue concerns the necropsy day. All animals in each of the three laboratories, except for fifteen animals at Huntingdon Laboratories, were sacrificed on PND53. The other fifteen animals (three for each of the five groups tested during the second test grouping) at Huntingdon laboratory were sacrificed on PND52. Body weights at PND53 (and at PND52 for the fifteen animals in the second test grouping at Huntingdon Laboratories) were combined as final body weights. A two-way fixed effects

analysis of variance was applied to the data in the second portion of the data for Huntingdon Laboratories with factors block (PND52 or PND53) treatment group, and block×treatment group interaction. Appendix C contains a comparison of the results observed in the animals at Huntingdon Laboratories that were necropsied on PND52 with the corresponding control group results observed in the animals at Huntingdon Laboratories that were necropsied on PND53. Of the 95 comparisons (5 test and control groups × 19 endpoints) 6 were significant at the 0.05 level and 10 were significant at the 0.10 level. There was no pattern to the significant results. This is compatible with random variation.

The second data issue concerns Huntingdon Laboratories' division of its test schedule into two groupings. This necessitated that two control groups be run, one in each grouping. The two groupings were:

- Grouping 1: Control, DE-71, Vinclozolin
- Grouping 2: Control, 2-Chloronitrobenzene, Dibutyl Phthalate.

To determine whether there were significant differences between the two control groups, two-sample t-tests were carried out for each response. The results are displayed in Appendix B. Nine of 20 comparisons were significant at the 5 percent level of significance and an additional comparison was significant at p=0.07. The test grouping 1 control group had greater mean values for 9 of the 10 significant comparisons. This suggests that there was a systematic difference between control groups.

The principal statistical comparisons were divided into two portions, corresponding to the two test groupings at Huntingdon Laboratories. For Argus and WIL Laboratories the same corn oil control groups were used for each portion.

STATISTICAL METHODS

This section discusses the summaries, displays, and statistical analyses that were used to summarize the results within each laboratory and combined across laboratories. The statistical analysis was based on the test method provided by EPA but was extended to include comparisons across laboratories.

Outlier Detection and Preliminary Data Summaries Prior to Analysis

Outlier screens were carried out prior to the full analysis. Screens were carried out separately for each laboratory and for each endpoint, based on the untransformed data. Both unadjusted and initial covariate adjusted values were determined for organ weights and for age and body weight at PPS, but the outlier screens were carried out based on the unadjusted values only. The outlier screening procedure is described in detail in Appendix A. Appendix A also includes the outlier screening results. Summaries of the raw data by laboratory and group are displayed both with and without the observations that were flagged by the outlier screening procedure and that are considered to be potential outliers. For organ weights, and age and body weight at preputial separation (PPS), summaries of the data by laboratory and group were carried

out both with and without potential outliers after adjusting for initial body weights. The summaries of the raw data include N, mean, standard deviation, and CV. The within dose group CV was calculated as the ratio of the within laboratory residual standard deviation to the least squares mean. The summaries of the unadjusted values also include min and max.

The results of the preliminary outlier screens and the raw summary values were submitted to EPA for review prior to carrying out the full analysis. EPA reviewed the list of the potential outliers, as detected by the preliminary outlier screen and divided the screened values into three categories: those that were included in all analyses, those that were excluded from all analyses, and those that were treated as outliers. Table A-1 in Appendix A displays the three categories of screened values.

The results of the principal analyses were similar with and without the outliers. For age at PPS, body weight at PPS and the organ weights, the results were similar with and without being adjusted by centered initial body-weight.

Heterogeneity of Residual Variance Among the Laboratories and Treatment Groups

Preliminary tests for heterogeneity of variance were carried out on the data excluding the values flagged by the outlier screen and identified by EPA as outliers, separately for the two test portions.

For each endpoint extent of heterogeneity of variability was assessed across laboratories and treatment groups within laboratories. The data were combined across laboratories and a three factor mixed effects analysis of variance model was fitted to the data, including the factors laboratory (random), treatment (fixed), and laboratory×treatment interaction (random). For organ weight responses and for age and body weight at preputial separation (PPS), centered initial body weight (i.e., initial body weight – mean initial body weight over all the test groups within each test portion) and (centered initial body weight) ×laboratory interaction were included in the model as covariates.

Four versions of the model were fitted to test for heterogeneity of residual variance.

1. Separate variances for each laboratory and each dose group (3×5=15 variances)
2. Separate variances for each laboratory and chemical (or control) (3×3=9 variances)
3. Separate variances for each laboratory (3×1=3 variances)
4. Common variances across all groups

These models were compared by likelihood ratio tests. For each response variable, the model was selected to have the simplest variance structure which was not significantly different from a more complex one. The subsequent analyses were carried out based on the selected variance models.

Data Summaries - Full Analysis

Data summaries include tables and figures, patterned after those specified in the EPA test method. The tables and figures specified in the test method were extended to provide comparisons across laboratories.

Summary tables were prepared including all the data (except those specified by EPA to be excluded -- Appendix Table A-1) and additionally excluding the values identified as outliers. The summary tables that excluded outliers were prepared only for those responses for which there was at least one outlier within an individual laboratory. Summary figures included all the data (except those specified by EPA to be excluded -- Appendix Table A-1). These summary tables and figures were generated based on the statistics produced by the analysis of variance and covariance models that are discussed at the end of the report.

Tables were prepared to display summary values for the four categories of responses enumerated above. Body weight at PND22, final body weight, body weight gain, final body weight as percent of control, and hormonal analyses were summarized without adjustment for initial body weight at PND22. Age and body weight at PPS, and organ weight variables were summarized with and without adjustment for initial body weight at PND22. Each table corresponds to a single chemical and the associated control group. Some tables display results from each laboratory separately. Other tables display results combined across all three laboratories. The standard errors associated with the summary results within laboratories incorporate only within laboratory variability. The within laboratory coefficient of variation (CV) was calculated as the ratio of the within laboratory residual standard deviation to the least squares mean. This represents the CV among the individual responses within a laboratory. The standard errors associated with summary results combined across laboratories incorporate laboratory-to-laboratory variation as well as within laboratory variation. The results combined across laboratories include an estimate of the coefficient of variation (CV) across laboratories. The among laboratories CV was approximated as CV $\approx[\sqrt{3}(\text{stderr})/(\text{LS mean})]\times 100\%$, where "stderr" is the combined laboratories standard error of the least squares mean (LS mean). This represents the CV among the within laboratory mean responses.

Figures 1-16 display the means and standard errors of the daily body weights from PND22 to PND 53. Each figure includes three groups, the control and the two doses of a single chemical. Within each plot the mean age of the controls at PPS is indicated as a vertical reference line on the PND axis. Figures were prepared for individual laboratories, as well as combined across the three laboratories.

Figures 17-51 display the least squares means ± 2 standard errors for each of the ten treatment groups (two control groups (one for each test grouping) and two dose groups for each of the four test chemicals) within each laboratory and combined across laboratories. The standard errors associated with summary results within laboratories incorporate only within laboratory variability. The standard errors associated with summary results combined across laboratories incorporate lab-to-lab variability as well as within laboratory variability.

Each figure contains ten groupings of bars, each grouping corresponding to a control or test chemical dose group. Each grouping includes four bars, corresponding to each of the three laboratories and to the laboratories combined. Each bar is centered at the least squares mean with width of 2 standard errors above and below the least squares mean. Figures are presented at the end of the report.

Analysis of Variance and Covariance

For each of the responses summarized in Tables 2-33, analysis of variance models were fitted to the data to estimate dose group effects within individual laboratories and combined across laboratories. For initial body weight, final body weight, body weight gains, final body weight as a percent of control, and the three hormonal analyses, only the unadjusted responses were analyzed. For age and body weight at PPS and for organ weight responses the unadjusted responses were analyzed as well as the covariate adjusted responses, using mean centered body weight at PND22 as the covariate adjustment factor.

Analyses were carried out based on all the data and after omitting outliers. The (possibly heterogeneous) residual variance structures assumed in these analyses were those arrived at as discussed above and are summarized in Tables 1-A and 1-B. Separate analyses were carried out for each test portion.

For each response an analysis of variance model with the selected covariance structure was fitted to the combined data across laboratories and the control group and the two test chemicals within the test portion. Treatment group was a fixed effect, and laboratory, and laboratory×treatment group interaction were fixed effects for some models and random effects for others.

For the covariate adjusted responses the factors covariate (mean centered PND22 body weight) and covariate×laboratory interaction were included in the models as fixed effects. For calculating summaries within individual laboratories, laboratory, treatment group, and laboratory×treatment group interaction were treated as fixed effects. For calculating summaries combined across laboratories, treatment group was treated as a fixed effect, and laboratory and laboratory×treatment group interaction were treated as random effects.

Least squares means and associated standard errors and 95% confidence intervals for individual treatment groups, and comparisons of each treatment group with its corresponding control group were calculated based on the analysis of variance or analysis of covariance models. Significance levels for the comparisons were based on two-sample t-tests (at the 0.05 level). The least squares means, standard errors, CVs, and confidence intervals are displayed within each laboratory or combined across laboratories. Results significant at the 0.05 level are indicated by "*".

The standard errors and confidence intervals for the least squares means within individual laboratories reflect only within laboratory variation. To estimate these effects and their standard errors, the laboratory and laboratory×treatment group factors were treated as fixed effects. The least squares means and associated standard errors for dose groups within laboratories and

comparisons between test chemical dose groups and controls within laboratories were determined based on the within laboratory variation.

The standard errors and confidence intervals for the least squares means combined across laboratories reflect laboratory-to-laboratory variation and as well as within laboratory variation. To estimate these effects and their standard errors, laboratory and laboratory×treatment group factors were treated as random effects and least squares means and associated standard errors for individual dose groups combined across laboratories and comparisons between test chemical dose groups and control combined across laboratories were determined.

STATISTICAL ANALYSIS RESULTS

Outlier screens were carried out on all data including all the treatment groups (nine for Argus and WIL and ten for Huntingdon) separately for each laboratory. The results are displayed in Appendix A. The categorization of the screened potential outliers, as specified by EPA, is displayed in Table A-1. Some of these potential outliers were included in all the analyses, some were excluded from all the analyses, and the remainder were treated as outliers (i.e. included and excluded).

Normal probability plots of the studentized residuals are displayed in Figure sets A-1, A-2, and A-3 (one set per laboratory). These normal probability plots generally show good agreement with normal distribution assumptions. No data transformations were carried out.

Preliminary summary results with and without potential outliers were calculated for individual laboratories based on a fixed effect analysis of variance model assuming different residual variances among the treatment groups. For age and body weight at PPS, and organ weight responses, summary results after adjusted by the body weight at PND22 were also calculated for individual laboratories by incorporating mean centered body weight at PND22 as a covariate. These preliminary results are presented in Appendix A, Tables A-2, A-3 and A-4. Note that in these preliminary tables, the measurement unit for serum testosterone (TES) is ng/mL for Argus laboratory and ng/dL for WIL and Huntingdon laboratories which implies a two order of magnitude difference in the reported values. In the principal summaries and analyses, the TES values in Argus laboratories were multiplied by 100, to convert the values to ng/dL, in agreement with WIL and Huntingdon Laboratories.

Body weight growth from PND22 through PND53 is displayed in Figures 1-16. Each figure corresponds to a single chemical and either a single laboratory or combined across laboratories. Figures 1-4 corresponds to WIL Laboratories, Figures 5-8 correspond to Argus Laboratories, figures 9-12 correspond to Huntingdon Laboratories, and Figures 13-16 correspond to the averages combined across laboratories.

Overall, the initial body weights (at PND22) were about same for all dose groups within an individual laboratory, but differed from laboratory to laboratory (Argus > Huntingdon > WIL). As the PND increased, body weight growth differed among dose groups within individual laboratories. In general the high dose groups within each chemical had reduced body weight

growth compared to the control group. There were three instances in which the low doses of chemicals had a slightly faster or equal body weight growth as vehicle control. They are the low doses of Vinclozolin in Argus Laboratories and 2-Chloronitrobenzene and Dibutyl Phthalate in Huntingdon Laboratories. However the control group corresponding to 2-Chloronitrobenzene and Dibutyl Phthalate in the second test portion within Huntingdon Laboratories had slower body weight growth than any of the other control groups. Some chemicals resulted in slower body weight growth than other chemicals in the same laboratory. However, no consensus or clear patterns were observed across all three laboratories.

Tests for heterogeneity of variance were carried out on the data excluding the outliers, separately for the two portions of data. The results of the models fits and the likelihood ratio tests for heterogeneity are summarized in Tables 1-A and 1-B. Based on the likelihood ratio tests, the proper residual covariance models were selected, and the further data summaries and statistical analyses were carried out using these selected models.

Analysis of variance models were fitted to all the data for each endpoint, as specified in the methods section. For age and body weight at PPS, and organ weight responses, additional analysis of variance models including covariance adjustment (mean centered body weight at PND22) were also fitted to the data. Tables 2-A to 5-C (a total of 12 tables) present individual laboratories results for body weight responses, and age and body weight at PPS. Each table corresponds to a chemical and laboratory combination. Tables 2-A, 2-B, 2-C correspond to DE-71; Tables 3-A, 3-B, 3-C correspond to vinclozolin; Tables 4-A, 4-B, 4-C correspond to 2-chloronitrobenzene; Tables 5-A, 5-B, 5-C correspond to dibutyl phthalate. Similarly for Tables 6-13. Tables 6-A to 9-C (a total of 12 tables) present individual laboratories results for organ weight responses; and Tables 10-A to 13-C (a total of 12 tables) present individual laboratories results for hormonal analysis endpoints. Each table contains results for a single chemical and an individual laboratory. Results for the three laboratories combined are summarized in Tables 14 to 25. Each table contains results for a single chemical.

The least square means and associated 95% confidence intervals based on the analysis of variance model fits are displayed in Figures 17 to 51. Figures 17 through 37 display the unadjusted responses. Figures 38 through 51 display the covariate adjusted responses. Each figure summarizes the responses across all laboratories, chemicals, and dose groups within chemicals for a single response.

The analysis results based on all the data are summarized below. Unless specified otherwise, the significant levels are at least 0.05.

Body Weights

For initial body weight (Tables 2A-5C and Tables 14-17; Figure 17), all treatment groups were about same within individual laboratories. Initial body weights in Argus Laboratories were about 4 grams more than those in Huntingdon Laboratories, and 10 grams more than those in WIL Laboratories.

For final body weight (Tables 2A-5C and Tables 14-17; Figure 18), the figures and tables show that most doses of test chemicals reduce body weight growth. In particular, the low dose of DE-71 was significantly lower than the control group, averaged across all three laboratories and for Huntingdon Laboratories. The high dose of Vinclozolin was significantly lower than the control group averaged across laboratories and for Argus and Huntingdon. The low dose of Vinclozolin was significantly lower than the control group for Huntingdon. The high dose of 2-Chloronitrobenzene was significantly lower than the control group averaged across laboratories and for Argus and WIL. The high dose of Dibutyl Phthalate was significantly lower than the control group averaged across laboratories and for Argus and WIL. The low dose of Dibutyl Phthalate was significantly lower than the control group averaged across laboratories and for Argus and WIL. Similar results were observed averaged across laboratories for body weight gain (Figure 19) and for final body weight as percent of control (Figure 20), and almost the same results were observed for the individual laboratories. The final body weights for Argus were slightly higher than the other two laboratories.

Age and Body Weight at Preputial Separation (PPS)

For age at PPS (Tables 2A-5C and Tables 14-17; Figures 21 and 38), the figures and tables show that all doses of test chemicals delayed preputial separation to some degree. For each chemical and dose, average age at PPS was considerably lower at Argus Laboratories than at WIL or Huntingdon Laboratories.

The age at PPS for the high dose of DE-71 was significantly higher than the vehicle control averaged across all laboratories and for Argus. The high dose of Vinclozolin was significantly higher than the control group for each individual laboratory and averaged across all laboratories. The low dose of Vinclozolin was significantly higher than the control group averaged across all laboratories and for Argus, Huntingdon, and WIL. The high dose of 2-Chloronitrobenzene was significantly higher than the control group averaged across all laboratories and for Argus, WIL, and Huntingdon. The high dose of Dibutyl Phthalate was significantly higher than the control group averaged across all laboratories and for Argus, WIL, and Huntingdon. The low dose of Dibutyl Phthalate was significantly higher than control group averaged across all laboratories and for Argus. The covariate adjusted results were nearly identical.

For body weight at PPS (Tables 2A-5C and Tables 14-17; Figures 22 and 39), most doses of test chemicals had a higher body weights at PPS, perhaps due to the delay of preputial separation. In particular, the high dose of DE-71 was significantly higher than the vehicle control for Argus. The high dose of Vinclozolin was significantly higher than the control group for each individual laboratory and averaged across all laboratories. The low dose of Vinclozolin was significantly higher than control group averaged across all laboratories and for Argus and WIL. The high dose of 2-Chloronitrobenzene was significantly higher than the control group averaged across all laboratories and for Argus and Huntingdon. The low dose of 2-Chloronitrobenzene was significantly higher than the control group for Huntingdon. The high dose of Dibutyl Phthalate was significantly higher than the control group averaged across all laboratories and for Huntingdon. The low dose of Dibutyl Phthalate was significantly higher than the control group

averaged across all laboratories and for Argus. The covariate adjusted results were the same. Almost all treatment groups in Argus laboratory had lower average body weights at PPS.

Organ Weights

Organ weights were analyzed with and without covariate adjustment (Tables 6A-9C and Tables 18-21; and Figures 23-34 and 40-51). In general the results with and without covariates were in agreement.

There was clear separation among laboratories across all treatment groups for some organ weights. The organ weights for Argus were higher for almost all groups than the other two laboratories for paired adrenals, dorsolateral prostate, paired epididymides, paired kidneys, levator ani bulbocavernosus muscles, and pituitary. In addition, the organ weights for WIL were lower for all treatments than the other two laboratories for paired epididymides and levator ani bulbocavernosus muscles. The organ weights for Huntingdon were lower for all treatments than the other two laboratories for dorsolateral prostate, paired kidneys, and pituitary. These differences contributed to relatively large laboratory-to-laboratory variation and therefore to relatively wide 95% confidence intervals associated with the overall least squares means averaged across laboratories, for each treatment group.

The significant differences between the test chemical groups and the vehicle control are summarized as follows according to the test chemicals. The conclusions are in agreement with and without covariate adjustment.

- Averaged across laboratories (Table 18) the organ weights for both doses of DE-71 were significantly lower than the vehicle control for levator ani bulbocavernosus muscles, and significantly higher than the vehicle control for liver. In addition, the low dose of DE-71 had a significantly higher left testis weights. For Argus (Table 6A), significant differences from the vehicle control were observed for both doses of DE-71 for liver. For WIL (Table 6B), significant differences from the vehicle control were observed for both doses of DE-71 for the liver, and for the high dose of DE-71 for the levator ani bulbocavernosus muscles. For Huntingdon (Table 6C), significant increases from the vehicle control were observed for both doses of DE-71 for the liver and significant decreases were observed for the levator ani bulbocavernosus, and for the low dose of DE-71 for the paired kidneys and the right testis.

- 1Averaged across laboratories (Table 19), the organ weights for both doses of Vinclozolin were significantly lower than the vehicle control for the paired epididymides, the levator ani bulbocavernosus muscles, and the seminal vesicle coagulating gland with fluid, and significantly higher organ weights than the vehicle control for both the left and the right testes. In addition, the high dose of Vinclozolin had significantly higher organ weights than the vehicle control for the paired adrenals, and significantly lower organ weights than the vehicle control for the ventral prostate. For Argus (Table 7A), significant differences from the vehicle control existed only for the high dose of Vinclozolin for the paired adrenal, the paired epididymides, the levator ani bulbocavernosus muscles, the seminal vesicle coagulating gland with fluid, and the left testis (only after covariate adjustment).

For WIL (Table 7B), significant differences from the vehicle control existed for both doses of Vinclozolin for the paired epididymides and the seminal vesicle coagulating gland with fluid, and for the high dose of Vinclozolin for the paired adrenals, the levator ani bulbocavernosus muscles, the liver, and the ventral prostate. For Huntingdon (Table 7C), significant differences from the vehicle control existed for both doses of Vinclozolin for the paired epididymides, the paired kidneys, the levator ani bulbocavernosus muscles, and the right testis and for the high dose of Vinclozolin for the seminal vesicle coagulating gland with fluid.

- Averaged across laboratories (Table 20), both doses of 2-Chloronitrobenzene had significantly higher organ weights than the vehicle control for the paired kidneys and the liver. In addition, the high dose of 2-Chloronitrobenzene had significantly lower organ weights than the vehicle control for the levator ani bulbocavernosus muscles, the pituitary, the seminal vesicle coagulating gland with fluid, and the ventral prostate. For Argus (Table 8A) significant differences from the vehicle control existed for both doses of 2-Chloronitrobenzene for the paired kidneys and the liver, and for the high dose of 2-Chloronitrobenzene for the levator ani bulbocavernosus muscles, the right testis and the ventral prostate. For WIL (Table 8B) significant differences from the vehicle control existed for both doses of 2-Chloronitrobenzene for the liver, and for the high dose of 2-Chloronitrobenzene for the levator ani bulbocavernosus muscles, the pituitary, the seminal vesicle coagulating gland with fluid, the blotted thyroid, and the ventral prostate. For Huntingdon (Table 8C) significant differences from the vehicle control existed for both doses of 2-Chloronitrobenzene for the paired kidneys and the liver, for the low dose of 2-Chloronitrobenzene for the dorsolateral prostate, and for the high dose of 2-Chloronitrobenzene for the levator ani bulbocavernosus muscles, the seminal vesicle coagulating gland with fluid, and the ventral prostate.

- Averaged across laboratories (Table 21), both doses of Dibutyl Phthalate had significantly lower organ weights than the vehicle control for the paired epididymides, the levator ani bulbocavernosus muscles, the seminal vesicle coagulating gland with fluid, the left testis, the right testis, and the ventral prostate. In addition, the high dose of Dibutyl Phthalate had significantly higher organ weights than the vehicle control for the liver. For Argus (Table 9A) the re were significant differences from the vehicle control for both doses of Dibutyl Phthalate for the paired epididymides, the levator ani bulbocavernosus muscles, the seminal vesicle coagulating gland with fluid, the left testis, and the right testis, for the low dose of Dibutyl Phthalate for the ventral prostate, and for the high dose of Dibutyl Phthalate for the liver. For WIL (Table 9B) there were significant differences from the vehicle control for both doses of Dibutyl Phthalate for the paired epididymides, the levator ani bulbocavernosus muscles, the seminal vesicle coagulating gland with fluid, the left testis, the right testis, and the ventral prostate, and for the high dose of Dibutyl Phthalate for the dorsolateral prostate, and the liver. For Huntingdon (Table 9C) there were significant differences from the vehicle control for both doses of Dibutyl Phthalate for the paired epididymides, the levator ani bulbocavernosus, the left testis, and the right testis. There were significant differences between the vehicle control group and the high dose of Dibutyl Phthalate for the liver and the seminal vesicle plus coagulating gland with fluid.

Hormonal Analysis

For serum thryroxine (Tables 10A-13C and Tables 22-25; Figure 35), all test groups had lower values than the vehicle control, with an exception of the two doses of 2-Chloronitrobenzene. These two doses of 2-Chloronitrobenzene had slightly higher levels of serum thryroxine than the vehicle control. In particular, all doses of DE-71, Vinclozolin and Dibutyl Phthalate were significantly lower than the vehicle averaged across all laboratories and for individual laboratories. At least one dose of 2-Chloronitrobenzene was significantly higher than the vehicle control for Argus (both doses) and Huntingdon (the high dose). For all dose groups, Argus had higher values than WIL, and WIL had higher values than Huntingdon. Therefore the laboratory-to-laboratory variation was larger than within-laboratory variation and the 95% confidence intervals across laboratories were about twice the width of those for individual laboratories.

For serum testosterone (Tables 10A-13C and Tables 22-25; Figure 36), the two doses of Vinclozolin had higher values than the vehicle control, while the two doses of Dibutyl Phthalate had lower values. In particular, the high dose of Vinclozolin was significantly higher than the control group averaged across all laboratories and for Argus and Huntingdon. The two doses of Dibutyl Phthalate were significantly lower than the control group averaged across laboratories and for Argus and WIL. The high dose of Dibutyl Phthalate was significantly lower than the vehicle control for Huntingdon. In addition, the high dose of 2-Chloronitrobenzene was significantly lower than the vehicle control for Argus and WIL. The two doses of DE-71 were significantly lower than the vehicle control for Huntingdon.

For thyroid stimulating hormone (Tables 10A-13C and Tables 22-25; Figure 37), the two doses of DE-71 had higher values than the vehicle control for each individual laboratory, and the high dose of Dibutyl Phthalate had lower values than the vehicle control for each individual laboratory. In particular, the two doses of DE-71 had significantly higher values than the vehicle control for WIL, and the high dose of DE-71 had significantly higher values than the vehicle control for Huntingdon. The high dose of Dibutyl Phthalate had significantly lower values than the vehicle control averaged across laboratories and for WIL and Huntingdon. The low dose of Dibutyl Phthalate had significantly lower values than the vehicle control for Argus and Huntingdon. For Huntingdon Laboratories the high dose of 2-Chloronitrobenzene was significantly lower that the vehicle control. The figures and tables show that for all dose groups, WIL had higher values than Argus and Huntingdon, and for most dose groups Argus had higher values than Huntingdon. Therefore the laboratory-to-laboratory variation was larger than the within-laboratory variabilities and the 95% confidence intervals across laboratories were about twice as wide as those for the individual laboratories.

Additional analysis of variance models were applied to the data excluding outliers for the responses which had at least one outlying value. The results are summarized in Tables 26A-29C, and Tables 30-33. The results are nearly the same since there were relatively few outliers.

Table 1a. Likelihoods for Various Heterogeneous Covariance Structures, Likelihood Ratio Goodness of Fit Statistics, and Selection of Covariance Structure. By Parameter for Treatment Portion 1 (Corn Oil, DE-71, and Vinclozolin)[1,2]

Parameter	Selected Covariance Structure	-2LogLikelihood				Likelihood Ratio Test					
		Lab* TestChem* DoseLevel (L*T*D)	Lab* TestChem (L*T)	Lab (L)	All (A)	(L*T*D)-(L*T)	p_value (Chisq,df=6)	(L*T)-(L)	p_value (Chisq,df=6)	(L)-(A)	p_value (Chisq,df=2)
Adrenal_Paired	L	-1372.0	-1367.4	-1355.6	-1331.2	4.6199	0.59340	11.7795	0.06707	24.4386	0.00000
Age at PPS	All	950.5	953.8	954.5	955.0	3.3046	0.76976	0.6860	0.99479	0.5430	0.76223
BodyWeight Gain	All	1882.0	1891.3	1897.1	1898.7	9.2736	0.15877	5.7683	0.44963	1.6387	0.44073
BodyWeight at PPS	All	1894.7	1899.9	1901.6	1904.9	5.1761	0.52144	1.7160	0.94388	3.2954	0.19249
DorsolateralProstate	L	-600.9	-590.5	-584.6	-544.5	10.3449	0.11086	5.8785	0.43694	40.1937	0.00000
Epididymides_Paired	L	-586.9	-585.0	-582.3	-563.4	1.9807	0.92146	2.6672	0.84931	18.8857	0.00008
Final Body Weight (% of control)	L*T	1407.0	1419.4	1433.1	1434.5	12.4157	0.05331	13.7091	0.03306	1.4042	0.49554
Final BodyWeight	L*T*D	1920.0	1932.9	1939.8	1941.8	12.8462	0.04554	6.9046	0.32976	2.0216	0.36392
Initial BodyWeight	L	1312.4	1315.5	1320.0	1326.5	3.0820	0.79849	4.5345	0.60475	6.5113	0.03855
Kidney_Paired	L*T*D	78.4	91.9	97.4	109.8	13.4752	0.03608	5.4945	0.48213	12.4366	0.00199
LABCMuscles	L	-323.8	-317.0	-314.2	-280.0	6.7778	0.34189	2.8572	0.82654	34.1449	0.00000
Liver	All	840.5	841.5	850.0	850.6	0.9969	0.98573	8.4980	0.20384	0.6021	0.74003
Pituitary	L*T*D	-1917.7	-1900.7	-1891.9	-1796.7	17.0792	0.00900	8.7695	0.18696	95.1502	0.00000
SeminalVesicleCoagGlandFluid	L*T	-222.1	-217.2	-202.8	-202.5	4.9159	0.55464	14.3662	0.02580	0.2970	0.86201
T4	L*T*D	389.6	405.0	456.5	492.7	15.3744	0.01754	51.5434	0.00000	36.1751	0.00000
TES	L*T*D	2806.5	2821.4	2842.0	2854.7	14.9214	0.02088	20.5758	0.00219	12.6573	0.00178
TSH	L*T*D	1304.3	1319.0	1345.9	1423.0	14.7813	0.02203	26.8890	0.00015	77.0648	0.00000
TestesLeft	L*T*D	-288.8	-267.2	-219.3	-211.0	21.5779	0.00144	47.9233	0.00000	8.2162	0.01644
TestesRight	L*T	-264.0	-255.1	-229.4	-198.3	8.8932	0.17967	25.7085	0.00025	31.1475	0.00000
ThyroidBlotted	L*T	-1523.8	-1517.5	-1494.8	-1493.2	6.2448	0.39633	22.7606	0.00088	1.5930	0.45090
VentralProstate	L	-459.9	-453.8	-446.7	-424.6	6.0119	0.42186	7.1786	0.30465	22.0863	0.00002

1. A random effect mixed model was fitted to the data separately for each parameter, in which laboratory, laboratory by test chemical and dose level interaction were random effects, test chemical and dose level interaction was fixed effect. For some parameters, initial body weight and its interaction with laboratory were covariates. Three heterogeneous covariance models and a homogenous covariance were compared.
2. The steps for selecting a covariance structure were: starting from the most complex structure in (L*T*D), if (L*T*D) is statistically significantly better than the next less complex one in L*T, then (L*T*D) is picked. If not, comparing (L*T) with (L) to determine whether (L*T) is a better structure. If yes, pick (L*T). Otherwise comparing (L) with the homogenous model (All). If (L) is better, then pick L. If not, (All) is picked.

Table 1b. Likelihoods for Various Heterogeneous Covariance Structures, Likelihood Ratio Goodness of Fit Statistics, and Selections of Covariance Structure. By Parameter for Treatment Portion 2 (Corn Oil, 2-Chloronitrobenzene, and Dibutyl Phthalate) [1,2]

Parameter	Selected Covariance Structure[2]	-2LogLikelihood				Likelihood Ratio Test					
		Lab* TestChem* DoseLevel (L*T*D)	Lab* TestChem (L*T)	Lab (L)	All (A)	(L*T*D)-(L*T)	p_value (Chisq,df=6)	(L*T)-(L)	p_value (Chisq,df=6)	(L)-(A)	p_value (Chisq,df=2)
Adrenal_Paired	L	-1390.2	-1381.1	-1373.7	-1311.9	9.0369	0.17152	7.4066	0.28487	61.836	0.00000
Age at PPS	L	1010.3	1019.5	1021.7	1029.8	9.1814	0.16363	2.2123	0.89917	8.074	0.01765
BodyWeight Gain	L*T	1917.3	1919.0	1934.3	1947.0	1.7485	0.94132	15.2724	0.01824	12.670	0.00177
BodyWeight at PPS	All	1976.9	1983.6	1995.3	2001.0	6.6526	0.35417	11.7229	0.06845	5.738	0.05677
DorsolateralProstate	L	-666.1	-654.5	-649.0	-574.5	11.5711	0.07225	5.5574	0.47454	74.441	0.00000
Epididymides_Paired	L	-606.8	-598.2	-589.2	-580.6	8.5445	0.20086	9.0734	0.16949	8.601	0.01356
Final Body Weight (% of control)	L	1477.7	1478.5	1488.1	1513.0	0.7819	0.99255	9.5735	0.14380	24.986	0.00000
Final BodyWeight	L	1965.9	1966.6	1976.8	1992.8	0.7748	0.99273	10.1100	0.12010	16.003	0.00033
Initial BodyWeight	All	1364.1	1368.2	1371.1	1372.4	4.1574	0.65539	2.8614	0.82604	1.265	0.53128
Kidney_Paired	L	44.1	51.0	58.9	74.7	6.9809	0.32262	7.8235	0.25132	15.800	0.00037
LABCMuscles	L	-373.7	-361.4	-354.3	-328.3	12.3707	0.05419	7.0557	0.31573	25.987	0.00000
Liver	All	875.1	883.4	895.7	895.8	8.2338	0.22147	12.3594	0.05441	0.032	0.98402
Pituitary	L	-1941.5	-1932.0	-1926.3	-1791.2	9.4742	0.14861	5.7123	0.45618	135.091	0.00000
SeminalVesicleCoagGlandFluid	All	-195.0	-188.7	-180.5	-179.1	6.3091	0.38947	8.2439	0.22077	1.339	0.51208
T4	L*T	671.9	676.1	690.8	698.6	4.2230	0.64653	14.7642	0.02217	7.768	0.02057
TES	L*T*D	2638.6	2667.5	2716.8	2717.0	28.8670	0.00006	49.2817	0.00000	0.294	0.86349
TSH	L*T*D	1214.6	1242.6	1261.5	1299.3	27.9968	0.00009	18.9378	0.00427	37.849	0.00000
TestesLeft	L*T*D	-131.6	-44.7	-10.4	-3.9	86.9352	0.00000	34.2946	0.00001	6.474	0.03928
TestesRight	L*T*D	-125.9	-39.6	12.7	20.9	86.2570	0.00000	52.3321	0.00000	8.191	0.01665
ThyroidBlotted	L*T	-1616.7	-1614.6	-1594.6	-1593.6	2.0814	0.91206	19.9458	0.00283	1.085	0.58116
VentralProstate	L	-525.1	-516.0	-504.3	-489.9	9.0580	0.17034	11.6654	0.06986	14.404	0.00074

1. A random effect mixed model was fitted to the data separately for each parameter, in which laboratory, laboratory by test chemical and dose level interaction were random effects, test chemical and dose level interaction was fixed effect. For some parameters, initial body weight and its interaction with laboratory were covariates. Three heterogeneous covariance models and a homogenous covariance were compared.
2. The steps for selecting a covariance structure were: starting from the most complex structure in (L*T*D), if (L*T*D) is statistically significantly better than the next less complex one in L*T, then (L*T*D) is picked. If not, comparing (L*T) with (L) to determine whether (L*T) is a better structure. If yes, pick (L*T). Otherwise comparing (L) with the homogenous model (All). If (L) is better, then pick L. If not, (All) is picked.

Table 2a. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Argus Laboratory[1,6].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	62.200	1.482	9.2	15	63.000	1.482	9.1	15	62.800	1.482	9.1	15
Final BodyWeight[2]	319.267	4.825	5.9	15	309.933	5.891	7.4	15	310.933	3.613	4.5	15
BodyWeight Gain	257.067	4.978	7.5	15	246.933	4.978	7.8	15	248.133	4.978	7.8	15
Final body weight as percent of control[3]	100.000	1.511	5.9	15	97.077	1.531	6.1	15	97.390	1.531	6.1	15
Age at PPS[4]	39.500	0.579	5.5	14	40.533	0.560	5.3	15	42.467*	0.560	5.1	15
BodyWeight at PPS[4]	198.571	5.441	10.3	14	202.067	5.256	10.1	15	220.400*	5.256	9.2	15
Adj. Age at PPS[5]	40.240	0.602	5.2	14	41.343	0.594	5.0	15	43.248*	0.590	4.8	15
Adj. BodyWeight at PPS[5]	196.760	5.769	10.1	14	200.086	5.689	10.0	15	218.488*	5.654	9.1	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Body weight at PND53 was summarized when animals were necropsied.
Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
Least squares means and standard errors for Adj. age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
* --- significantly different from coin oil at the 0.05 level.

Table 2b. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for WIL Laboratory[1,6].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	52.113	1.092	8.1	15	51.380	1.092	8.2	15	50.320	1.092	8.4	15
Final BodyWeight[2]	306.293	6.446	8.2	15	299.267	3.603	4.7	15	293.093	7.287	9.6	15
BodyWeight Gain	254.180	4.978	7.6	15	247.887	4.978	7.8	15	242.773	4.978	7.9	15
Final body weight as percent of control[3]	100.000	2.105	8.2	15	97.706	1.877	7.4	15	95.690	1.877	7.6	15
Age at PPS[4]	43.933	0.560	4.9	15	44.667	0.560	4.9	15	44.867	0.560	4.8	15
BodyWeight at PPS[4]	222.767	5.256	9.1	15	226.773	5.256	9.0	15	222.920	5.256	9.1	15
Adj. Age at PPS[5]	43.332	0.613	4.8	15	43.978	0.635	4.7	15	44.051	0.670	4.7	15
Adj. BodyWeight at PPS[5]	228.466	5.870	8.7	15	233.303	6.080	8.5	15	230.650	6.419	8.6	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Body weight at PND53 was summarized when animals were necropsied.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. Within laboratory CV was calculated as residual standard deviation/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 2c. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Huntingdon Laboratory[1,6].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	58.192	1.437	8.9	13	58.093	1.385	8.9	14	58.529	1.385	8.9	14
Final BodyWeight[2]	320.723	6.095	6.9	13	296.079*	4.278	5.4	14	304.964	5.447	6.7	14
BodyWeight Gain	262.531	5.347	7.3	13	237.986*	5.153	8.1	14	246.436*	5.153	7.8	14
Final body weight as percent of control[3]	100.000	1.900	6.9	13	92.316*	1.527	6.2	14	95.086	1.527	6.0	14
Age at PPS[4]	43.923	0.601	4.9	13	44.071	0.579	4.9	14	44.714	0.579	4.8	14
BodyWeight at PPS[4]	236.492	5.646	8.6	13	223.993	5.441	9.1	14	235.307	5.441	8.7	14
Adj. Age at PPS[5]	44.057	0.579	4.7	13	44.193	0.558	4.7	14	44.892	0.560	4.6	14
Adj. BodyWeight at PPS[5]	235.121	5.545	8.5	13	222.752	5.341	8.9	14	233.493	5.363	8.5	14

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Body weight was summarized when the animals were necropsied on PND52 or PND53.
Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 and body weight at PPS is set at final body weight.
Least squares means and standard errors for Adj. age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
* --- significantly different from coin oil at the 0.05 level.

Table 3a. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Argus Laboratory[1,6].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	62.200	1.482	9.2	15	61.867	1.482	9.3	15	60.067	1.482	9.6	15
Final BodyWeight[2]	319.267	4.825	5.9	15	322.400	5.237	6.3	15	299.533*	5.233	6.8	15
BodyWeight Gain	257.067	4.978	7.5	15	260.533	4.978	7.4	15	239.467*	4.978	8.1	15
Final body weight as percent of control[3]	100.000	1.511	5.9	15	100.981	1.640	6.3	15	93.819*	1.640	6.8	15
Age at PPS[4]	39.500	0.579	5.5	14	43.600*	0.560	5.0	15	47.400*	0.560	4.6	15
BodyWeight at PPS[4]	198.571	5.441	10.3	14	239.933*	5.256	8.5	15	254.267*	5.256	8.0	15
Adj. Age at PPS[5]	40.240	0.602	5.2	14	44.253*	0.575	4.7	15	47.804*	0.551	4.3	15
Adj. BodyWeight at PPS[5]	196.760	5.769	10.1	14	238.337*	5.504	8.4	15	253.279*	5.283	7.9	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Body weight at PND53 was summarized when animals were necropsied.
Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
Least squares means and standard errors for Adj. age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
* --- significantly different from coin oil at the 0.05 level.

Table 3b. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for WIL Laboratory[1,6].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	52.113	1.092	8.1	15	51.233	1.092	8.3	15	51.893	1.092	8.1	15
Final BodyWeight[2]	306.293	6.446	8.2	15	303.973	5.218	6.6	15	305.020	3.947	5.0	15
BodyWeight Gain	254.180	4.978	7.6	15	252.740	4.978	7.6	15	253.127	4.978	7.6	15
Final body weight as percent of control[3]	100.000	2.105	8.2	15	99.243	1.511	5.9	15	99.584	1.511	5.9	15
Age at PPS[4]	43.933	0.560	4.9	15	45.867*	0.560	4.7	15	49.200*	0.560	4.4	15
BodyWeight at PPS[4]	222.767	5.256	9.1	15	238.020*	5.256	8.6	15	270.147*	5.256	7.5	15
Adj. Age at PPS[5]	43.332	0.613	4.8	15	45.160*	0.639	4.6	15	48.572*	0.619	4.3	15
Adj. BodyWeight at PPS[5]	228.466	5.870	8.7	15	244.716*	6.125	8.1	15	276.095*	5.931	7.2	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Body weight at PND53 was summarized whether the animals were necropsied on PND53 or PND54.
Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
Least squares means and standard errors for Adj. age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
* --- significantly different from coin oil at the 0.05 level.

Table 3c. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Huntingdon Laboratory[1,6].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	58.192	1.437	8.9	13	58.121	1.385	8.9	14	57.886	1.385	9.0	14
Final BodyWeight[2]	320.723	6.095	6.9	13	299.729*	6.145	7.7	14	292.957*	8.354	10.7	14
BodyWeight Gain	262.531	5.347	7.3	13	241.607*	5.153	8.0	14	235.071*	5.153	8.2	14
Final body weight as percent of control[3]	100.000	1.900	6.9	13	93.454*	2.286	9.2	14	91.343*	2.286	9.4	14
Age at PPS[4]	43.923	0.601	4.9	13	47.214*	0.579	4.6	14	50.714*	0.579	4.3	14
BodyWeight at PPS[4]	236.492	5.646	8.6	13	251.314	5.441	8.1	14	273.786*	5.441	7.4	14
Adj. Age at PPS[5]	44.057	0.579	4.7	13	47.340*	0.558	4.4	14	50.809*	0.557	4.1	14
Adj. BodyWeight at PPS[5]	235.121	5.545	8.5	13	250.036	5.342	8.0	14	272.817*	5.333	7.3	14

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Body weight was summarized when the animals were necropsied on PND52 or PND53.
Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
Least squares means and standard errors for Adj. age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
* --- significantly different from coin oil at the 0.05 level.

Table 4a. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Argus Laboratory[1,6].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	62.200	1.348	8.4	15	63.267	1.348	8.3	15	63.800	1.348	8.2	15
Final BodyWeight[2]	319.267	4.450	5.4	15	314.867	4.450	5.5	15	300.200*	4.450	5.7	15
BodyWeight Gain	257.067	4.580	6.9	15	251.600	4.245	6.5	15	236.400*	4.245	7.0	15
Final body weight as percent of control[3]	100.000	1.394	5.4	15	98.622	1.394	5.5	15	94.028*	1.394	5.7	15
Age at PPS[4]	39.500	0.624	5.9	14	40.533	0.603	5.8	15	42.333*	0.603	5.5	15
BodyWeight at PPS[4]	198.571	6.082	11.5	14	204.467	5.876	11.1	15	216.467*	5.876	10.5	15
Adj. Age at PPS[5]	40.134	0.645	5.6	14	41.265	0.641	5.4	15	43.133*	0.653	5.2	15
Adj. BodyWeight at PPS[5]	197.976	6.392	11.2	14	203.779	6.354	10.9	15	215.716*	6.468	10.3	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.

Body weight at PND53 was summarized when animals were necropsied.

Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).

Least squares means and standard errors for Adj. age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.

Within laboratory CV was calculated as residual standard deviation/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 4b. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for WIL Laboratory[1,6].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	52.113	1.348	10.0	15	51.133	1.348	10.2	15	52.273	1.348	10.0	15
Final BodyWeight[2]	306.293	4.933	6.2	15	303.760	4.933	6.3	15	290.180*	4.933	6.6	15
BodyWeight Gain	254.180	5.851	8.9	15	252.627	5.092	7.8	15	237.907*	5.092	8.3	15
Final body weight as percent of control[3]	100.000	1.611	6.2	15	99.173	1.611	6.3	15	94.739*	1.611	6.6	15
Age at PPS[4]	43.933	0.517	4.6	15	44.200	0.517	4.5	15	45.933*	0.517	4.4	15
BodyWeight at PPS[4]	222.767	5.876	10.2	15	224.420	5.876	10.1	15	232.553	5.876	9.8	15
Adj. Age at PPS[5]	43.501	0.574	4.5	15	43.690	0.597	4.5	15	45.514*	0.570	4.3	15
Adj. BodyWeight at PPS[5]	228.048	6.437	9.7	15	230.659	6.696	9.6	15	237.679	6.398	9.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Body weight at PND53 was summarized when animals were necropsied.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. Within laboratory CV was calculated as residual standard deviation/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 4c. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Huntingdon Laboratory[1,6].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	57.920	1.348	9.0	15	57.960	1.348	9.0	15	58.587	1.348	8.9	15
Final BodyWeight[2]	284.360	6.814	9.3	15	298.520	6.814	8.8	15	284.100	6.814	9.3	15
BodyWeight Gain	226.440	6.542	11.2	15	240.560	6.242	10.0	15	225.513	6.242	10.7	15
Final body weight as percent of control[3]	100.000	2.396	9.3	15	104.980	2.396	8.8	15	99.909	2.396	9.3	15
Age at PPS[4]	43.333	0.737	6.6	15	44.333	0.737	6.4	15	45.933*	0.737	6.2	15
BodyWeight at PPS[4]	208.040	5.876	10.9	15	227.133*	5.876	10.0	15	226.880*	5.876	10.0	15
Adj. Age at PPS[5]	43.390	0.718	6.4	15	44.395	0.718	6.3	15	46.084*	0.721	6.0	15
Adj. BodyWeight at PPS[5]	207.378	5.736	10.7	15	226.405*	5.737	9.8	15	225.118*	5.759	9.9	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Body weight was summarized when the animals were necropsied on PND52 or PND53.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. Within laboratory CV was calculated as residual standard deviation/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 5a. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Argus Laboratory[1,6].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	62.200	1.348	8.4	15	63.000	1.348	8.3	15	62.800	1.348	8.3	15
Final BodyWeight[2]	319.267	4.450	5.4	15	305.267*	4.450	5.6	15	294.800*	4.450	5.8	15
BodyWeight Gain	257.067	4.580	6.9	15	242.267*	3.649	5.8	15	232.000*	3.649	6.1	15
Final body weight as percent of control[3]	100.000	1.394	5.4	15	95.615*	1.394	5.6	15	92.337*	1.394	5.8	15
Age at PPS[4]	39.500	0.624	5.9	14	43.000*	0.603	5.4	15	42.533*	0.603	5.5	15
BodyWeight at PPS[4]	198.571	6.082	11.5	14	224.267*	5.876	10.1	15	213.200	5.876	10.7	15
Adj. Age at PPS[5]	40.134	0.645	5.6	14	43.698*	0.636	5.1	15	43.206*	0.632	5.2	15
Adj. BodyWeight at PPS[5]	197.976	6.392	11.2	14	223.611*	6.300	9.9	15	212.569	6.261	10.4	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.

Body weight at PND53 was summarized when animals were necropsied.

Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).

Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.

Within laboratory CV was calculated as residual standard deviation/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 5b. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for WIL Laboratory[1,6].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	52.113	1.348	10.0	15	51.320	1.348	10.2	15	50.647	1.348	10.3	15
Final BodyWeight[2]	306.293	4.933	6.2	15	292.340*	4.933	6.5	15	286.353*	4.933	6.7	15
BodyWeight Gain	254.180	5.851	8.9	15	241.020	2.894	4.6	15	235.707*	2.894	4.8	15
Final body weight as percent of control[3]	100.000	1.611	6.2	15	95.444*	1.611	6.5	15	93.490*	1.611	6.7	15
Age at PPS[4]	43.933	0.517	4.6	15	45.267	0.517	4.4	15	45.467*	0.517	4.4	15
BodyWeight at PPS[4]	222.767	5.876	10.2	15	224.327	5.876	10.1	15	222.787	5.876	10.2	15
Adj. Age at PPS[5]	43.501	0.574	4.5	15	44.771	0.592	4.4	15	44.917	0.609	4.4	15
Adj. BodyWeight at PPS[5]	228.048	6.437	9.7	15	230.383	6.644	9.6	15	229.501	6.836	9.7	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Body weight at PND53 was summarized when animals were necropsied.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. Within laboratory CV was calculated as residual standard deviation/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 5c. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Body Weight, and Age and Weight at PPS for Huntingdon Laboratory[1,6].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	57.920	1.348	9.0	15	57.880	1.348	9.0	15	57.913	1.348	9.0	15
Final BodyWeight[2]	284.360	6.814	9.3	15	289.973	6.814	9.1	15	282.387	6.814	9.3	15
BodyWeight Gain	226.440	6.542	11.2	15	232.093	5.383	9.0	15	224.473	5.383	9.3	15
Final body weight as percent of control[3]	100.000	2.396	9.3	15	101.974	2.396	9.1	15	99.306	2.396	9.3	15
Age at PPS[4]	43.333	0.737	6.6	15	44.867	0.737	6.4	15	46.067*	0.737	6.2	15
BodyWeight at PPS[4]	208.040	5.876	10.9	15	221.993	5.876	10.3	15	230.847*	5.876	9.9	15
Adj. Age at PPS[5]	43.390	0.718	6.4	15	44.917	0.718	6.2	15	46.122*	0.718	6.0	15
Adj. BodyWeight at PPS[5]	207.378	5.736	10.7	15	221.397	5.736	10.0	15	230.196*	5.736	9.6	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.

Body weight was summarized when the animals were necropsied on PND52 or PND53.

Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).

Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.

Within laboratory CV was calculated as residual standard deviation/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 6a. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Argus Laboratory, [1,2,3,4].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.058	0.003	20.6	15	0.057	0.003	20.7	15	0.053	0.003	22.5	15
DorsolateralProstate	0.320	0.022	27.0	15	0.324	0.022	26.6	15	0.302	0.022	28.5	15
Epididymides_Paired	0.534	0.017	12.5	15	0.537	0.017	12.5	15	0.542	0.017	12.4	15
Kidney_Paired	2.811	0.090	12.3	15	2.821	0.084	11.6	15	2.908	0.077	10.2	15
LABCMuscles	0.883	0.039	17.0	15	0.859	0.039	17.5	15	0.815	0.039	18.4	15
Liver	15.540	0.423	10.5	15	17.842*	0.423	9.2	15	20.568*	0.423	8.0	15
Pituitary	0.014	0.001	38.4	15	0.013	0.001	25.8	15	0.012	0.001	40.6	15
SeminalVesicleCoagGlandFluid	0.722	0.036	18.5	14	0.747	0.032	16.6	15	0.700	0.032	17.7	15
TestesLeft	1.446	0.044	11.9	15	1.540	0.018	4.5	15	1.496	0.029	7.5	15
TestesRight	1.581	0.071	17.5	15	1.543	0.027	6.8	15	1.516	0.027	6.9	15
ThyroidBlotted	0.025	0.001	21.3	15	0.026	0.002	28.0	15	0.030	0.002	24.7	15
VentralProstate	0.301	0.023	29.1	15	0.315	0.023	27.8	15	0.291	0.023	30.2	15
Adj. Adrenal_Paired	0.054	0.003	20.7	15	0.053	0.003	21.1	15	0.049	0.003	23.0	15
Adj. DorsolateralProstate	0.296	0.023	27.9	15	0.297	0.024	27.8	15	0.276	0.023	29.9	15
Adj. Epididymides_Paired	0.530	0.019	12.7	15	0.532	0.019	12.6	15	0.536	0.019	12.5	15
Adj. Kidney_Paired	2.735	0.096	12.5	15	2.733	0.091	11.3	15	2.823	0.092	11.2	15
Adj. LABCMuscles	0.855	0.041	17.3	15	0.827	0.042	17.9	15	0.785	0.042	18.9	15
Adj. Liver	15.205	0.449	10.6	15	17.455*	0.460	9.2	15	20.194*	0.457	8.0	15
Adj. Pituitary	0.014	0.001	37.5	15	0.013	0.001	27.3	15	0.012	0.001	42.2	15
Adj. SeminalVesicleCoagGlandFluid	0.666	0.038	19.8	14	0.680	0.030	14.4	15	0.635	0.030	15.5	15
Adj. TestesLeft	1.427	0.045	11.8	15	1.519	0.022	4.3	15	1.476	0.033	8.0	15
Adj. TestesRight	1.560	0.072	17.4	15	1.518	0.033	7.1	15	1.492	0.033	7.2	15
Adj. ThyroidBlotted	0.025	0.002	21.5	15	0.026	0.002	28.6	15	0.029	0.002	25.3	15
Adj. VentralProstate	0.277	0.023	30.2	15	0.286	0.024	29.2	15	0.263	0.024	31.8	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 6b. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for WIL Laboratory, [1,2,3,4].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.046	0.002	14.5	15	0.047	0.002	14.3	15	0.044	0.002	15.1	15
DorsolateralProstate	0.160	0.011	27.3	15	0.162	0.011	27.0	15	0.162	0.011	27.0	15
Epididymides_Paired	0.387	0.011	11.3	15	0.381	0.011	11.5	15	0.369	0.011	11.9	15
Kidney_Paired	2.724	0.057	8.1	15	2.631	0.053	7.7	15	2.597	0.076	11.3	15
LABCMuscles	0.645	0.020	12.2	15	0.609	0.020	13.0	15	0.575*	0.020	13.7	15
Liver	13.831	0.423	11.8	15	17.051*	0.423	9.6	15	18.282*	0.423	9.0	15
Pituitary	0.010	0.000	11.0	15	0.010	0.000	11.1	15	0.009	0.000	17.1	15
SeminalVesicleCoagGlandFluid	0.778	0.044	22.1	15	0.753	0.031	16.1	15	0.706	0.031	17.2	15
TestesLeft	1.271	0.046	14.0	15	1.326	0.021	6.1	15	1.270	0.016	4.9	15
TestesRight	1.321	0.032	9.4	15	1.357	0.022	6.3	15	1.300	0.022	6.6	15
ThyroidBlotted	0.026	0.002	35.0	15	0.026	0.002	25.5	15	0.023	0.002	28.3	15
VentralProstate	0.221	0.014	24.8	15	0.220	0.014	24.8	15	0.193	0.014	28.3	15
Adj. Adrenal_Paired	0.049	0.002	12.5	15	0.050	0.002	12.3	15	0.049	0.002	12.7	15
Adj. DorsolateralProstate	0.156	0.013	28.1	15	0.158	0.013	27.8	15	0.157	0.014	28.0	15
Adj. Epididymides_Paired	0.408	0.012	9.9	15	0.406	0.012	9.9	15	0.398	0.013	10.1	15
Adj. Kidney_Paired	2.766	0.067	7.6	15	2.680	0.070	7.8	15	2.654	0.091	10.8	15
Adj. LABCMuscles	0.681	0.022	10.8	15	0.650	0.022	11.3	15	0.623*	0.024	11.8	15
Adj. Liver	14.173	0.475	11.4	15	17.443*	0.492	9.2	15	18.745*	0.519	8.6	15
Adj. Pituitary	0.011	0.000	9.3	15	0.011	0.000	9.9	15	0.010	0.000	15.6	15
Adj. SeminalVesicleCoagGlandFluid	0.777	0.048	22.2	15	0.752	0.038	16.2	15	0.705	0.040	17.3	15
Adj. TestesLeft	1.316	0.046	13.0	15	1.377	0.023	4.8	15	1.330	0.024	4.2	15
Adj. TestesRight	1.358	0.036	9.2	15	1.400	0.026	5.5	15	1.351	0.028	5.7	15
Adj. ThyroidBlotted	0.024	0.002	37.8	15	0.024	0.002	28.2	15	0.021	0.002	32.0	15
Adj. VentralProstate	0.222	0.016	24.9	15	0.221	0.017	24.9	15	0.194	0.018	28.4	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 6c. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Huntingdon Laboratory, [1,2,3,4].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.047	0.002	19.0	13	0.046	0.002	19.4	14	0.049	0.002	18.3	14
DorsolateralProstate	0.129	0.012	33.1	13	0.122	0.011	34.9	14	0.110	0.011	39.0	14
Epididymides_Paired	0.547	0.017	11.5	13	0.541	0.017	11.6	14	0.527	0.017	12.0	14
Kidney_Paired	2.562	0.041	5.8	13	2.395*	0.038	5.9	14	2.468	0.088	13.3	14
LABCMuscles	0.748	0.028	13.3	13	0.647*	0.027	15.4	14	0.618*	0.027	16.1	14
Liver	15.217	0.454	10.8	13	16.970*	0.438	9.7	14	20.586*	0.438	8.0	14
Pituitary	0.009	0.001	24.8	13	0.009	0.000	12.7	13	0.009	0.001	26.1	14
SeminalVesicleCoagGlandFluid	0.736	0.034	16.5	13	0.695	0.041	22.0	14	0.716	0.041	21.4	14
TestesLeft	1.425	0.033	8.4	13	1.548	0.051	12.3	14	1.471	0.019	4.8	14
TestesRight	1.415	0.027	6.8	13	1.605*	0.082	19.2	14	1.481	0.082	20.8	14
ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	23.3	14	0.024	0.002	26.2	14
VentralProstate	0.290	0.028	34.3	13	0.280	0.027	35.6	14	0.270	0.027	36.9	14
Adj. Adrenal_Paired	0.047	0.002	19.0	13	0.046	0.002	19.4	14	0.049	0.002	18.3	14
Adj. DorsolateralProstate	0.128	0.012	33.4	13	0.121	0.011	35.2	14	0.108	0.012	39.5	14
Adj. Epididymides_Paired	0.543	0.016	10.9	13	0.537	0.016	11.0	14	0.521	0.016	11.3	14
Adj. Kidney_Paired	2.551	0.041	5.7	13	2.385*	0.038	5.9	14	2.453	0.087	13.2	14
Adj. LABCMuscles	0.743	0.027	13.1	13	0.642*	0.026	15.1	14	0.611*	0.026	15.9	14
Adj. Liver	15.137	0.449	10.6	13	16.898*	0.432	9.5	14	20.479*	0.434	7.9	14
Adj. Pituitary	0.009	0.001	21.1	13	0.009	0.000	13.1	13	0.009	0.001	27.1	14
Adj. SeminalVesicleCoagGlandFluid	0.727	0.030	15.0	13	0.686	0.042	22.6	14	0.704	0.042	22.0	14
Adj. TestesLeft	1.418	0.032	8.1	13	1.542	0.051	12.3	14	1.462	0.020	5.1	14
Adj. TestesRight	1.407	0.025	6.4	13	1.598*	0.084	19.6	14	1.471	0.084	21.2	14
Adj. ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	23.4	14	0.024	0.002	26.3	14
Adj. VentralProstate	0.286	0.027	34.5	13	0.277	0.026	35.7	14	0.265	0.027	37.2	14

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 7a. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Argus Laboratory, [1,2,3,4].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.058	0.003	20.6	15	0.060	0.003	19.7	14	0.069*	0.003	17.3	15
DorsolateralProstate	0.320	0.022	27.0	15	0.293	0.022	29.4	15	0.279	0.022	30.9	15
Epididymides_Paired	0.534	0.017	12.5	15	0.533	0.017	12.6	15	0.482*	0.017	13.9	15
Kidney_Paired	2.811	0.090	12.3	15	2.981	0.069	8.9	15	2.950	0.123	16.2	15
LABCMuscles	0.883	0.039	17.0	15	0.872	0.039	17.2	15	0.762*	0.039	19.7	15
Liver	15.540	0.423	10.5	15	16.390	0.423	10.0	15	15.656	0.423	10.5	15
Pituitary	0.014	0.001	38.4	15	0.014	0.001	27.2	15	0.015	0.001	34.6	15
SeminalVesicleCoagGlandFluid	0.722	0.036	18.5	14	0.709	0.045	24.7	15	0.554*	0.045	31.7	15
TestesLeft	1.446	0.044	11.9	15	1.510	0.030	7.8	15	1.553	0.029	7.1	15
TestesRight	1.581	0.071	17.5	15	1.514	0.048	12.2	15	1.604	0.048	11.5	15
ThyroidBlotted	0.025	0.001	21.3	15	0.026	0.002	21.6	14	0.026	0.001	21.7	15
VentralProstate	0.301	0.023	29.1	15	0.286	0.023	30.6	15	0.251	0.023	35.0	15
Adj. Adrenal_Paired	0.054	0.003	20.7	15	0.056	0.003	19.8	14	0.067*	0.003	16.8	15
Adj. DorsolateralProstate	0.296	0.023	27.9	15	0.271	0.023	30.4	15	0.266	0.022	31.1	15
Adj. Epididymides_Paired	0.530	0.019	12.7	15	0.528	0.019	12.7	15	0.479*	0.018	14.0	15
Adj. Kidney_Paired	2.735	0.096	12.5	15	2.910	0.075	8.8	15	2.906	0.117	15.3	15
Adj. LABCMuscles	0.855	0.041	17.3	15	0.847	0.041	17.5	15	0.746*	0.039	19.8	15
Adj. Liver	15.205	0.449	10.6	15	16.078	0.445	10.0	15	15.463	0.427	10.4	15
Adj. Pituitary	0.014	0.001	37.5	15	0.014	0.001	28.5	15	0.015	0.001	35.8	15
Adj. SeminalVesicleCoagGlandFluid	0.666	0.038	19.8	14	0.654	0.046	26.2	15	0.520*	0.045	33.0	15
Adj. TestesLeft	1.427	0.045	11.8	15	1.493	0.031	7.5	15	1.542*	0.029	7.2	15
Adj. TestesRight	1.560	0.072	17.4	15	1.494	0.049	12.0	15	1.591	0.047	11.3	15
Adj. ThyroidBlotted	0.025	0.002	21.5	15	0.026	0.002	22.0	14	0.026	0.002	22.0	15
Adj. VentralProstate	0.277	0.023	30.2	15	0.263	0.023	31.8	15	0.236	0.022	35.4	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 7b. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for WIL Laboratory, [1,2,3,4].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.046	0.002	14.5	15	0.047	0.002	14.3	15	0.053*	0.002	12.6	15
DorsolateralProstate	0.160	0.011	27.3	15	0.161	0.011	27.2	15	0.146	0.011	30.1	15
Epididymides_Paired	0.387	0.011	11.3	15	0.351*	0.011	12.5	15	0.328*	0.011	13.4	15
Kidney_Paired	2.724	0.057	8.1	15	2.667	0.063	9.2	15	2.705	0.072	10.3	15
LABCMuscles	0.645	0.020	12.2	15	0.590	0.020	13.4	15	0.543*	0.020	14.5	15
Liver	13.831	0.423	11.8	15	14.155	0.423	11.6	15	15.517*	0.423	10.6	15
Pituitary	0.010	0.000	11.0	15	0.010	0.000	16.6	15	0.010	0.000	15.7	15
SeminalVesicleCoagGlandFluid	0.778	0.044	22.1	15	0.665*	0.029	16.8	15	0.528*	0.029	21.2	15
TestesLeft	1.271	0.046	14.0	15	1.374	0.033	9.3	15	1.356	0.031	8.9	15
TestesRight	1.321	0.032	9.4	15	1.405	0.032	8.8	15	1.370	0.032	9.0	15
ThyroidBlotted	0.026	0.002	35.0	15	0.022	0.001	19.5	15	0.022	0.001	19.9	15
VentralProstate	0.221	0.014	24.8	15	0.199	0.014	27.6	15	0.177*	0.014	30.9	15
Adj. Adrenal_Paired	0.049	0.002	12.5	15	0.051	0.002	12.2	15	0.056*	0.002	10.9	15
Adj. DorsolateralProstate	0.156	0.013	28.1	15	0.156	0.014	28.1	15	0.142	0.013	31.1	15
Adj. Epididymides_Paired	0.408	0.012	9.9	15	0.376*	0.012	10.7	15	0.351*	0.012	11.5	15
Adj. Kidney_Paired	2.766	0.067	7.6	15	2.717	0.079	9.3	15	2.749	0.082	10.1	15
Adj. LABCMuscles	0.681	0.022	10.8	15	0.632	0.023	11.7	15	0.581*	0.022	12.7	15
Adj. Liver	14.173	0.475	11.4	15	14.556	0.496	11.1	15	15.873*	0.480	10.1	15
Adj. Pituitary	0.011	0.000	9.3	15	0.010	0.001	16.1	15	0.011	0.000	16.2	15
Adj. SeminalVesicleCoagGlandFluid	0.777	0.048	22.2	15	0.664*	0.036	17.0	15	0.527*	0.035	21.4	15
Adj. TestesLeft	1.316	0.046	13.0	15	1.426	0.035	8.5	15	1.402	0.035	8.8	15
Adj. TestesRight	1.358	0.036	9.2	15	1.449	0.037	8.6	15	1.409	0.036	8.8	15
Adj. ThyroidBlotted	0.024	0.002	37.8	15	0.020	0.001	19.3	15	0.020	0.001	19.5	15
Adj. VentralProstate	0.222	0.016	24.9	15	0.200	0.017	27.6	15	0.178*	0.016	31.0	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 7c. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Huntingdon Laboratory, [1,2,3,4].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.047	0.002	19.0	13	0.048	0.002	18.5	14	0.048	0.002	18.5	14
DorsolateralProstate	0.129	0.012	33.1	13	0.095*	0.011	45.1	14	0.103	0.011	41.3	14
Epididymides_Paired	0.547	0.017	11.5	13	0.475*	0.017	13.3	14	0.458*	0.017	13.8	14
Kidney_Paired	2.562	0.041	5.8	13	2.337*	0.063	10.1	14	2.327*	0.069	11.0	14
LABCMuscles	0.748	0.028	13.3	13	0.599*	0.027	16.6	14	0.558*	0.027	17.8	14
Liver	15.217	0.454	10.8	13	14.495	0.438	11.3	14	14.957	0.438	11.0	14
Pituitary	0.009	0.001	24.8	13	0.009	0.001	26.9	14	0.010	0.000	17.0	14
SeminalVesicleCoagGlandFluid	0.736	0.034	16.5	13	0.646	0.037	21.7	14	0.462*	0.037	30.3	14
TestesLeft	1.425	0.033	8.4	13	1.589	0.086	20.1	14	1.493	0.027	6.8	14
TestesRight	1.415	0.027	6.8	13	1.500*	0.030	7.5	14	1.498*	0.030	7.6	14
ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	21.1	14	0.025	0.002	22.7	14
VentralProstate	0.290	0.028	34.3	13	0.241	0.027	41.4	14	0.228	0.027	43.7	14
Adj. Adrenal_Paired	0.047	0.002	19.0	13	0.048	0.002	18.5	14	0.048	0.002	18.5	14
Adj. DorsolateralProstate	0.128	0.012	33.4	13	0.094*	0.011	45.6	14	0.103	0.011	41.6	14
Adj. Epididymides_Paired	0.543	0.016	10.9	13	0.471*	0.016	12.5	14	0.454*	0.016	13.0	14
Adj. Kidney_Paired	2.551	0.041	5.7	13	2.327*	0.061	9.9	14	2.320*	0.063	10.1	14
Adj. LABCMuscles	0.743	0.027	13.1	13	0.594*	0.026	16.4	14	0.555*	0.026	17.5	14
Adj. Liver	15.137	0.449	10.6	13	14.420	0.432	11.2	14	14.901	0.431	10.8	14
Adj. Pituitary	0.009	0.001	21.1	13	0.009	0.001	29.2	14	0.009	0.000	12.4	14
Adj. SeminalVesicleCoagGlandFluid	0.727	0.030	15.0	13	0.637	0.035	20.5	14	0.455*	0.035	28.7	14
Adj. TestesLeft	1.418	0.032	8.1	13	1.583	0.080	18.9	14	1.489	0.024	6.0	14
Adj. TestesRight	1.407	0.025	6.4	13	1.492*	0.028	6.9	14	1.492*	0.028	6.9	14
Adj. ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	21.3	14	0.025	0.002	23.0	14
Adj. VentralProstate	0.286	0.027	34.5	13	0.237	0.026	41.6	14	0.225	0.026	43.9	14

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
Within laboratory CV was calculated as residual standard deviation/LS Mean.
Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 8a. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Argus Laboratory, [1,2,3,4].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.058	0.004	26.3	15	0.062	0.004	24.6	15	0.063	0.004	24.1	15
DorsolateralProstate	0.320	0.030	36.2	15	0.305	0.030	37.9	15	0.293	0.030	39.4	15
Epididymides_Paired	0.534	0.017	12.5	15	0.526	0.018	12.7	14	0.517	0.017	12.9	15
Kidney_Paired	2.811	0.093	12.8	15	3.099*	0.093	11.6	15	3.250*	0.093	11.1	15
LABCMuscles	0.883	0.038	16.5	15	0.887	0.038	16.5	15	0.740*	0.038	19.7	15
Liver	15.540	0.487	12.1	15	19.575*	0.487	9.6	15	23.503*	0.487	8.0	15
Pituitary	0.014	0.001	39.3	15	0.015	0.001	37.1	15	0.014	0.001	40.0	15
SeminalVesicleCoagGlandFluid	0.722	0.040	20.5	14	0.734	0.038	20.2	15	0.714	0.038	20.8	15
TestesLeft	1.446	0.044	11.9	15	1.499	0.050	12.8	15	1.341	0.063	18.1	15
TestesRight	1.581	0.071	17.5	15	1.516	0.044	11.4	15	1.356*	0.065	18.5	15
ThyroidBlotted	0.025	0.001	21.3	15	0.026	0.002	27.7	15	0.027	0.002	25.9	15
VentralProstate	0.301	0.021	26.9	15	0.294	0.021	27.5	15	0.234*	0.021	34.6	15
Adj. Adrenal_Paired	0.057	0.004	26.7	15	0.061	0.004	25.0	15	0.062	0.004	24.6	15
Adj. DorsolateralProstate	0.301	0.032	38.0	15	0.282	0.033	40.5	15	0.268	0.033	42.6	15
Adj. Epididymides_Paired	0.515	0.017	12.2	15	0.504	0.018	12.5	14	0.491	0.018	12.8	15
Adj. Kidney_Paired	2.768	0.099	12.9	15	3.047*	0.102	11.8	15	3.192*	0.104	11.2	15
Adj. LABCMuscles	0.857	0.040	16.8	15	0.855	0.041	16.8	15	0.706*	0.042	20.4	15
Adj. Liver	15.296	0.484	11.4	15	19.275*	0.500	9.1	15	23.176*	0.508	7.5	15
Adj. Pituitary	0.013	0.002	41.7	15	0.014	0.002	40.0	15	0.012	0.002	43.8	15
Adj. SeminalVesicleCoagGlandFluid	0.670	0.041	21.3	14	0.668	0.041	21.4	15	0.642	0.042	22.3	15
Adj. TestesLeft	1.391	0.050	12.3	15	1.431	0.058	13.7	15	1.268	0.062	16.4	15
Adj. TestesRight	1.522	0.073	17.5	15	1.443	0.057	12.7	15	1.276*	0.065	16.9	15
Adj. ThyroidBlotted	0.025	0.002	21.6	15	0.025	0.002	29.1	15	0.027	0.002	27.3	15
Adj. VentralProstate	0.286	0.022	27.8	15	0.276	0.023	28.8	15	0.214*	0.023	37.2	15

Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate

Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.

Within laboratory CV was calculated as residual standard deviation/LS Mean.

Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 8b. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for WIL Laboratory, [1,2,3,4].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.046	0.002	15.3	15	0.050	0.002	14.2	15	0.042	0.002	16.5	15
DorsolateralProstate	0.160	0.011	27.1	15	0.153	0.011	28.4	15	0.139	0.011	31.3	15
Epididymides_Paired	0.387	0.013	12.7	15	0.400	0.013	12.3	15	0.392	0.013	12.5	15
Kidney_Paired	2.724	0.057	8.1	15	2.823	0.057	7.8	15	2.765	0.057	8.0	15
LABCMuscles	0.645	0.020	11.8	15	0.653	0.020	11.7	15	0.532*	0.020	14.4	15
Liver	13.831	0.487	13.6	15	17.857*	0.487	10.6	15	21.711*	0.487	8.7	15
Pituitary	0.010	0.000	14.0	15	0.010	0.000	14.5	15	0.008*	0.000	17.8	15
SeminalVesicleCoagGlandFluid	0.778	0.038	19.0	15	0.808	0.038	18.3	15	0.646*	0.038	22.9	15
TestesLeft	1.271	0.046	14.0	15	1.304	0.032	9.4	15	1.319	0.029	8.4	15
TestesRight	1.321	0.032	9.4	15	1.319	0.038	11.1	15	1.341	0.035	10.2	15
ThyroidBlotted	0.026	0.002	35.0	15	0.022	0.001	20.7	15	0.019*	0.001	23.8	15
VentralProstate	0.221	0.013	23.4	15	0.206	0.013	25.0	15	0.147*	0.013	35.1	15
Adj. Adrenal_Paired	0.048	0.002	14.5	15	0.052	0.002	13.4	15	0.044	0.002	15.7	15
Adj. DorsolateralProstate	0.163	0.013	26.8	15	0.156	0.013	28.0	15	0.141	0.013	31.0	15
Adj. Epididymides_Paired	0.410	0.013	10.8	15	0.427	0.013	10.4	15	0.415	0.013	10.7	15
Adj. Kidney_Paired	2.774	0.063	7.9	15	2.882	0.066	7.6	15	2.813	0.063	7.7	15
Adj. LABCMuscles	0.661	0.022	11.5	15	0.671	0.023	11.3	15	0.547*	0.022	13.8	15
Adj. Liver	14.244	0.507	12.3	15	18.345*	0.527	9.5	15	22.112*	0.503	7.9	15
Adj. Pituitary	0.011	0.000	13.1	15	0.010	0.000	13.5	15	0.008*	0.000	16.6	15
Adj. SeminalVesicleCoagGlandFluid	0.805	0.041	17.8	15	0.841	0.043	17.0	15	0.672*	0.041	21.3	15
Adj. TestesLeft	1.299	0.047	13.4	15	1.336	0.035	9.0	15	1.346	0.029	7.5	15
Adj. TestesRight	1.345	0.035	9.2	15	1.347	0.041	10.8	15	1.364	0.037	9.7	15
Adj. ThyroidBlotted	0.024	0.002	37.8	15	0.021	0.001	22.3	15	0.018*	0.001	25.6	15
Adj. VentralProstate	0.221	0.015	23.5	15	0.207	0.016	25.1	15	0.148*	0.015	35.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 8c. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Huntingdon Laboratory, [1,2,3,4].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.046	0.002	16.5	15	0.047	0.002	16.3	15	0.043	0.002	18.0	15
DorsolateralProstate	0.098	0.010	39.9	15	0.127*	0.010	30.9	15	0.096	0.010	40.6	15
Epididymides_Paired	0.517	0.016	11.9	15	0.515	0.016	12.0	15	0.491	0.016	12.5	15
Kidney_Paired	2.234	0.070	12.1	15	2.443*	0.070	11.1	15	2.458*	0.070	11.0	15
LABCMuscles	0.650	0.024	14.0	15	0.650	0.024	14.0	15	0.528*	0.024	17.3	15
Liver	12.891	0.487	14.6	15	18.106*	0.487	10.4	15	22.035*	0.487	8.6	15
Pituitary	0.009	0.001	23.9	15	0.008	0.001	26.7	15	0.008	0.001	27.1	15
SeminalVesicleCoagGlandFluid	0.664	0.038	22.3	15	0.645	0.038	23.0	15	0.547*	0.038	27.1	15
TestesLeft	1.438	0.029	7.9	15	1.536	0.058	14.6	15	1.347	0.054	15.4	15
TestesRight	1.447	0.030	8.0	15	1.461	0.028	7.4	15	1.352	0.049	14.0	15
ThyroidBlotted	0.023	0.001	23.7	15	0.026	0.001	20.2	15	0.022	0.001	23.8	15
VentralProstate	0.291	0.020	26.6	15	0.274	0.020	28.2	15	0.207*	0.020	37.3	15
Adj. Adrenal_Paired	0.046	0.002	15.8	15	0.047	0.002	15.6	15	0.042	0.002	17.3	15
Adj. DorsolateralProstate	0.097	0.010	39.8	15	0.126*	0.010	30.8	15	0.095	0.010	40.9	15
Adj. Epididymides_Paired	0.516	0.016	11.8	15	0.514	0.016	11.9	15	0.488	0.016	12.5	15
Adj. Kidney_Paired	2.221	0.055	9.6	15	2.428*	0.055	8.8	15	2.423*	0.055	8.8	15
Adj. LABCMuscles	0.648	0.022	13.4	15	0.647	0.022	13.4	15	0.522*	0.023	16.7	15
Adj. Liver	12.799	0.451	13.6	15	18.005*	0.451	9.7	15	21.789*	0.453	8.0	15
Adj. Pituitary	0.009	0.001	23.3	15	0.008	0.001	26.0	15	0.008	0.001	26.6	15
Adj. SeminalVesicleCoagGlandFluid	0.662	0.037	21.6	15	0.642	0.037	22.3	15	0.541*	0.037	26.4	15
Adj. TestesLeft	1.438	0.030	8.0	15	1.536	0.058	14.6	15	1.347	0.054	15.4	15
Adj. TestesRight	1.447	0.030	8.0	15	1.460	0.028	7.4	15	1.351	0.050	14.2	15
Adj. ThyroidBlotted	0.023	0.001	23.0	15	0.026	0.001	20.7	15	0.022	0.001	24.5	15
Adj. VentralProstate	0.291	0.020	26.8	15	0.274	0.020	28.4	15	0.207*	0.020	37.7	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 9a. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Argus Laboratory, [1,2,3,4].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.058	0.004	26.3	15	0.055	0.004	27.8	15	0.054	0.004	28.3	15
DorsolateralProstate	0.320	0.030	36.2	15	0.262	0.030	44.0	15	0.302	0.030	38.3	15
Epididymides_Paired	0.534	0.017	12.5	15	0.474*	0.017	14.1	15	0.417*	0.017	16.0	15
Kidney_Paired	2.811	0.093	12.8	15	2.985	0.093	12.0	15	2.983	0.093	12.0	15
LABCMuscles	0.883	0.038	16.5	15	0.754*	0.038	19.3	15	0.645*	0.038	22.6	15
Liver	15.540	0.487	12.1	15	14.882	0.487	12.7	15	17.741*	0.487	10.6	15
Pituitary	0.014	0.001	39.3	15	0.013	0.001	42.4	15	0.014	0.001	40.2	14
SeminalVesicleCoagGlandFluid	0.722	0.040	20.5	14	0.589*	0.038	25.1	15	0.520*	0.038	28.5	15
TestesLeft	1.446	0.044	11.9	15	0.720*	0.098	52.9	15	0.446*	0.049	42.9	15
TestesRight	1.581	0.071	17.5	15	0.714*	0.098	52.9	15	0.436*	0.052	46.3	15
ThyroidBlotted	0.025	0.001	21.3	15	0.027	0.002	23.1	15	0.027	0.002	23.4	15
VentralProstate	0.301	0.021	26.9	15	0.217*	0.021	37.3	15	0.248	0.021	32.6	15
Adj. Adrenal_Paired	0.057	0.004	26.7	15	0.054	0.004	28.3	15	0.053	0.004	28.8	15
Adj. DorsolateralProstate	0.301	0.032	38.0	15	0.240	0.032	47.5	15	0.281	0.032	40.7	15
Adj. Epididymides_Paired	0.515	0.017	12.2	15	0.451*	0.018	14.0	15	0.396*	0.018	15.9	15
Adj. Kidney_Paired	2.768	0.099	12.9	15	2.935	0.102	12.2	15	2.935	0.101	12.2	15
Adj. LABCMuscles	0.857	0.040	16.8	15	0.724*	0.041	19.8	15	0.617*	0.041	23.3	15
Adj. Liver	15.296	0.484	11.4	15	14.596	0.495	12.0	15	17.465*	0.492	10.0	15
Adj. Pituitary	0.013	0.002	41.7	15	0.012	0.002	46.0	15	0.013	0.002	43.0	14
Adj. SeminalVesicleCoagGlandFluid	0.670	0.041	21.3	14	0.526*	0.041	27.2	15	0.459*	0.040	31.1	15
Adj. TestesLeft	1.391	0.050	12.3	15	0.656*	0.104	59.3	15	0.384*	0.053	47.0	15
Adj. TestesRight	1.522	0.073	17.5	15	0.644*	0.104	59.9	15	0.369*	0.057	51.3	15
Adj. ThyroidBlotted	0.025	0.002	21.6	15	0.026	0.002	23.5	15	0.026	0.002	23.8	15
Adj. VentralProstate	0.286	0.022	27.8	15	0.199*	0.023	39.9	15	0.231	0.022	34.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 9b. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for WIL Laboratory, [1,2,3,4].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.046	0.002	15.3	15	0.045	0.002	15.7	15	0.043	0.002	16.4	15
DorsolateralProstate	0.160	0.011	27.1	15	0.145	0.011	29.8	15	0.113*	0.011	38.4	15
Epididymides_Paired	0.387	0.013	12.7	15	0.333*	0.013	14.7	15	0.309*	0.013	15.8	15
Kidney_Paired	2.724	0.057	8.1	15	2.671	0.057	8.3	15	2.678	0.057	8.3	15
LABCMuscles	0.645	0.020	11.8	15	0.518*	0.020	14.8	15	0.463*	0.020	16.5	15
Liver	13.831	0.487	13.6	15	14.248	0.487	13.2	15	15.645*	0.487	12.1	15
Pituitary	0.010	0.000	14.0	15	0.010	0.000	14.1	15	0.010	0.000	13.7	15
SeminalVesicleCoagGlandFluid	0.778	0.038	19.0	15	0.607*	0.038	24.4	15	0.493*	0.038	30.1	15
TestesLeft	1.271	0.046	14.0	15	0.908*	0.086	36.8	15	0.334*	0.010	12.0	15
TestesRight	1.321	0.032	9.4	15	0.895*	0.088	38.2	15	0.338*	0.012	13.2	15
ThyroidBlotted	0.026	0.002	35.0	15	0.022	0.001	20.0	15	0.021	0.001	21.2	15
VentralProstate	0.221	0.013	23.4	15	0.180*	0.013	28.7	15	0.180*	0.013	28.8	15
Adj. Adrenal_Paired	0.048	0.002	14.5	15	0.047	0.002	14.8	15	0.045	0.002	15.4	15
Adj. DorsolateralProstate	0.163	0.013	26.8	15	0.148	0.013	29.5	15	0.116*	0.013	37.6	15
Adj. Epididymides_Paired	0.410	0.013	10.8	15	0.359*	0.013	12.4	15	0.339*	0.014	13.1	15
Adj. Kidney_Paired	2.774	0.063	7.9	15	2.728	0.065	8.0	15	2.742	0.067	8.0	15
Adj. LABCMuscles	0.661	0.022	11.5	15	0.536*	0.023	14.1	15	0.483*	0.023	15.7	15
Adj. Liver	14.244	0.507	12.3	15	14.722	0.523	11.9	15	16.171*	0.538	10.8	15
Adj. Pituitary	0.011	0.000	13.1	15	0.010	0.000	13.2	15	0.011	0.000	12.8	15
Adj. SeminalVesicleCoagGlandFluid	0.805	0.041	17.8	15	0.638*	0.043	22.4	15	0.527*	0.044	27.1	15
Adj. TestesLeft	1.299	0.047	13.4	15	0.939*	0.085	34.5	15	0.368*	0.020	11.3	15
Adj. TestesRight	1.345	0.035	9.2	15	0.922*	0.088	36.4	15	0.368*	0.021	12.0	15
Adj. ThyroidBlotted	0.024	0.002	37.8	15	0.020	0.001	19.8	15	0.019	0.001	21.3	15
Adj. VentralProstate	0.221	0.015	23.5	15	0.181*	0.016	28.8	15	0.180*	0.016	28.8	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 9c. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights for Huntingdon Laboratory, [1,2,3,4].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.046	0.002	16.5	15	0.044	0.002	17.6	15	0.043	0.002	17.7	15
DorsolateralProstate	0.098	0.010	39.9	15	0.099	0.010	39.6	15	0.096	0.010	40.5	15
Epididymides_Paired	0.517	0.016	11.9	15	0.464*	0.016	13.3	15	0.405*	0.016	15.2	15
Kidney_Paired	2.234	0.070	12.1	15	2.375	0.070	11.4	15	2.340	0.070	11.6	15
LABCMuscles	0.650	0.024	14.0	15	0.518*	0.024	17.6	15	0.491*	0.024	18.6	15
Liver	12.891	0.487	14.6	15	14.166	0.487	13.3	15	15.297*	0.487	12.3	15
Pituitary	0.009	0.001	23.9	15	0.009	0.001	23.5	15	0.010	0.001	21.8	15
SeminalVesicleCoagGlandFluid	0.664	0.038	22.3	15	0.563	0.038	26.3	15	0.483*	0.038	30.7	15
TestesLeft	1.438	0.029	7.9	15	0.782*	0.099	49.0	15	0.370*	0.012	12.5	15
TestesRight	1.447	0.030	8.0	15	0.789*	0.121	59.5	15	0.369*	0.015	15.3	15
ThyroidBlotted	0.023	0.001	23.7	15	0.025	0.001	19.9	15	0.024	0.001	20.7	15
VentralProstate	0.291	0.020	26.6	15	0.241	0.020	32.2	15	0.241	0.020	32.1	15
Adj. Adrenal_Paired	0.046	0.002	15.8	15	0.043	0.002	16.8	15	0.043	0.002	16.9	15
Adj. DorsolateralProstate	0.097	0.010	39.8	15	0.098	0.010	39.5	15	0.096	0.010	40.4	15
Adj. Epididymides_Paired	0.516	0.016	11.8	15	0.463*	0.016	13.2	15	0.404*	0.016	15.1	15
Adj. Kidney_Paired	2.221	0.055	9.6	15	2.363	0.055	9.0	15	2.327	0.055	9.1	15
Adj. LABCMuscles	0.648	0.022	13.4	15	0.516*	0.022	16.9	15	0.489*	0.022	17.8	15
Adj. Liver	12.799	0.451	13.6	15	14.083*	0.451	12.4	15	15.206*	0.451	11.5	15
Adj. Pituitary	0.009	0.001	23.3	15	0.009	0.001	22.9	15	0.010	0.001	21.2	15
Adj. SeminalVesicleCoagGlandFluid	0.662	0.037	21.6	15	0.561	0.037	25.5	15	0.481*	0.037	29.7	15
Adj. TestesLeft	1.438	0.030	8.0	15	0.782*	0.099	49.1	15	0.370*	0.012	12.8	15
Adj. TestesRight	1.447	0.030	8.0	15	0.788*	0.121	59.6	15	0.369*	0.015	15.6	15
Adj. ThyroidBlotted	0.023	0.001	23.0	15	0.024	0.001	20.0	15	0.024	0.001	20.8	15
Adj. VentralProstate	0.291	0.020	26.8	15	0.240	0.020	32.4	15	0.241	0.020	32.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 10a. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Hormonal Parameters for Argus Laboratory, [1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	8.384	0.181	8.3	15	4.447*	0.177	15.4	15	4.078*	0.126	12.0	15
Serum testosterone	238.320	33.049	53.7	15	203.587	46.568	88.6	15	175.047	27.293	60.4	15
Thyroid stimulating hormone	9.629	1.309	52.6	15	11.885	1.465	47.7	15	13.161	1.130	33.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 10b. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Hormonal Parameters for WIL Laboratory, [1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.680	0.346	20.1	15	1.505*	0.100	25.6	15	0.938*	0.057	23.4	15
Serum testosterone	240.660	38.931	62.7	15	322.833	53.603	64.3	15	298.513	45.661	59.2	15
Thyroid stimulating hormone	15.793	1.154	28.3	15	26.067*	2.555	38.0	15	26.000*	3.589	53.5	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 10c. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Hormonal Parameters for Huntingdon Laboratory [1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	5.923	0.135	8.2	13	1.314*	0.082	23.3	14	0.829*	0.061	27.4	14
Serum testosterone	227.177	36.159	57.4	13	112.764*	23.816	79.0	14	118.271*	27.326	86.4	14
Thyroid stimulating hormone	4.577	0.557	43.9	13	6.257	0.733	43.8	14	8.964*	1.176	49.1	14

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 11a. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Hormonal Parameters for Argus Laboratory [1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	8.384	0.181	8.3	15	7.229*	0.289	15.5	15	5.262*	0.141	10.3	15
Serum testosterone	238.320	33.049	53.7	15	290.973	30.363	40.4	15	423.567*	75.393	68.9	15
Thyroid stimulating hormone	9.629	1.309	52.6	15	8.395	1.099	50.7	15	8.858	1.249	54.6	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 11b. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Hormonal Parameters for WIL Laboratory [1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.680	0.346	20.1	15	5.367*	0.260	18.8	15	3.720*	0.183	19.0	15
Serum testosterone	240.660	38.931	62.7	15	327.680	68.251	80.7	15	380.653	63.674	64.8	15
Thyroid stimulating hormone	15.793	1.154	28.3	15	15.473	1.551	38.8	15	18.907	1.917	39.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 11c. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Hormonal Parameters for Huntingdon Laboratory [1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	5.923	0.135	8.2	13	4.079*	0.113	10.4	14	2.900*	0.124	16.0	14
Serum testosterone	227.177	36.159	57.4	13	319.071	43.816	51.4	14	369.286*	48.355	49.0	14
Thyroid stimulating hormone	4.577	0.557	43.9	13	6.264	0.940	56.2	14	5.200	0.378	27.2	14

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 12a. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Hormonal Parameters for Argus Laboratory [1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	8.384	0.181	8.3	15	9.293*	0.305	12.7	15	9.169*	0.305	12.9	15
Serum testosterone	238.320	33.049	53.7	15	229.313	47.753	80.7	15	147.933*	15.404	40.3	15
Thyroid stimulating hormone	9.629	1.309	52.6	15	6.656	0.952	55.4	15	6.821	0.890	50.5	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 12b. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Hormonal Parameters for WIL Laboratory [1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.680	0.346	20.1	15	7.153	0.383	20.7	15	6.907	0.383	21.5	15
Serum testosterone	240.660	38.931	62.7	15	251.440	35.126	54.1	15	145.733*	19.946	53.0	15
Thyroid stimulating hormone	15.793	1.154	28.3	15	16.767	2.089	48.2	15	19.087	1.369	27.8	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 12c. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Hormonal Parameters for Huntingdon Laboratory [1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	5.307	0.191	13.9	15	6.040*	0.294	18.9	15	4.947	0.294	23.0	15
Serum testosterone	158.887	26.651	65.0	15	255.033	47.605	72.3	15	176.340	29.329	64.4	15
Thyroid stimulating hormone	9.180	1.013	42.8	15	7.107	0.704	38.4	15	6.653*	0.666	38.8	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 13a. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Hormonal Parameters for Argus Laboratory [1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	8.384	0.181	8.3	15	6.946*	0.195	10.9	15	6.818*	0.195	11.1	15
Serum testosterone	238.320	33.049	53.7	15	121.753*	15.007	47.7	15	159.700*	18.369	44.5	15
Thyroid stimulating hormone	9.629	1.309	52.6	15	4.708*	0.451	37.1	15	8.483	1.137	51.9	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 13b. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Hormonal Parameters for WIL Laboratory [1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.680	0.346	20.1	15	5.680*	0.259	17.7	15	4.000*	0.259	25.1	15
Serum testosterone	240.660	38.931	62.7	15	112.467*	23.531	81.0	15	95.093*	14.646	59.7	15
Thyroid stimulating hormone	15.793	1.154	28.3	15	15.160	1.633	41.7	15	11.513*	0.719	24.2	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 13c. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Hormonal Parameters for Huntingdon Laboratory [1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	5.307	0.191	13.9	15	4.047*	0.258	24.7	15	3.993*	0.258	25.1	15
Serum testosterone	158.887	26.651	65.0	15	112.593	16.561	57.0	15	70.133*	10.751	59.4	15
Thyroid stimulating hormone	9.180	1.013	42.8	15	5.320*	0.629	45.8	15	4.260*	0.305	27.8	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Within laboratory CV was calculated as residual standard deviation/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 14. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Body Weight, and Age and Weight at PPS across Laboratories[1,6].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	57.568	3.176	9.6	43	57.396	3.174	9.6	44	56.988	3.174	9.6	44
Final BodyWeight[2]	315.521	5.019	2.8	43	301.325*	4.513	2.6	44	304.444	4.862	2.8	44
BodyWeight Gain	257.790	3.960	2.7	43	244.344*	3.932	2.8	44	245.767	3.932	2.8	44
Final body weight as percent of control[3]	99.978	1.727	3.0	43	95.637*	1.638	3.0	44	96.177	1.638	3.0	44
Age at PPS[4]	42.458	1.138	4.6	42	43.094	1.135	4.6	44	44.024*	1.135	4.5	44
BodyWeight at PPS[4]	219.185	7.169	5.7	42	217.641	7.137	5.7	44	226.205	7.137	5.5	44
Adj. Age at PPS[5]	42.570	0.910	3.7	42	43.197	0.910	3.6	44	44.093*	0.913	3.6	44
Adj. BodyWeight at PPS[5]	220.134	7.996	6.3	42	218.867	7.993	6.3	44	227.650	8.022	6.1	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Body weight was summarized when animals were necropsied on PND52 or PND53.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. CV was calculated as $\sqrt{3}$*standard error/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 15. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Body Weight, and Age and Weight at PPS across Laboratories[1,6].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	57.568	3.176	9.6	43	57.054	3.174	9.6	44	56.838	3.174	9.7	44
Final BodyWeight[2]	315.521	5.019	2.8	43	309.064	4.921	2.8	44	300.815*	4.982	2.9	44
BodyWeight Gain	257.790	3.960	2.7	43	251.750	3.932	2.7	44	242.646*	3.932	2.8	44
Final body weight as percent of control[3]	99.978	1.727	3.0	43	98.238	1.707	3.0	44	95.260*	1.707	3.1	44
Age at PPS[4]	42.458	1.138	4.6	42	45.554*	1.135	4.3	44	49.099*	1.135	4.0	44
BodyWeight at PPS[4]	219.185	7.169	5.7	42	243.096*	7.137	5.1	44	266.080*	7.137	4.6	44
Adj. Age at PPS[5]	42.570	0.910	3.7	42	45.596*	0.909	3.5	44	49.067*	0.906	3.2	44
Adj. BodyWeight at PPS[5]	220.134	7.996	6.3	42	244.455*	7.982	5.7	44	267.441*	7.948	5.1	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Body weight was summarized when animals were necropsied on PND52 or PND53.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. CV was calculated as $\sqrt{3}$*standard error/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 16. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Body Weight, and Age and Weight at PPS across Laboratories[1,6].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	57.411	3.405	10.3	45	57.453	3.405	10.3	45	58.220	3.405	10.1	45
Final BodyWeight[2]	305.782	6.119	3.5	45	305.502	6.119	3.5	45	291.282*	6.119	3.6	45
BodyWeight Gain	248.683	5.317	3.7	45	248.247	4.954	3.5	45	233.235*	4.954	3.7	45
Final body weight as percent of control[3]	100.783	1.810	3.1	45	100.608	1.810	3.1	45	95.997*	1.810	3.3	45
Age at PPS[4]	42.336	1.160	4.7	44	43.003	1.159	4.7	45	44.728*	1.159	4.5	45
BodyWeight at PPS[4]	209.868	5.481	4.5	44	218.673	5.456	4.3	45	225.300*	5.456	4.2	45
Adj. Age at PPS[5]	42.436	0.882	3.6	44	43.113	0.884	3.6	45	44.921*	0.883	3.4	45
Adj. BodyWeight at PPS[5]	211.243	6.728	5.5	44	220.328	6.754	5.3	45	226.277*	6.735	5.2	45

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Body weight was summarized when animals were necropsied on PND52 or PND53.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. CV was calculated as $\sqrt{3}$*standard error/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 17. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Body Weight, and Age and Weight at PPS across Laboratories[1,6].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Initial BodyWeight	57.411	3.405	10.3	45	57.400	3.405	10.3	45	57.120	3.405	10.3	45
Final BodyWeight[2]	305.782	6.119	3.5	45	295.426*	6.119	3.6	45	287.144*	6.119	3.7	45
BodyWeight Gain	248.683	5.317	3.7	45	237.967*	4.543	3.3	45	230.676*	4.543	3.4	45
Final body weight as percent of control[3]	100.783	1.810	3.1	45	97.339*	1.810	3.2	45	94.638*	1.810	3.3	45
Age at PPS[4]	42.336	1.160	4.7	44	44.405*	1.159	4.5	45	44.614*	1.159	4.5	45
BodyWeight at PPS[4]	209.868	5.481	4.5	44	223.529*	5.456	4.2	45	222.278*	5.456	4.3	45
Adj. Age at PPS[5]	42.436	0.882	3.6	44	44.520*	0.883	3.4	45	44.692*	0.885	3.4	45
Adj. BodyWeight at PPS[5]	211.243	6.728	5.5	44	225.172*	6.742	5.2	45	224.100*	6.760	5.2	45

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Body weight at PND53 was summarized whether the animals were necropsied on PND53 or PND54.
3. Final body weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).
4. For those animals that were necropsied before PPS age at PPS is set at necropsy day+1 (i.e. 54 days) and body weight at PPS is set at final body weight (i.e. body weight at PND53).
5. Least squares means and standard errors for Adj. Age and body weight at PPS were estimated based on a mixed effect model with centered initial body weight as a covariate.
6. CV was calculated as $\sqrt{3}$*standard error/LS Mean.

* --- significantly different from coin oil at the 0.05 level.

Table 18. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights across Laboratories, [1,2,3,4].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.050	0.004	14.2	43	0.050	0.004	14.2	44	0.049	0.004	14.6	44
DorsolateralProstate	0.201	0.058	50.0	43	0.200	0.058	50.3	44	0.192	0.058	52.5	44
Epididymides_Paired	0.489	0.052	18.5	43	0.486	0.052	18.6	44	0.477	0.052	19.0	44
Kidney_Paired	2.732	0.142	9.0	43	2.621	0.142	9.4	44	2.655	0.145	9.5	44
LABCMuscles	0.757	0.077	17.6	43	0.704*	0.077	19.0	44	0.670*	0.077	19.9	44
Liver	14.855	0.543	6.3	43	17.291*	0.542	5.4	44	19.804*	0.542	4.7	44
Pituitary	0.011	0.001	21.4	43	0.011	0.001	21.2	43	0.011	0.001	22.8	44
SeminalVesicleCoagGlandFluid	0.741	0.024	5.5	42	0.737	0.021	4.9	44	0.705	0.021	5.1	44
TestesLeft	1.378	0.069	8.7	43	1.463*	0.066	7.8	44	1.408	0.066	8.1	44
TestesRight	1.416	0.061	7.4	43	1.463	0.059	7.0	44	1.415	0.059	7.3	44
ThyroidBlotted	0.026	0.001	8.8	43	0.026	0.001	9.4	44	0.025	0.001	9.7	44
VentralProstate	0.269	0.028	17.9	43	0.270	0.028	17.8	44	0.247	0.028	19.5	44
Adj. Adrenal_Paired	0.050	0.003	9.9	43	0.050	0.003	9.9	44	0.049	0.003	10.1	44
Adj. DorsolateralProstate	0.191	0.051	46.5	43	0.190	0.051	47.0	44	0.181	0.051	49.4	44
Adj. Epididymides_Paired	0.493	0.043	15.0	43	0.491	0.043	15.0	44	0.484	0.043	15.3	44
Adj. Kidney_Paired	2.714	0.132	8.4	43	2.605	0.132	8.8	44	2.641	0.137	9.0	44
Adj. LABCMuscles	0.755	0.061	14.1	43	0.705*	0.062	15.1	44	0.675*	0.062	15.8	44
Adj. Liver	14.847	0.391	4.6	43	17.286*	0.393	3.9	44	19.828*	0.397	3.5	44
Adj. Pituitary	0.011	0.001	19.6	43	0.011	0.001	19.4	43	0.011	0.001	20.9	44
Adj. SeminalVesicleCoagGlandFluid	0.718	0.026	6.2	42	0.705	0.023	5.6	44	0.670	0.023	6.0	44
Adj. TestesLeft	1.388	0.048	5.9	43	1.469*	0.043	5.1	44	1.421	0.043	5.3	44
Adj. TestesRight	1.418	0.042	5.1	43	1.467	0.040	4.8	44	1.424	0.041	4.9	44
Adj. ThyroidBlotted	0.025	0.002	11.9	43	0.026	0.002	12.3	44	0.025	0.002	12.9	44
Adj. VentralProstate	0.260	0.022	14.6	43	0.261	0.022	14.6	44	0.238	0.022	16.1	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 19. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights across Laboratories, [1,2,3,4].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.050	0.004	14.2	43	0.051	0.004	13.9	43	0.056*	0.004	12.6	44
DorsolateralProstate	0.201	0.058	50.0	43	0.183	0.058	54.8	44	0.179*	0.058	56.2	44
Epididymides_Paired	0.489	0.052	18.5	43	0.453*	0.052	20.0	44	0.425*	0.052	21.3	44
Kidney_Paired	2.732	0.142	9.0	43	2.658	0.143	9.3	44	2.645	0.146	9.6	44
LABCMuscles	0.757	0.077	17.6	43	0.680*	0.077	19.6	44	0.626*	0.077	21.3	44
Liver	14.855	0.543	6.3	43	15.018	0.542	6.3	44	15.380	0.542	6.1	44
Pituitary	0.011	0.001	21.4	43	0.011	0.001	21.9	44	0.011	0.001	21.2	44
SeminalVesicleCoagGlandFluid	0.741	0.024	5.5	42	0.668*	0.022	5.7	44	0.514*	0.022	7.4	44
TestesLeft	1.378	0.069	8.7	43	1.471*	0.069	8.1	44	1.466*	0.067	7.9	44
TestesRight	1.416	0.061	7.4	43	1.484*	0.060	7.0	44	1.484*	0.060	7.0	44
ThyroidBlotted	0.026	0.001	8.8	43	0.025	0.001	8.8	43	0.024	0.001	9.0	44
VentralProstate	0.269	0.028	17.9	43	0.244	0.028	19.7	44	0.221*	0.028	21.8	44
Adj. Adrenal_Paired	0.050	0.003	9.9	43	0.051	0.003	9.6	43	0.057*	0.003	8.6	44
Adj. DorsolateralProstate	0.191	0.051	46.5	43	0.174	0.051	51.3	44	0.170	0.051	52.3	44
Adj. Epididymides_Paired	0.493	0.043	15.0	43	0.458*	0.043	16.1	44	0.430*	0.043	17.1	44
Adj. Kidney_Paired	2.714	0.132	8.4	43	2.649	0.133	8.7	44	2.637	0.136	8.9	44
Adj. LABCMuscles	0.755	0.061	14.1	43	0.684*	0.062	15.6	44	0.629*	0.061	16.9	44
Adj. Liver	14.847	0.391	4.6	43	15.050	0.391	4.5	44	15.448	0.386	4.3	44
Adj. Pituitary	0.011	0.001	19.6	43	0.011	0.001	20.2	44	0.011	0.001	19.3	44
Adj. SeminalVesicleCoagGlandFluid	0.718	0.026	6.2	42	0.645*	0.024	6.6	44	0.494*	0.024	8.4	44
Adj. TestesLeft	1.388	0.048	5.9	43	1.482*	0.047	5.5	44	1.476*	0.045	5.2	44
Adj. TestesRight	1.418	0.042	5.1	43	1.489*	0.041	4.8	44	1.491*	0.041	4.8	44
Adj. ThyroidBlotted	0.025	0.002	11.9	43	0.024	0.002	12.0	43	0.024	0.002	12.2	44
Adj. VentralProstate	0.260	0.022	14.6	43	0.236	0.022	16.1	44	0.214*	0.022	17.6	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 20. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights across Laboratories, [1,2,3,4].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.050	0.005	15.6	45	0.053	0.005	14.9	45	0.048	0.005	16.5	45
DorsolateralProstate	0.187	0.059	54.9	45	0.197	0.059	52.1	45	0.175	0.059	58.7	45
Epididymides_Paired	0.477	0.042	15.1	45	0.480	0.042	15.0	44	0.468	0.042	15.4	45
Kidney_Paired	2.619	0.193	12.8	45	2.790*	0.193	12.0	45	2.795*	0.193	12.0	45
LABCMuscles	0.722	0.073	17.5	45	0.726	0.073	17.4	45	0.602*	0.073	21.1	45
Liver	14.087	0.612	7.5	45	18.513*	0.612	5.7	45	22.417*	0.612	4.7	45
Pituitary	0.011	0.002	24.8	45	0.011	0.002	25.9	45	0.009*	0.002	29.4	45
SeminalVesicleCoagGlandFluid	0.722	0.035	8.3	44	0.729	0.035	8.2	45	0.635*	0.035	9.4	45
TestesLeft	1.389	0.045	5.7	45	1.430	0.048	5.8	45	1.341	0.048	6.2	45
TestesRight	1.425	0.044	5.4	45	1.432	0.042	5.1	45	1.358	0.046	5.9	45
ThyroidBlotted	0.024	0.002	12.4	45	0.025	0.002	11.2	45	0.023	0.002	12.4	45
VentralProstate	0.269	0.025	15.9	45	0.256	0.025	16.7	45	0.194*	0.025	22.0	45
Adj. Adrenal_Paired	0.050	0.004	13.7	45	0.053	0.004	13.1	45	0.047	0.004	14.6	45
Adj. DorsolateralProstate	0.180	0.052	50.0	45	0.190	0.052	47.3	45	0.167	0.052	53.8	45
Adj. Epididymides_Paired	0.477	0.029	10.6	45	0.482	0.029	10.5	44	0.466	0.029	10.9	45
Adj. Kidney_Paired	2.605	0.186	12.4	45	2.783*	0.186	11.6	45	2.774*	0.186	11.6	45
Adj. LABCMuscles	0.716	0.061	14.7	45	0.721	0.061	14.6	45	0.593*	0.061	17.8	45
Adj. Liver	14.103	0.524	6.4	45	18.530*	0.528	4.9	45	22.346*	0.526	4.1	45
Adj. Pituitary	0.011	0.001	18.1	45	0.010	0.001	18.9	45	0.009*	0.001	21.8	45
Adj. SeminalVesicleCoagGlandFluid	0.711	0.042	10.3	44	0.715	0.042	10.3	45	0.616*	0.042	11.9	45
Adj. TestesLeft	1.386	0.037	4.6	45	1.419	0.041	5.0	45	1.330	0.040	5.2	45
Adj. TestesRight	1.420	0.033	4.1	45	1.423	0.032	3.9	45	1.342	0.036	4.7	45
Adj. ThyroidBlotted	0.023	0.002	14.8	45	0.024	0.002	13.6	45	0.022	0.002	15.1	45
Adj. VentralProstate	0.264	0.022	14.3	45	0.250	0.022	15.2	45	0.188*	0.022	20.2	45

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 21. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for both Unadjusted and Body-Weight Adjusted Organ Weights across Laboratories [1,2,3,4].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Adrenal_Paired	0.050	0.005	15.6	45	0.048	0.005	16.3	45	0.047	0.005	16.7	45
DorsolateralProstate	0.187	0.059	54.9	45	0.177	0.059	58.1	45	0.165	0.059	62.3	45
Epididymides_Paired	0.477	0.042	15.1	45	0.422*	0.042	17.1	45	0.380*	0.042	19.0	45
Kidney_Paired	2.619	0.193	12.8	45	2.673	0.193	12.5	45	2.665	0.193	12.5	45
LABCMuscles	0.722	0.073	17.5	45	0.593*	0.073	21.4	45	0.540*	0.073	23.4	45
Liver	14.087	0.612	7.5	45	14.432	0.612	7.3	45	16.227*	0.612	6.5	45
Pituitary	0.011	0.002	24.8	45	0.011	0.002	25.0	45	0.012	0.002	24.0	44
SeminalVesicleCoagGlandFluid	0.722	0.035	8.3	44	0.586*	0.035	10.2	45	0.499*	0.035	12.0	45
TestesLeft	1.389	0.045	5.7	45	0.811*	0.070	15.0	45	0.376*	0.042	19.3	45
TestesRight	1.425	0.044	5.4	45	0.809*	0.073	15.6	45	0.377*	0.039	18.1	45
ThyroidBlotted	0.024	0.002	12.4	45	0.025	0.002	11.1	45	0.024	0.002	11.5	45
VentralProstate	0.269	0.025	15.9	45	0.217*	0.025	19.7	45	0.223*	0.025	19.1	45
Adj. Adrenal_Paired	0.050	0.004	13.7	45	0.048	0.004	14.3	45	0.047	0.004	14.6	45
Adj. DorsolateralProstate	0.180	0.052	50.0	45	0.170	0.052	53.0	45	0.158	0.052	56.8	45
Adj. Epididymides_Paired	0.477	0.029	10.6	45	0.422*	0.029	12.0	45	0.383*	0.029	13.3	45
Adj. Kidney_Paired	2.605	0.186	12.4	45	2.675	0.186	12.1	45	2.664	0.186	12.1	45
Adj. LABCMuscles	0.716	0.061	14.7	45	0.587*	0.061	17.9	45	0.537*	0.061	19.6	45
Adj. Liver	14.103	0.524	6.4	45	14.456	0.527	6.3	45	16.270*	0.528	5.6	45
Adj. Pituitary	0.011	0.001	18.1	45	0.011	0.001	18.2	45	0.011	0.001	17.4	44
Adj. SeminalVesicleCoagGlandFluid	0.711	0.042	10.3	44	0.573*	0.042	12.8	45	0.487*	0.043	15.1	45
Adj. TestesLeft	1.386	0.037	4.6	45	0.810*	0.065	14.0	45	0.376*	0.033	15.1	45
Adj. TestesRight	1.420	0.033	4.1	45	0.802*	0.068	14.7	45	0.372*	0.028	12.9	45
Adj. ThyroidBlotted	0.023	0.002	14.8	45	0.024	0.002	13.5	45	0.023	0.002	14.1	45
Adj. VentralProstate	0.264	0.022	14.3	45	0.211*	0.022	18.0	45	0.218*	0.022	17.5	45

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. organ weights were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
4. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 22. Summary Statistics between Corn Oil and Test Chemical DE-71 in Male Pubertal Assay for Hormonal Parameters across Laboratories [1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.968	0.909	22.6	43	2.408*	0.902	64.9	44	1.936*	0.900	80.5	44
Serum testosterone	236.425	36.519	26.8	43	190.688	39.165	35.6	44	185.531	35.884	33.5	44
Thyroid stimulating hormone	9.973	3.729	64.8	43	12.622	3.798	52.1	44	14.750	3.776	44.3	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 23. Summary Statistics between Corn Oil and Test Chemical Vinclozolin in Male Pubertal Assay for Hormonal Parameters across Laboratories [1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.968	0.909	22.6	43	5.521*	0.909	28.5	44	3.953*	0.903	39.6	44
Serum testosterone	236.425	36.519	26.8	43	312.445	40.579	22.5	44	390.417*	47.447	21.0	44
Thyroid stimulating hormone	9.973	3.729	64.8	43	10.397	3.729	62.1	44	10.708	3.779	61.1	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 24. Summary Statistics between Corn Oil and Test Chemical 2-Chloronitrobenzene in Male Pubertal Assay for Hormonal Parameters across Laboratories [1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.769	0.968	24.8	45	7.500	0.976	22.6	45	6.991	0.976	24.2	45
Serum testosterone	206.101	24.133	20.3	45	246.358	29.313	20.6	45	152.820	18.747	21.2	45
Thyroid stimulating hormone	11.540	3.020	45.3	45	9.970	3.034	52.7	45	10.553	3.001	49.3	45

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.

2. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 25. Summary Statistics between Corn Oil and Test Chemical Dibutyl Phthalate in Male Pubertal Assay for Hormonal Parameters for Argus Laboratory [1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500 mg/kg/day)				Dibutyl Phthalate (1000 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Serum Thyroxine	6.769	0.968	24.8	45	5.538*	0.968	30.3	45	4.948*	0.968	33.9	45
Serum testosterone	206.101	24.133	20.3	45	115.934*	17.393	26.0	45	103.555*	16.228	27.1	45
Thyroid stimulating hormone	11.540	3.020	45.3	45	8.151	2.997	63.7	45	7.833*	2.978	65.9	45

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.

2. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
3. Significantly differences from coin oil at the 0.05 level were marked by "*".

Table 26a. Summary Statistics between Corn Oil and DE-71 in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Argus Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	319.267	4.825	5.9	15	309.933	5.891	7.4	15	310.933	3.613	4.5	15
BodyWeight Gain	257.067	4.878	7.3	15	246.933	4.878	7.7	15	248.133	4.878	7.6	15
Final Body Weight as percent of control[5]	100.000	1.511	5.9	15	97.077	1.531	6.1	15	97.390	1.531	6.1	15
DorsolateralProstate	0.320	0.022	27.0	15	0.324	0.022	26.6	15	0.302	0.022	28.5	15
Liver	15.540	0.423	10.5	15	17.842*	0.423	9.2	15	20.568*	0.423	8.0	15
Kidney_Paired	2.811	0.090	12.3	15	2.821	0.084	11.6	15	2.908	0.077	10.2	15
LABCMuscles	0.883	0.039	17.0	15	0.859	0.039	17.5	15	0.815	0.039	18.4	15
Pituitary	0.014	0.001	38.4	15	0.013	0.001	25.8	15	0.011	0.001	29.0	14
TestesLeft	1.446	0.044	11.9	15	1.540	0.018	4.5	15	1.496	0.029	7.5	15
TestesRight	1.581	0.071	17.5	15	1.543	0.027	6.8	15	1.516	0.027	6.9	15
ThyroidBlotted	0.025	0.001	21.3	15	0.026	0.002	28.0	15	0.030	0.002	24.7	15
Adj. DorsolateralProstate	0.296	0.023	27.9	15	0.297	0.024	27.8	15	0.276	0.023	29.9	15
Adj. Liver	15.205	0.449	10.6	15	17.455*	0.460	9.2	15	20.194*	0.457	8.0	15
Adj. Kidney_Paired	2.735	0.096	12.5	15	2.733	0.091	11.3	15	2.823	0.092	11.2	15
Adj. LABCMuscles	0.855	0.041	17.3	15	0.827	0.042	17.9	15	0.785	0.042	18.9	15
Adj. Pituitary	0.014	0.001	38.5	15	0.013	0.001	26.1	15	0.011	0.001	29.3	14
Adj. TestesLeft	1.427	0.045	11.8	15	1.519	0.022	4.3	15	1.476	0.033	8.0	15
Adj. TestesRight	1.560	0.072	17.4	15	1.518	0.033	7.1	15	1.492	0.033	7.2	15
Adj. ThyroidBlotted	0.025	0.002	21.5	15	0.026	0.002	28.6	15	0.029	0.002	25.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 26b. Summary Statistics between Corn Oil and DE-71 in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for WIL Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	306.293	6.446	8.2	15	299.267	3.603	4.7	15	293.093	7.287	9.6	15
BodyWeight Gain	254.180	4.878	7.4	15	247.887	4.878	7.6	15	242.773	4.878	7.8	15
Final Body Weight as percent of control[5]	100.000	2.105	8.2	15	97.706	1.877	7.4	15	95.690	1.877	7.6	15
DorsolateralProstate	0.160	0.011	27.3	15	0.162	0.011	27.0	15	0.162	0.011	27.0	15
Liver	13.831	0.423	11.8	15	17.051*	0.423	9.6	15	18.282*	0.423	9.0	15
Kidney_Paired	2.724	0.057	8.1	15	2.631	0.053	7.7	15	2.597	0.076	11.3	15
LABCMuscles	0.645	0.020	12.2	15	0.609	0.020	13.0	15	0.575*	0.020	13.7	15
Pituitary	0.010	0.000	11.0	15	0.010	0.000	11.1	15	0.009	0.000	17.1	15
TestesLeft	1.271	0.046	14.0	15	1.326	0.021	6.1	15	1.270	0.016	4.9	15
TestesRight	1.321	0.032	9.4	15	1.357	0.022	6.3	15	1.300	0.022	6.6	15
ThyroidBlotted	0.026	0.002	35.0	15	0.026	0.002	25.5	15	0.023	0.002	28.3	15
Adj. DorsolateralProstate	0.156	0.013	28.1	15	0.158	0.013	27.8	15	0.157	0.014	28.0	15
Adj. Liver	14.173	0.475	11.4	15	17.443*	0.492	9.2	15	18.745*	0.519	8.6	15
Adj. Kidney_Paired	2.766	0.067	7.6	15	2.680	0.070	7.8	15	2.654	0.091	10.8	15
Adj. LABCMuscles	0.681	0.022	10.8	15	0.650	0.022	11.3	15	0.623*	0.024	11.8	15
Adj. Pituitary	0.011	0.000	9.3	15	0.011	0.000	9.9	15	0.010	0.000	15.6	15
Adj. TestesLeft	1.316	0.046	13.0	15	1.377	0.023	4.8	15	1.330	0.024	4.2	15
Adj. TestesRight	1.358	0.036	9.2	15	1.400	0.026	5.5	15	1.351	0.028	5.7	15
Adj. ThyroidBlotted	0.024	0.002	37.8	15	0.024	0.002	28.2	15	0.021	0.002	32.0	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 26c. Summary Statistics between Corn Oil and DE-71 in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Huntingdon Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	320.723	6.095	6.9	13	296.079*	4.278	5.4	14	304.964	5.447	6.7	14
BodyWeight Gain	257.883	5.454	7.3	12	237.986*	5.049	7.9	14	246.436*	5.049	7.7	14
Final Body Weight as percent of control[5]	98.345	1.017	3.6	12	92.316*	1.527	6.2	14	95.086	1.527	6.0	14
DorsolateralProstate	0.129	0.012	33.1	13	0.122	0.011	34.9	14	0.110	0.011	39.0	14
Liver	15.217	0.454	10.8	13	16.970*	0.438	9.7	14	20.586*	0.438	8.0	14
Kidney_Paired	2.562	0.041	5.8	13	2.395*	0.038	5.9	14	2.468	0.088	13.3	14
LABCMuscles	0.748	0.028	13.3	13	0.647*	0.027	15.4	14	0.618*	0.027	16.1	14
Pituitary	0.009	0.001	24.8	13	0.009	0.000	12.7	13	0.009	0.001	26.1	14
TestesLeft	1.425	0.033	8.4	13	1.504	0.027	6.5	13	1.471	0.019	4.8	14
TestesRight	1.415	0.027	6.8	13	1.494*	0.027	6.5	13	1.481	0.026	6.6	14
ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	23.3	14	0.024	0.002	26.2	14
Adj. DorsolateralProstate	0.128	0.012	33.4	13	0.121	0.011	35.2	14	0.108	0.012	39.5	14
Adj. Liver	15.137	0.449	10.6	13	16.898*	0.432	9.5	14	20.479*	0.434	7.9	14
Adj. Kidney_Paired	2.551	0.041	5.7	13	2.385*	0.038	5.9	14	2.453	0.087	13.2	14
Adj. LABCMuscles	0.743	0.027	13.1	13	0.642*	0.026	15.1	14	0.611*	0.026	15.9	14
Adj. Pituitary	0.009	0.001	21.1	13	0.009	0.000	13.1	13	0.009	0.001	27.1	14
Adj. TestesLeft	1.419	0.032	8.1	13	1.499	0.028	6.7	13	1.463	0.020	5.1	14
Adj. TestesRight	1.408	0.025	6.4	13	1.487*	0.027	6.6	13	1.472	0.026	6.6	14
Adj. ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	23.4	14	0.024	0.002	26.3	14

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 27a. Summary Statistics between Corn Oil and Vinclozolin in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Argus Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	319.267	4.825	5.9	15	322.400	5.237	6.3	15	299.533*	5.233	6.8	15
BodyWeight Gain	257.067	4.878	7.3	15	260.533	4.878	7.3	15	239.467*	4.878	7.9	15
Final Body Weight as percent of control[5]	100.000	1.511	5.9	15	100.981	1.640	6.3	15	93.819*	1.640	6.8	15
DorsolateralProstate	0.320	0.022	27.0	15	0.293	0.022	29.4	15	0.279	0.022	30.9	15
Liver	15.540	0.423	10.5	15	16.390	0.423	10.0	15	15.656	0.423	10.5	15
Kidney_Paired	2.811	0.090	12.3	15	2.981	0.069	8.9	15	2.950	0.123	16.2	15
LABCMuscles	0.883	0.039	17.0	15	0.872	0.039	17.2	15	0.762*	0.039	19.7	15
Pituitary	0.014	0.001	38.4	15	0.014	0.001	27.2	15	0.015	0.001	34.6	15
TestesLeft	1.446	0.044	11.9	15	1.510	0.030	7.8	15	1.553	0.029	7.1	15
TestesRight	1.581	0.071	17.5	15	1.514	0.048	12.2	15	1.604	0.048	11.5	15
ThyroidBlotted	0.025	0.001	21.3	15	0.026	0.002	21.6	14	0.026	0.001	21.7	15
Adj. DorsolateralProstate	0.296	0.023	27.9	15	0.271	0.023	30.4	15	0.266	0.022	31.1	15
Adj. Liver	15.205	0.449	10.6	15	16.078	0.445	10.0	15	15.463	0.427	10.4	15
Adj. Kidney_Paired	2.735	0.096	12.5	15	2.910	0.075	8.8	15	2.906	0.117	15.3	15
Adj. LABCMuscles	0.855	0.041	17.3	15	0.847	0.041	17.5	15	0.746*	0.039	19.8	15
Adj. Pituitary	0.014	0.001	38.5	15	0.014	0.001	27.4	15	0.015	0.001	34.8	15
Adj. TestesLeft	1.427	0.045	11.8	15	1.493	0.031	7.5	15	1.542*	0.029	7.2	15
Adj. TestesRight	1.560	0.072	17.4	15	1.494	0.049	12.0	15	1.591	0.047	11.3	15
Adj. ThyroidBlotted	0.025	0.002	21.5	15	0.026	0.002	22.0	14	0.026	0.002	22.0	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 27b. Summary Statistics between Corn Oil and Vinclozolin in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for WIL Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	306.293	6.446	8.2	15	303.973	5.218	6.6	15	305.020	3.947	5.0	15
BodyWeight Gain	254.180	4.878	7.4	15	252.740	4.878	7.5	15	253.127	4.878	7.5	15
Final Body Weight as percent of control[5]	100.000	2.105	8.2	15	99.243	1.511	5.9	15	99.584	1.511	5.9	15
DorsolateralProstate	0.160	0.011	27.3	15	0.161	0.011	27.2	15	0.146	0.011	30.1	15
Liver	13.831	0.423	11.8	15	14.155	0.423	11.6	15	15.517*	0.423	10.6	15
Kidney_Paired	2.724	0.057	8.1	15	2.667	0.063	9.2	15	2.705	0.072	10.3	15
LABCMuscles	0.645	0.020	12.2	15	0.590	0.020	13.4	15	0.543*	0.020	14.5	15
Pituitary	0.010	0.000	11.0	15	0.010	0.000	16.6	15	0.010	0.000	15.7	15
TestesLeft	1.271	0.046	14.0	15	1.374	0.033	9.3	15	1.356	0.031	8.9	15
TestesRight	1.321	0.032	9.4	15	1.405	0.032	8.8	15	1.370	0.032	9.0	15
ThyroidBlotted	0.026	0.002	35.0	15	0.022	0.001	19.5	15	0.022	0.001	19.9	15
Adj. DorsolateralProstate	0.156	0.013	28.1	15	0.156	0.014	28.1	15	0.142	0.013	31.1	15
Adj. Liver	14.173	0.475	11.4	15	14.556	0.496	11.1	15	15.873*	0.480	10.1	15
Adj. Kidney_Paired	2.766	0.067	7.6	15	2.717	0.079	9.3	15	2.749	0.082	10.1	15
Adj. LABCMuscles	0.681	0.022	10.8	15	0.632	0.023	11.7	15	0.581*	0.022	12.7	15
Adj. Pituitary	0.011	0.000	9.3	15	0.010	0.000	16.1	15	0.011	0.000	16.2	15
Adj. TestesLeft	1.316	0.046	13.0	15	1.426	0.035	8.5	15	1.402	0.035	8.8	15
Adj. TestesRight	1.358	0.036	9.2	15	1.449	0.037	8.6	15	1.409	0.036	8.8	15
Adj. ThyroidBlotted	0.024	0.002	37.8	15	0.020	0.001	19.3	15	0.020	0.001	19.5	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 27c. Summary Statistics between Corn Oil and Vinclozolin in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Huntingdon Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	320.723	6.095	6.9	13	299.729*	6.145	7.7	14	292.957*	8.354	10.7	14
BodyWeight Gain	257.883	5.454	7.3	12	241.607*	5.049	7.8	14	235.071*	5.049	8.0	14
Final Body Weight as percent of control[5]	98.345	1.017	3.6	12	93.454*	2.286	9.2	14	91.343*	2.286	9.4	14
DorsolateralProstate	0.129	0.012	33.1	13	0.095*	0.011	45.1	14	0.103	0.011	41.3	14
Liver	15.217	0.454	10.8	13	14.495	0.438	11.3	14	14.957	0.438	11.0	14
Kidney_Paired	2.562	0.041	5.8	13	2.337*	0.063	10.1	14	2.327*	0.069	11.0	14
LABCMuscles	0.748	0.028	13.3	13	0.599*	0.027	16.6	14	0.558*	0.027	17.8	14
Pituitary	0.009	0.001	24.8	13	0.009	0.001	26.9	14	0.010	0.000	17.0	14
TestesLeft	1.425	0.033	8.4	13	1.589	0.086	20.1	14	1.493	0.027	6.8	14
TestesRight	1.415	0.027	6.8	13	1.500*	0.030	7.5	14	1.498*	0.030	7.6	14
ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	21.1	14	0.025	0.002	22.7	14
Adj. DorsolateralProstate	0.128	0.012	33.4	13	0.094*	0.011	45.6	14	0.103	0.011	41.6	14
Adj. Liver	15.137	0.449	10.6	13	14.420	0.432	11.2	14	14.901	0.431	10.8	14
Adj. Kidney_Paired	2.551	0.041	5.7	13	2.327*	0.061	9.9	14	2.320*	0.063	10.1	14
Adj. LABCMuscles	0.743	0.027	13.1	13	0.594*	0.026	16.4	14	0.555*	0.026	17.5	14
Adj. Pituitary	0.009	0.001	21.1	13	0.009	0.001	29.2	14	0.009	0.000	12.4	14
Adj. TestesLeft	1.419	0.032	8.1	13	1.584	0.081	19.1	14	1.489	0.024	6.1	14
Adj. TestesRight	1.408	0.025	6.4	13	1.493*	0.028	6.9	14	1.493*	0.028	6.9	14
Adj. ThyroidBlotted	0.027	0.001	11.5	13	0.027	0.002	21.3	14	0.025	0.002	23.0	14

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 28a. Summary Statistics between Corn Oil and 2-Chloronitrobenzene in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Argus Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	319.267	4.450	5.4	15	314.867	4.450	5.5	15	300.200*	4.450	5.7	15
BodyWeight Gain	257.067	4.580	6.9	15	251.600	4.245	6.5	15	236.400*	4.245	7.0	15
Final Body Weight as percent of control[5]	100.000	1.394	5.4	15	98.622	1.394	5.5	15	94.028*	1.394	5.7	15
DorsolateralProstate	0.320	0.022	27.1	15	0.305	0.022	28.4	15	0.293	0.022	29.5	15
Liver	15.540	0.475	11.8	15	19.575*	0.475	9.4	15	23.503*	0.475	7.8	15
Kidney_Paired	2.811	0.082	11.4	15	3.099*	0.082	10.3	15	3.250*	0.082	9.8	15
LABCMuscles	0.883	0.034	15.1	15	0.887	0.034	15.0	15	0.740*	0.034	17.9	15
Pituitary	0.014	0.001	39.3	15	0.015	0.001	37.1	15	0.014	0.001	40.0	15
TestesLeft	1.446	0.044	11.9	15	1.499	0.050	12.8	15	1.341	0.063	18.1	15
TestesRight	1.581	0.071	17.5	15	1.516	0.044	11.4	15	1.356*	0.065	18.5	15
ThyroidBlotted	0.025	0.001	21.3	15	0.026	0.001	21.5	15	0.026	0.001	21.4	14
Adj. DorsolateralProstate	0.301	0.025	30.3	15	0.283	0.022	27.3	15	0.269	0.029	39.6	15
Adj. Liver	15.294	0.477	11.2	15	19.273*	0.492	8.9	15	23.174*	0.501	7.4	15
Adj. Kidney_Paired	2.771	0.088	11.5	15	3.051*	0.091	10.4	15	3.196*	0.093	9.9	15
Adj. LABCMuscles	0.861	0.036	15.2	15	0.860	0.038	15.3	15	0.711*	0.038	18.5	15
Adj. Pituitary	0.013	0.002	41.7	15	0.014	0.002	40.0	15	0.012	0.002	43.8	15
Adj. TestesLeft	1.391	0.050	12.3	15	1.432	0.058	13.7	15	1.268	0.062	16.4	15
Adj. TestesRight	1.521	0.074	17.5	15	1.442	0.057	12.7	15	1.275*	0.065	16.9	15
Adj. ThyroidBlotted	0.024	0.001	21.9	15	0.024	0.002	22.6	15	0.024	0.002	22.8	14

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 28b. Summary Statistics between Corn Oil and 2-Chloronitrobenzene in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for WIL Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	306.293	4.933	6.2	15	303.760	4.933	6.3	15	290.180*	4.933	6.6	15
BodyWeight Gain	254.180	5.851	8.9	15	252.627	5.092	7.8	15	237.907*	5.092	8.3	15
Final Body Weight as percent of control[5]	100.000	1.611	6.2	15	99.173	1.611	6.3	15	94.739*	1.611	6.6	15
DorsolateralProstate	0.160	0.011	27.1	15	0.153	0.011	28.4	15	0.139	0.011	31.3	15
Liver	13.831	0.475	13.3	15	17.857*	0.475	10.3	15	21.711*	0.475	8.5	15
Kidney_Paired	2.724	0.057	8.1	15	2.823	0.057	7.8	15	2.765	0.057	8.0	15
LABCMuscles	0.645	0.020	11.8	15	0.653	0.020	11.7	15	0.532*	0.020	14.4	15
Pituitary	0.010	0.000	14.0	15	0.010	0.000	14.5	15	0.008*	0.000	17.8	15
TestesLeft	1.271	0.046	14.0	15	1.304	0.032	9.4	15	1.319	0.029	8.4	15
TestesRight	1.321	0.032	9.4	15	1.319	0.038	11.1	15	1.341	0.035	10.2	15
ThyroidBlotted	0.026	0.002	35.0	15	0.022	0.001	20.7	15	0.019*	0.001	23.8	15
Adj. DorsolateralProstate	0.162	0.014	28.9	15	0.155	0.014	29.8	15	0.140	0.013	31.2	15
Adj. Liver	14.242	0.498	12.1	15	18.342*	0.518	9.4	15	22.110*	0.495	7.8	15
Adj. Kidney_Paired	2.773	0.063	7.9	15	2.882	0.066	7.6	15	2.813	0.063	7.7	15
Adj. LABCMuscles	0.661	0.022	11.5	15	0.671	0.023	11.3	15	0.547*	0.022	13.8	15
Adj. Pituitary	0.011	0.000	13.1	15	0.010	0.000	13.5	15	0.008*	0.000	16.6	15
Adj. TestesLeft	1.299	0.047	13.4	15	1.336	0.035	9.0	15	1.346	0.029	7.5	15
Adj. TestesRight	1.344	0.035	9.2	15	1.346	0.041	10.8	15	1.364	0.037	9.7	15
Adj. ThyroidBlotted	0.024	0.002	37.7	15	0.021	0.001	22.3	15	0.018*	0.001	25.6	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was be calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 28c. Summary Statistics between Corn Oil and 2-Chloronitrobenzene in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Huntingdon Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	284.360	6.814	9.3	15	298.520	6.814	8.8	15	284.100	6.814	9.3	15
BodyWeight Gain	226.440	6.542	11.2	15	240.560	6.242	10.0	15	225.513	6.242	10.7	15
Final Body Weight as percent of control[5]	100.000	2.396	9.3	15	104.980	2.396	8.8	15	99.909	2.396	9.3	15
DorsolateralProstate	0.098	0.007	29.3	15	0.111*	0.008	25.9	14	0.096	0.007	29.9	15
Liver	12.891	0.475	14.3	15	18.106*	0.475	10.2	15	22.035*	0.475	8.4	15
Kidney_Paired	2.234	0.070	12.1	15	2.443*	0.070	11.1	15	2.458*	0.070	11.0	15
LABCMuscles	0.650	0.024	14.0	15	0.650	0.024	14.0	15	0.528*	0.024	17.3	15
Pituitary	0.009	0.001	23.9	15	0.008	0.001	26.7	15	0.008	0.001	27.1	15
TestesLeft	1.438	0.029	7.9	15	1.491	0.040	9.9	14	1.347	0.054	15.4	15
TestesRight	1.447	0.030	8.0	15	1.461	0.028	7.4	15	1.391	0.031	8.4	14
ThyroidBlotted	0.023	0.001	23.7	15	0.026	0.001	20.2	15	0.022	0.001	23.8	15
Adj. DorsolateralProstate	0.098	0.007	26.3	15	0.111*	0.009	29.9	14	0.096	0.008	32.6	15
Adj. Liver	12.799	0.444	13.4	15	18.006*	0.444	9.6	15	21.801*	0.446	7.9	15
Adj. Kidney_Paired	2.220	0.055	9.6	15	2.427*	0.055	8.8	15	2.422*	0.055	8.8	15
Adj. LABCMuscles	0.647	0.022	13.4	15	0.647	0.022	13.4	15	0.522*	0.023	16.7	15
Adj. Pituitary	0.009	0.001	23.3	15	0.008	0.001	26.0	15	0.008	0.001	26.6	15
Adj. TestesLeft	1.437	0.030	8.0	15	1.491	0.039	9.9	14	1.346	0.054	15.6	15
Adj. TestesRight	1.447	0.030	8.0	15	1.460	0.028	7.3	15	1.391	0.032	8.5	14
Adj. ThyroidBlotted	0.023	0.001	23.0	15	0.026	0.001	20.7	15	0.022	0.001	24.5	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 29a. Summary Statistics between Corn Oil and Dibutyl Phthalate in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Argus Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500g/kg/day)				Dibutyl Phthalate (1000mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	319.267	4.450	5.4	15	305.267*	4.450	5.6	15	294.800*	4.450	5.8	15
BodyWeight Gain	257.067	4.580	6.9	15	242.267*	3.649	5.8	15	232.000*	3.649	6.1	15
Final Body Weight as percent of control[5]	100.000	1.394	5.4	15	95.615*	1.394	5.6	15	92.337*	1.394	5.8	15
DorsolateralProstate	0.320	0.022	27.1	15	0.262	0.022	33.0	15	0.257	0.023	33.6	14
Liver	15.540	0.475	11.8	15	14.882	0.475	12.4	15	17.741*	0.475	10.4	15
Kidney_Paired	2.811	0.082	11.4	15	2.887	0.085	11.1	14	2.983	0.082	10.7	15
LABCMuscles	0.883	0.034	15.1	15	0.754*	0.034	17.6	15	0.609*	0.035	21.8	14
Pituitary	0.014	0.001	39.3	15	0.013	0.001	42.4	15	0.014	0.001	40.2	14
TestesLeft	1.446	0.044	11.9	15	0.720*	0.098	52.9	15	0.446*	0.049	42.9	15
TestesRight	1.581	0.071	17.5	15	0.714*	0.098	52.9	15	0.436*	0.052	46.3	15
ThyroidBlotted	0.025	0.001	21.3	15	0.026	0.001	18.7	14	0.027	0.001	17.8	15
Adj. DorsolateralProstate	0.301	0.025	30.3	15	0.241	0.023	33.3	15	0.236	0.014	17.3	14
Adj. Liver	15.294	0.477	11.2	15	14.595	0.488	11.8	15	17.463*	0.485	9.8	15
Adj. Kidney_Paired	2.771	0.088	11.5	15	2.841	0.093	11.2	14	2.939	0.090	10.8	15
Adj. LABCMuscles	0.861	0.036	15.2	15	0.729*	0.037	18.0	15	0.585*	0.038	22.4	14
Adj. Pituitary	0.013	0.002	41.7	15	0.012	0.002	46.0	15	0.013	0.002	43.0	14
Adj. TestesLeft	1.391	0.050	12.3	15	0.656*	0.104	59.3	15	0.384*	0.053	47.0	15
Adj. TestesRight	1.521	0.074	17.5	15	0.643*	0.104	59.9	15	0.368*	0.057	51.4	15
Adj. ThyroidBlotted	0.024	0.001	21.9	15	0.024	0.001	18.5	14	0.026	0.001	17.5	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 29b. Summary Statistics between Corn Oil and Dibutyl Phthalate in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for WIL Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500g/kg/day)				Dibutyl Phthalate (1000mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	306.293	4.933	6.2	15	292.340*	4.933	6.5	15	286.353*	4.933	6.7	15
BodyWeight Gain	254.180	5.851	8.9	15	241.020	2.894	4.6	15	235.707*	2.894	4.8	15
Final Body Weight as percent of control[5]	100.000	1.611	6.2	15	95.444*	1.611	6.5	15	93.490*	1.611	6.7	15
DorsolateralProstate	0.160	0.011	27.1	15	0.145	0.011	29.8	15	0.113*	0.011	38.4	15
Liver	13.831	0.475	13.3	15	14.248	0.475	12.9	15	15.645*	0.475	11.8	15
Kidney_Paired	2.724	0.057	8.1	15	2.671	0.057	8.3	15	2.678	0.057	8.3	15
LABCMuscles	0.645	0.020	11.8	15	0.518*	0.020	14.8	15	0.463*	0.020	16.5	15
Pituitary	0.010	0.000	14.0	15	0.010	0.000	14.1	15	0.010	0.000	13.7	15
TestesLeft	1.271	0.046	14.0	15	0.908*	0.086	36.8	15	0.334*	0.010	12.0	15
TestesRight	1.321	0.032	9.4	15	0.895*	0.088	38.2	15	0.338*	0.012	13.2	15
ThyroidBlotted	0.026	0.002	35.0	15	0.022	0.001	20.0	15	0.021	0.001	21.2	15
Adj. DorsolateralProstate	0.162	0.014	28.9	15	0.147	0.015	34.2	15	0.115*	0.010	23.6	15
Adj. Liver	14.242	0.498	12.1	15	14.720	0.514	11.7	15	16.168*	0.529	10.6	15
Adj. Kidney_Paired	2.773	0.063	7.9	15	2.728	0.065	8.0	15	2.741	0.067	8.0	15
Adj. LABCMuscles	0.661	0.022	11.5	15	0.536*	0.023	14.1	15	0.483*	0.023	15.7	15
Adj. Pituitary	0.011	0.000	13.1	15	0.010	0.000	13.2	15	0.011	0.000	12.8	15
Adj. TestesLeft	1.299	0.047	13.4	15	0.939*	0.085	34.5	15	0.368*	0.020	11.3	15
Adj. TestesRight	1.344	0.035	9.2	15	0.922*	0.088	36.4	15	0.368*	0.021	12.0	15
Adj. ThyroidBlotted	0.024	0.002	37.7	15	0.020	0.001	19.8	15	0.019	0.001	21.3	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 29c. Summary Statistics between Corn Oil and Dibutyl Phthalate in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for Huntingdon Laboratory, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500g/kg/day)				Dibutyl Phthalate (1000mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	284.360	6.814	9.3	15	289.973	6.814	9.1	15	282.387	6.814	9.3	15
BodyWeight Gain	226.440	6.542	11.2	15	232.093	5.383	9.0	15	224.473	5.383	9.3	15
Final Body Weight as percent of control[5]	100.000	2.396	9.3	15	101.974	2.396	9.1	15	99.306	2.396	9.3	15
DorsolateralProstate	0.098	0.007	29.3	15	0.099	0.007	29.1	15	0.096	0.007	29.8	15
Liver	12.891	0.475	14.3	15	14.166	0.475	13.0	15	14.868*	0.492	12.4	14
Kidney_Paired	2.234	0.070	12.1	15	2.375	0.070	11.4	15	2.340	0.070	11.6	15
LABCMuscles	0.650	0.024	14.0	15	0.518*	0.024	17.6	15	0.491*	0.024	18.6	15
Pituitary	0.009	0.001	23.9	15	0.009	0.001	23.5	15	0.010	0.001	21.8	15
TestesLeft	1.438	0.029	7.9	15	0.782*	0.099	49.0	15	0.370*	0.012	12.5	15
TestesRight	1.447	0.030	8.0	15	0.789*	0.121	59.5	15	0.369*	0.015	15.3	15
ThyroidBlotted	0.023	0.001	23.7	15	0.025	0.001	19.9	15	0.024	0.001	20.7	15
Adj. DorsolateralProstate	0.098	0.007	26.3	15	0.099	0.007	28.1	15	0.097	0.007	27.2	15
Adj. Liver	12.799	0.444	13.4	15	14.083*	0.444	12.2	15	14.876*	0.460	11.6	14
Adj. Kidney_Paired	2.220	0.055	9.6	15	2.362	0.055	9.0	15	2.326	0.055	9.1	15
Adj. LABCMuscles	0.647	0.022	13.4	15	0.516*	0.022	16.9	15	0.489*	0.022	17.8	15
Adj. Pituitary	0.009	0.001	23.3	15	0.009	0.001	22.9	15	0.010	0.001	21.2	15
Adj. TestesLeft	1.437	0.030	8.0	15	0.781*	0.099	49.1	15	0.370*	0.012	12.8	15
Adj. TestesRight	1.447	0.030	8.0	15	0.788*	0.121	59.7	15	0.369*	0.015	15.6	15
Adj. ThyroidBlotted	0.023	0.001	23.0	15	0.024	0.001	20.0	15	0.024	0.001	20.8	15

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. Within laboratory CV was calculated as residual standard deviation/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 30. Summary Statistics between Corn Oil and DE-71 in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables across Laboratories, Outliers Excluded[1,2,3].

Parameter	Corn Oil				DE-71 (30 mg/kg/day)				DE-71 (60 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	315.521	5.019	2.8	43	301.325*	4.513	2.6	44	304.444	4.862	2.8	44
BodyWeight Gain	256.202	3.886	2.6	42	244.332*	3.828	2.7	44	245.740	3.828	2.7	44
Final Body Weight as percent of control[5]	99.688	1.604	2.8	42	95.638*	1.627	2.9	44	96.205	1.627	2.9	44
DorsolateralProstate	0.201	0.058	50.0	43	0.200	0.058	50.3	44	0.192	0.058	52.5	44
Liver	14.855	0.543	6.3	43	17.291*	0.542	5.4	44	19.804*	0.542	4.7	44
Kidney_Paired	2.732	0.142	9.0	43	2.621	0.142	9.4	44	2.655	0.145	9.5	44
LABCMuscles	0.757	0.077	17.6	43	0.704*	0.077	19.0	44	0.670*	0.077	19.9	44
Pituitary	0.011	0.001	19.8	43	0.011	0.001	19.5	43	0.010	0.001	21.4	43
TestesLeft	1.379	0.068	8.6	43	1.458*	0.065	7.7	43	1.409	0.065	8.0	44
TestesRight	1.414	0.061	7.4	43	1.465	0.059	6.9	43	1.430	0.059	7.1	44
ThyroidBlotted	0.026	0.001	8.8	43	0.026	0.001	9.4	44	0.025	0.001	9.7	44
Adj. DorsolateralProstate	0.191	0.051	46.5	43	0.190	0.051	47.0	44	0.181	0.051	49.4	44
Adj. Liver	14.847	0.391	4.6	43	17.286*	0.393	3.9	44	19.828*	0.397	3.5	44
Adj. Kidney_Paired	2.714	0.132	8.4	43	2.605	0.132	8.8	44	2.641	0.137	9.0	44
Adj. LABCMuscles	0.755	0.061	14.1	43	0.705*	0.062	15.1	44	0.675*	0.062	15.8	44
Adj. Pituitary	0.011	0.001	19.7	43	0.011	0.001	19.5	43	0.010	0.001	21.2	43
Adj. TestesLeft	1.388	0.047	5.9	43	1.466*	0.043	5.0	43	1.421	0.043	5.2	44
Adj. TestesRight	1.416	0.042	5.1	43	1.470	0.039	4.6	43	1.437	0.039	4.7	44
Adj. ThyroidBlotted	0.025	0.002	11.9	43	0.026	0.002	12.3	44	0.025	0.002	12.9	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 31. Summary Statistics between Corn Oil and Vinclozolin in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables for across Laboratories, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Vinclozolin (30 mg/kg/day)				Vinclozolin (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	315.521	5.019	2.8	43	309.064	4.921	2.8	44	300.815*	4.982	2.9	44
BodyWeight Gain	256.202	3.886	2.6	42	251.746	3.828	2.6	44	242.636*	3.828	2.7	44
Final Body Weight as percent of control[5]	99.688	1.604	2.8	42	98.234	1.695	3.0	44	95.267*	1.695	3.1	44
DorsolateralProstate	0.201	0.058	50.0	43	0.183	0.058	54.8	44	0.179*	0.058	56.2	44
Liver	14.855	0.543	6.3	43	15.018	0.542	6.3	44	15.380	0.542	6.1	44
Kidney_Paired	2.732	0.142	9.0	43	2.658	0.143	9.3	44	2.645	0.146	9.6	44
LABCMuscles	0.757	0.077	17.6	43	0.680*	0.077	19.6	44	0.626*	0.077	21.3	44
Pituitary	0.011	0.001	19.8	43	0.011	0.001	20.3	44	0.011	0.001	19.6	44
TestesLeft	1.379	0.068	8.6	43	1.470*	0.068	8.0	44	1.466*	0.066	7.8	44
TestesRight	1.414	0.061	7.4	43	1.482*	0.060	7.1	44	1.483*	0.060	7.1	44
ThyroidBlotted	0.026	0.001	8.8	43	0.025	0.001	8.8	43	0.024	0.001	9.0	44
Adj. DorsolateralProstate	0.191	0.051	46.5	43	0.174	0.051	51.3	44	0.170	0.051	52.3	44
Adj. Liver	14.847	0.391	4.6	43	15.050	0.391	4.5	44	15.448	0.386	4.3	44
Adj. Kidney_Paired	2.714	0.132	8.4	43	2.649	0.133	8.7	44	2.637	0.136	8.9	44
Adj. LABCMuscles	0.755	0.061	14.1	43	0.684*	0.062	15.6	44	0.629*	0.061	16.9	44
Adj. Pituitary	0.011	0.001	19.7	43	0.011	0.001	20.2	44	0.011	0.001	19.4	44
Adj. TestesLeft	1.388	0.047	5.9	43	1.481*	0.047	5.5	44	1.477*	0.044	5.2	44
Adj. TestesRight	1.416	0.042	5.1	43	1.488*	0.041	4.8	44	1.490*	0.041	4.8	44
Adj. ThyroidBlotted	0.025	0.002	11.9	43	0.024	0.002	12.0	43	0.024	0.002	12.2	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of DE-71, and two dosages of Vinclozolin.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 32. Summary Statistics between Corn Oil and 2-Chloronitrobenzene in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables across Laboratories, Outliers Excluded[1,2,3].

Parameter	Corn Oil				2-Chloronitrobenzene (25 mg/kg/day)				2-Chloronitrobenzene (100 mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	305.782	6.119	3.5	45	305.502	6.119	3.5	45	291.282*	6.119	3.6	45
BodyWeight Gain	248.683	5.317	3.7	45	248.247	4.954	3.5	45	233.235*	4.954	3.7	45
Final Body Weight as percent of control[5]	100.783	1.810	3.1	45	100.608	1.810	3.1	45	95.997*	1.810	3.3	45
DorsolateralProstate	0.185	0.057	53.7	45	0.188	0.057	52.7	44	0.174	0.057	57.0	45
Liver	14.087	0.627	7.7	45	18.513*	0.627	5.9	45	22.417*	0.627	4.8	45
Kidney_Paired	2.608	0.188	12.5	45	2.788*	0.188	11.7	45	2.803*	0.188	11.6	45
LABCMuscles	0.721	0.071	17.1	45	0.726	0.071	17.0	45	0.600*	0.071	20.5	45
Pituitary	0.011	0.002	24.8	45	0.011	0.002	25.9	45	0.009*	0.002	29.4	45
TestesLeft	1.390	0.044	5.4	45	1.423	0.044	5.3	44	1.342	0.047	6.0	45
TestesRight	1.423	0.043	5.3	45	1.432	0.041	5.0	45	1.374	0.043	5.4	44
ThyroidBlotted	0.024	0.002	11.4	45	0.025	0.001	10.1	45	0.022	0.001	11.2	44
Adj. DorsolateralProstate	0.177	0.049	47.9	45	0.181	0.049	46.9	44	0.166	0.049	51.2	45
Adj. Liver	14.100	0.544	6.7	45	18.527*	0.547	5.1	45	22.347*	0.546	4.2	45
Adj. Kidney_Paired	2.599	0.184	12.2	45	2.781*	0.184	11.4	45	2.781*	0.184	11.4	45
Adj. LABCMuscles	0.716	0.060	14.5	45	0.721	0.060	14.4	45	0.593*	0.060	17.5	45
Adj. Pituitary	0.011	0.001	18.1	45	0.010	0.001	18.9	45	0.009*	0.001	21.8	45
Adj. TestesLeft	1.387	0.036	4.5	45	1.417	0.037	4.5	44	1.331	0.039	5.0	45
Adj. TestesRight	1.420	0.035	4.3	45	1.423	0.034	4.1	45	1.360	0.035	4.4	44
Adj. ThyroidBlotted	0.023	0.002	13.0	45	0.024	0.002	11.9	45	0.021	0.002	13.2	44

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

Table 33. Summary Statistics between Corn Oil and Dibutyl Phthalate in Male Pubertal Assay for Unadjusted and Body Weight Adjusted Variables across Laboratories, Outliers Excluded[1,2,3].

Parameter	Corn Oil				Dibutyl Phthalate (500g/kg/day)				Dibutyl Phthalate (1000mg/kg/day)			
	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N	LS Mean	Std Error	CV	N
Final BodyWeight[4]	305.782	6.119	3.5	45	295.426*	6.119	3.6	45	287.144*	6.119	3.7	45
BodyWeight Gain	248.683	5.317	3.7	45	237.967*	4.543	3.3	45	230.676*	4.543	3.4	45
Final Body Weight as percent of control[5]	100.783	1.810	3.1	45	97.339*	1.810	3.2	45	94.638*	1.810	3.3	45
DorsolateralProstate	0.185	0.057	53.7	45	0.174	0.057	56.9	45	0.161	0.057	61.3	44
Liver	14.087	0.627	7.7	45	14.432	0.627	7.5	45	16.096*	0.629	6.8	44
Kidney_Paired	2.608	0.188	12.5	45	2.650	0.189	12.3	44	2.664	0.188	12.3	45
LABCMuscles	0.721	0.071	17.1	45	0.592*	0.071	20.8	45	0.533*	0.071	23.1	44
Pituitary	0.011	0.002	24.8	45	0.011	0.002	25.0	45	0.012	0.002	24.0	44
TestesLeft	1.390	0.044	5.4	45	0.811*	0.069	14.8	45	0.376*	0.040	18.4	45
TestesRight	1.423	0.043	5.3	45	0.810*	0.073	15.6	45	0.377*	0.039	17.7	45
ThyroidBlotted	0.024	0.002	11.4	45	0.024	0.001	10.1	44	0.024	0.001	10.2	45
Adj. DorsolateralProstate	0.177	0.049	47.9	45	0.166	0.049	51.2	45	0.150	0.049	56.0	44
Adj. Liver	14.100	0.544	6.7	45	14.453	0.547	6.6	45	16.167*	0.549	5.9	44
Adj. Kidney_Paired	2.599	0.184	12.2	45	2.654	0.184	12.0	44	2.663	0.184	12.0	45
Adj. LABCMuscles	0.716	0.060	14.5	45	0.588*	0.060	17.7	45	0.531*	0.060	19.6	44
Adj. Pituitary	0.011	0.001	18.1	45	0.011	0.001	18.2	45	0.011	0.001	17.4	44
Adj. TestesLeft	1.387	0.036	4.5	45	0.811*	0.065	13.9	45	0.376*	0.032	14.5	45
Adj. TestesRight	1.420	0.035	4.3	45	0.803*	0.068	14.7	45	0.373*	0.030	13.7	45
Adj. ThyroidBlotted	0.023	0.002	13.0	45	0.023	0.002	11.8	44	0.023	0.002	12.0	45

1. Least squares means and standard errors were estimated based on a mixed effect model applied to the data for control, two dosages of 2-Chloronitrobenzene, and two dosages of Dibutyl Phthalate.
2. Least squares means and standard errors for Adj. variable were estimated based on a mixed effect model with centered initial body weight as a covariate.
3. CV was calculated as $\sqrt{3}$*standard error/LS Mean.
4. Body weight was summarized when animals were necropsied on PND52 or PND53.
5. Final Body Weight as percent of control was calculated for each animal as the ratio of its final body weight over the mean of the final body weights within the control group (in percent).

* --- significantly different from coin oil at the 0.05 level.

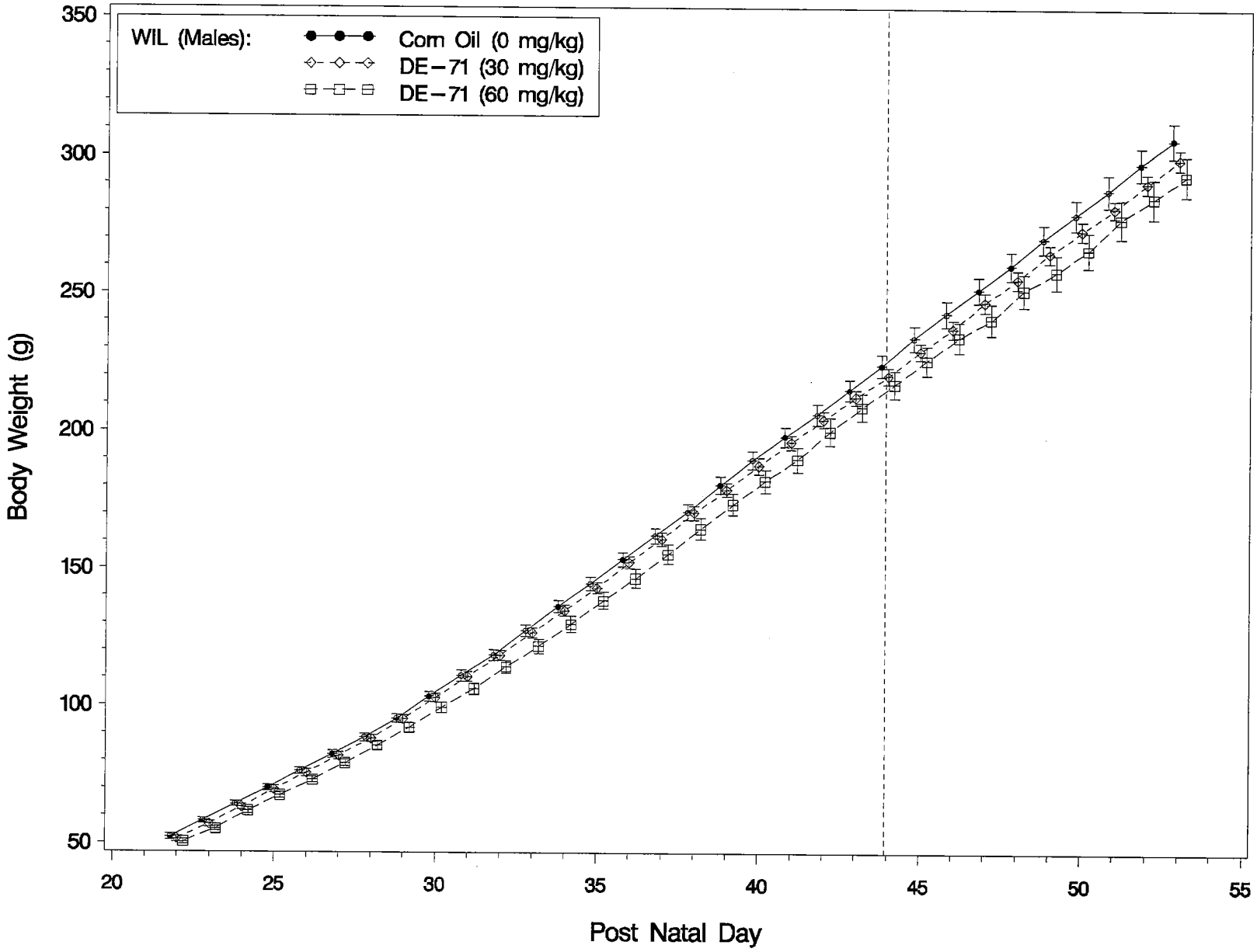

Figure 1. **<u>WIL Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two DE-71 Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

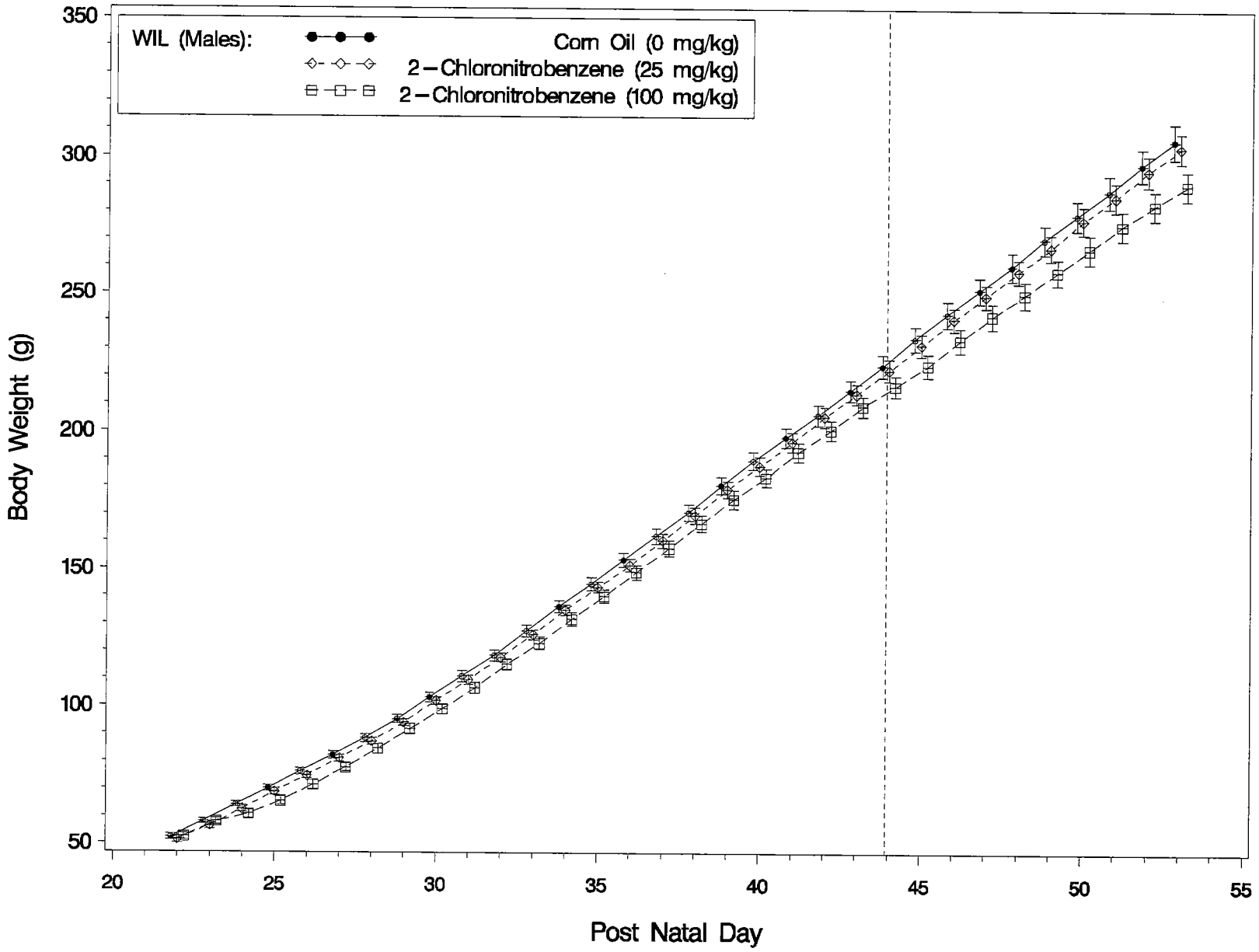

Figure 2. **<u>WIL Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two 2-Chloronitrobenzene Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

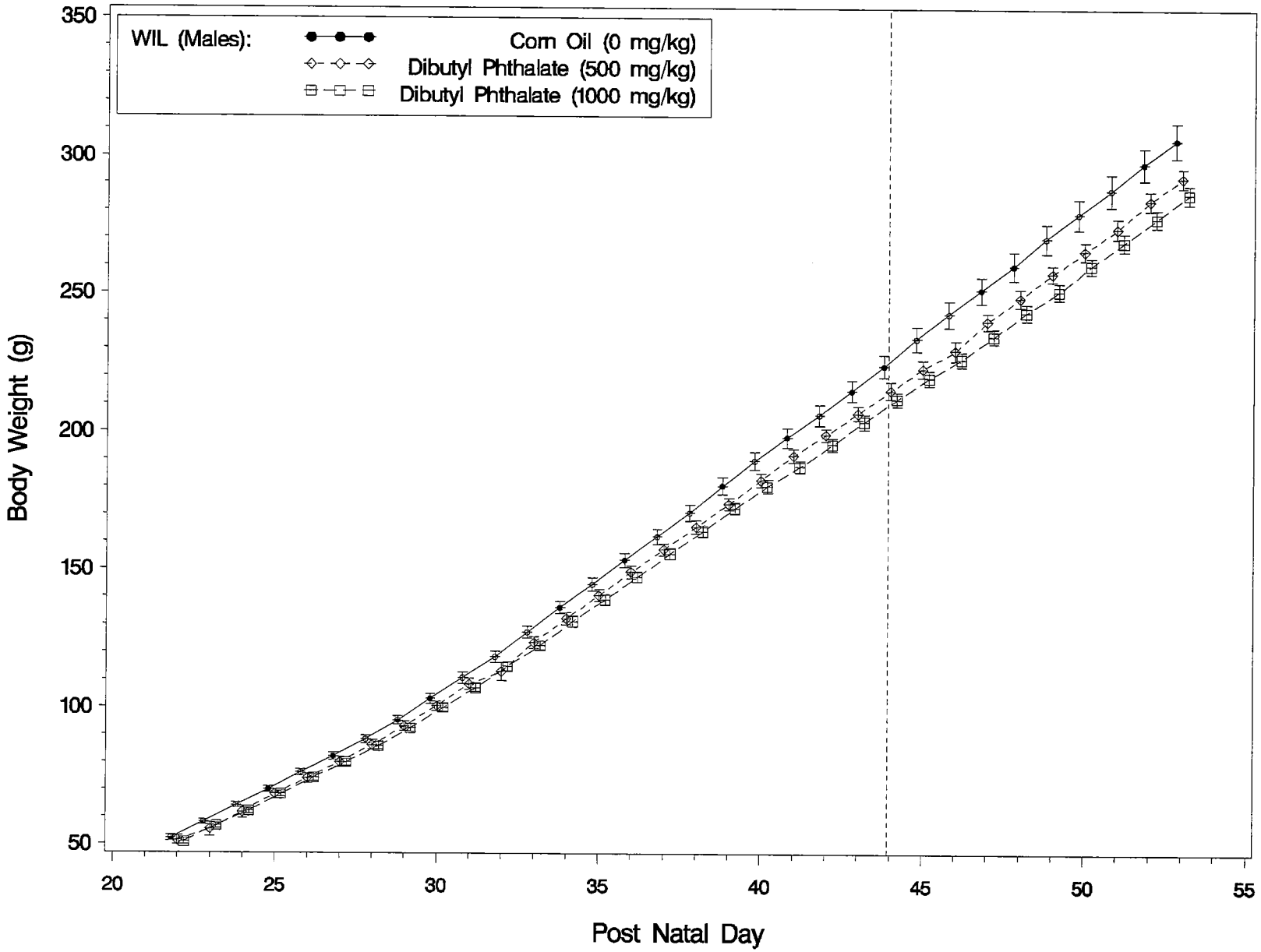

Figure 3. **<u>WIL Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Dibutyl Phthalate Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

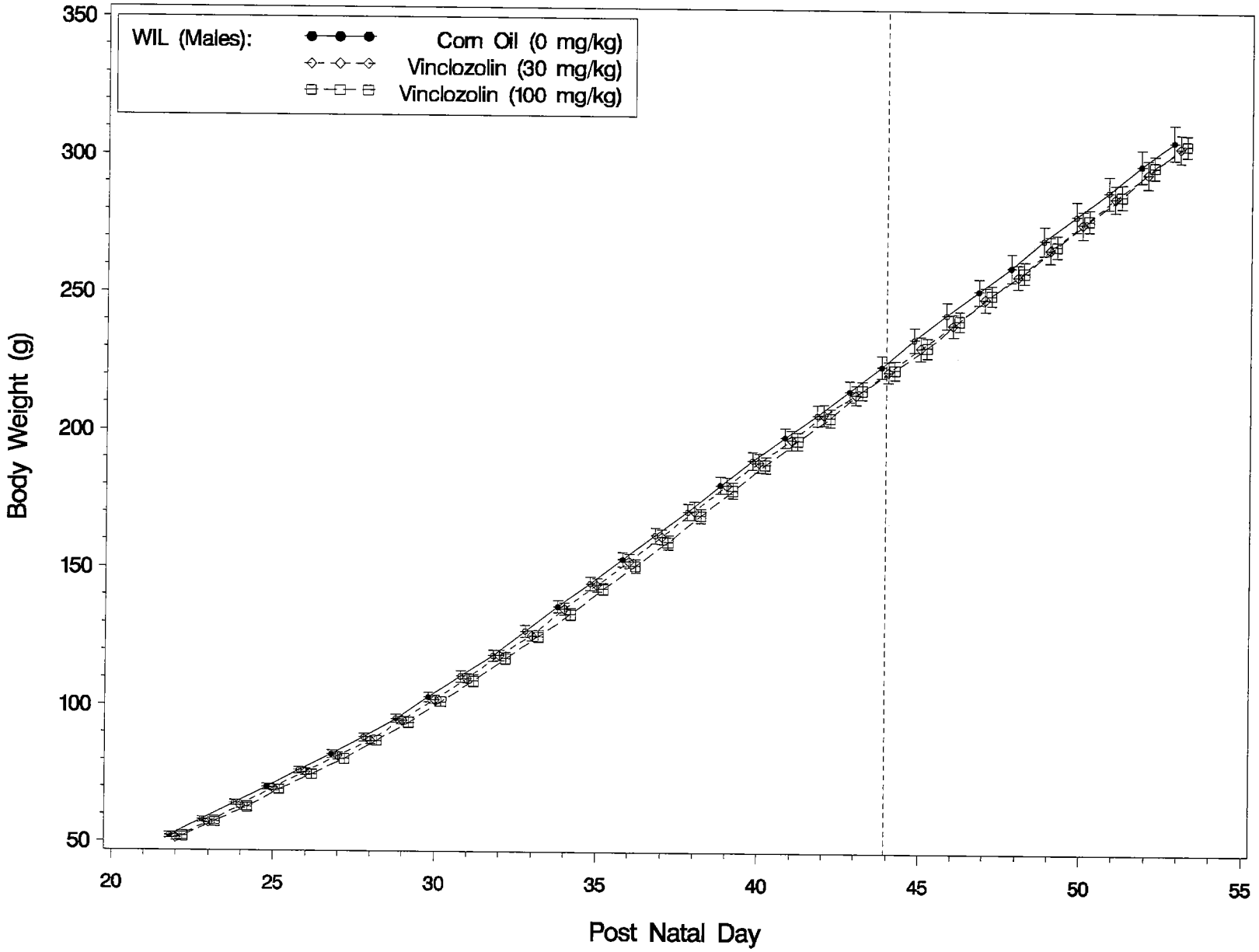

Figure 4. **<u>WIL Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Vinclozolin Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

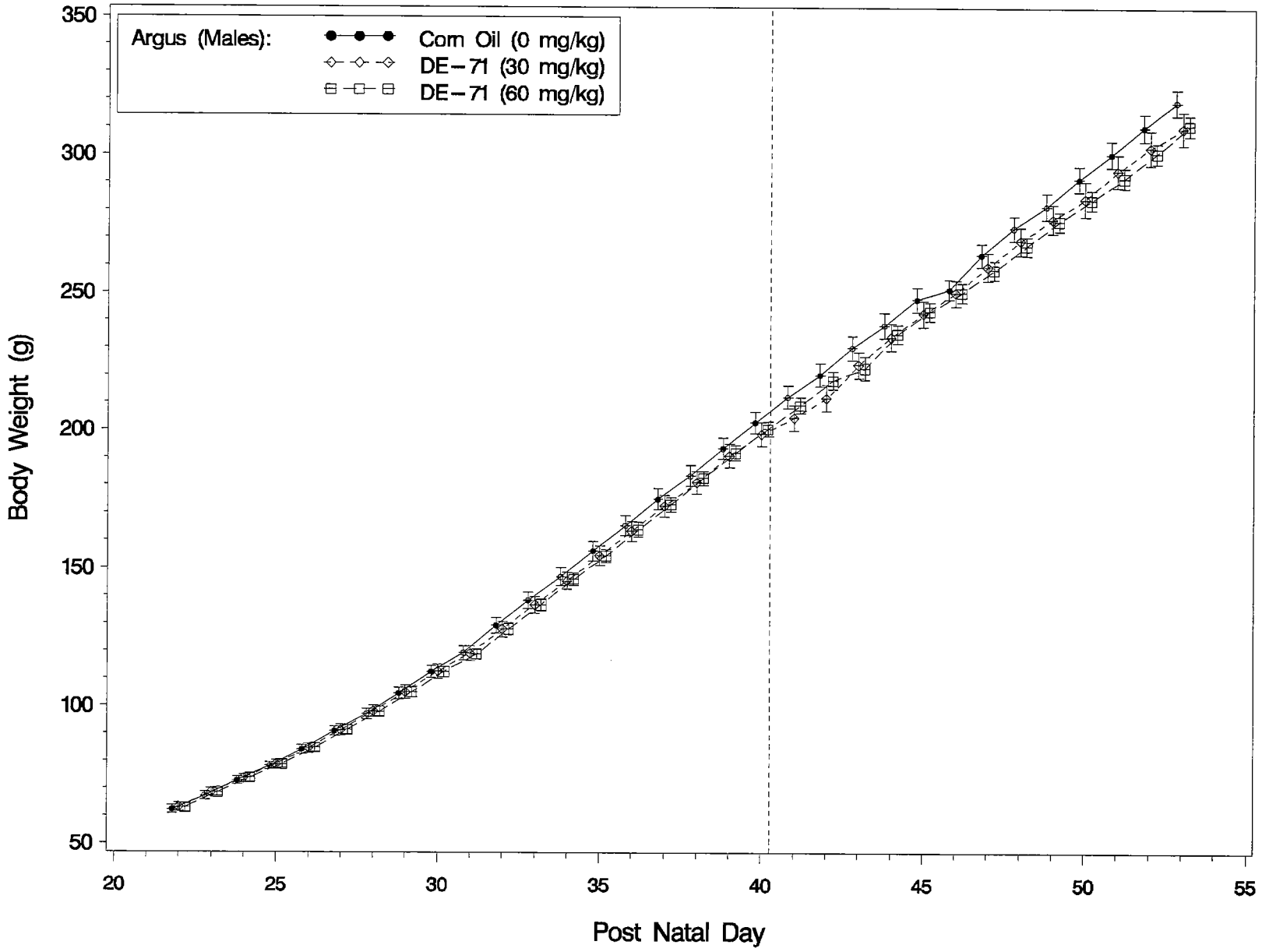

Figure 5. Argus Males Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two DE-71 Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.

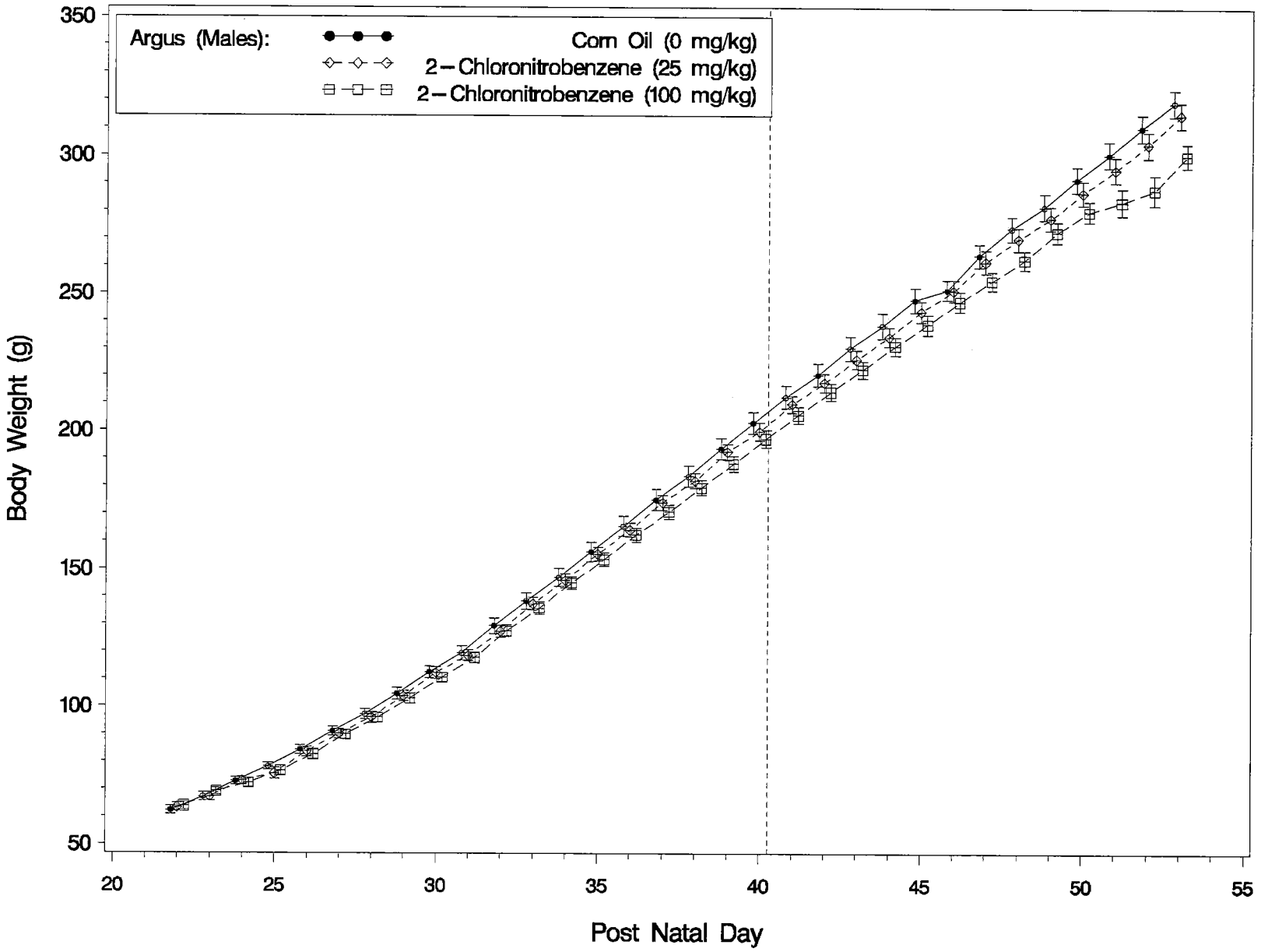

Figure 6. Argus Males Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two 2-Chloronitrobenzene Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.

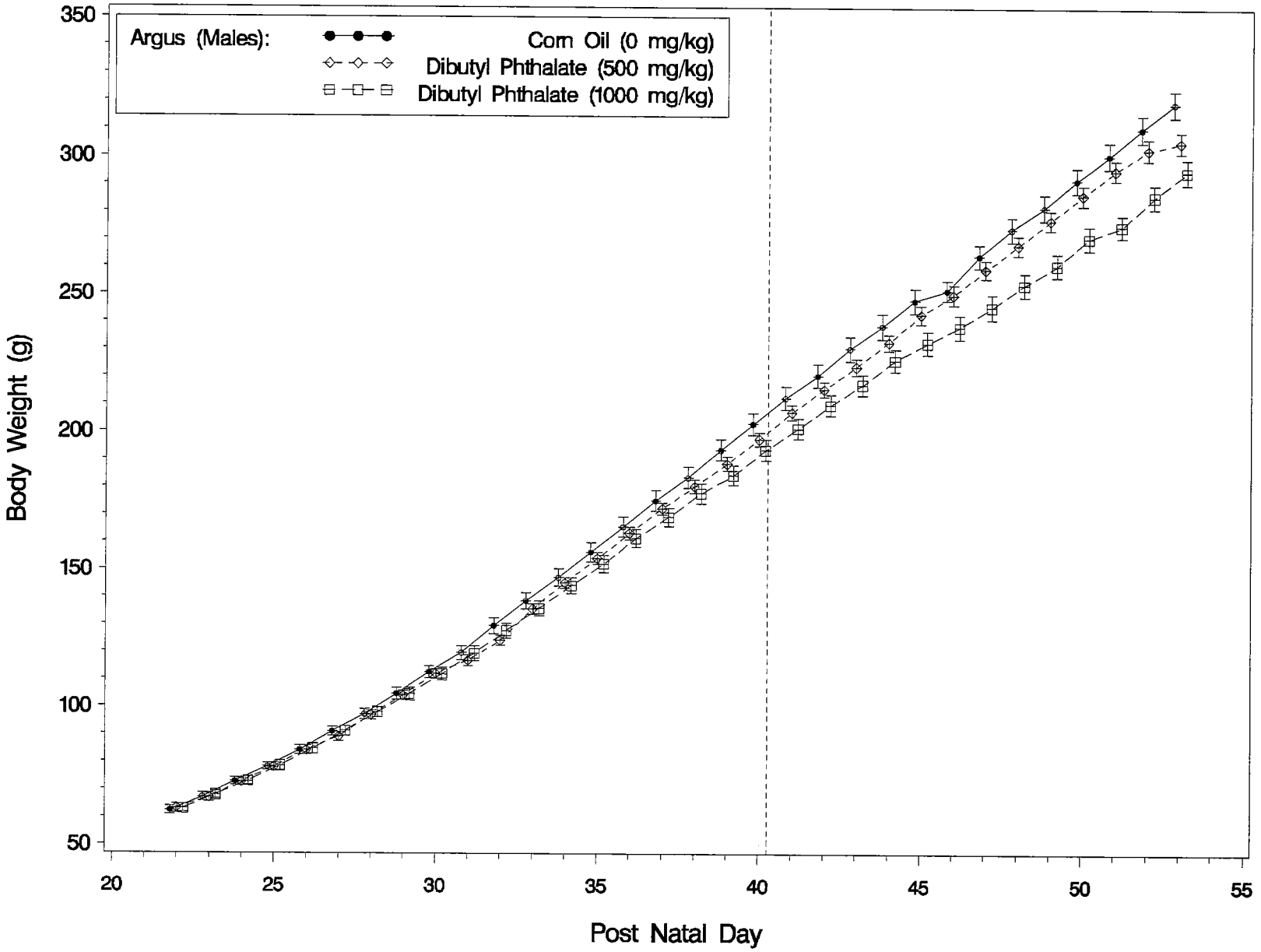

Figure 7. **<u>Argus Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Dibutyl Phthalate Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

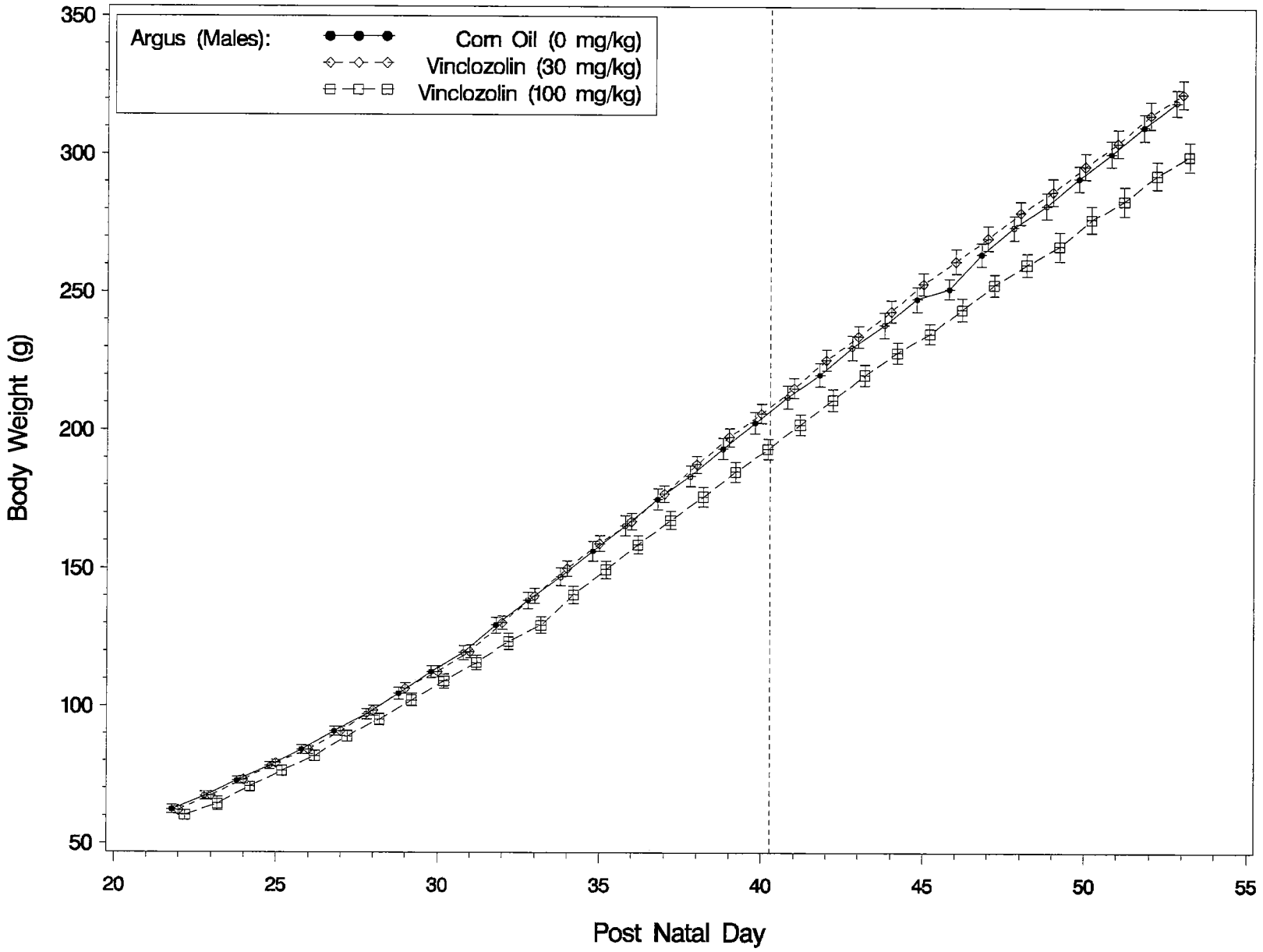

Figure 8. **Argus Males Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Vinclozolin Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

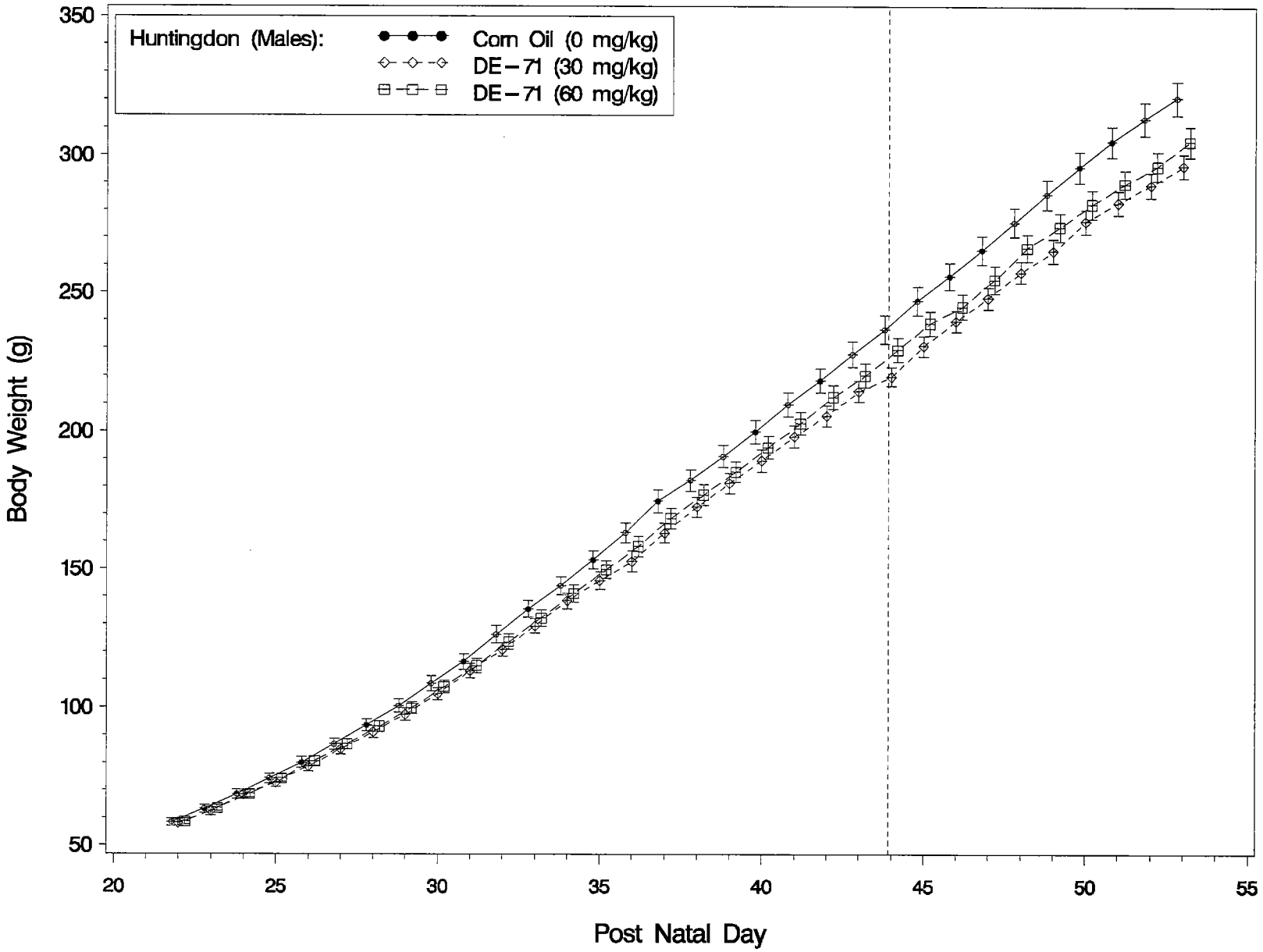

Figure 9. **<u>Huntingdon Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) And the Two DE-71 Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

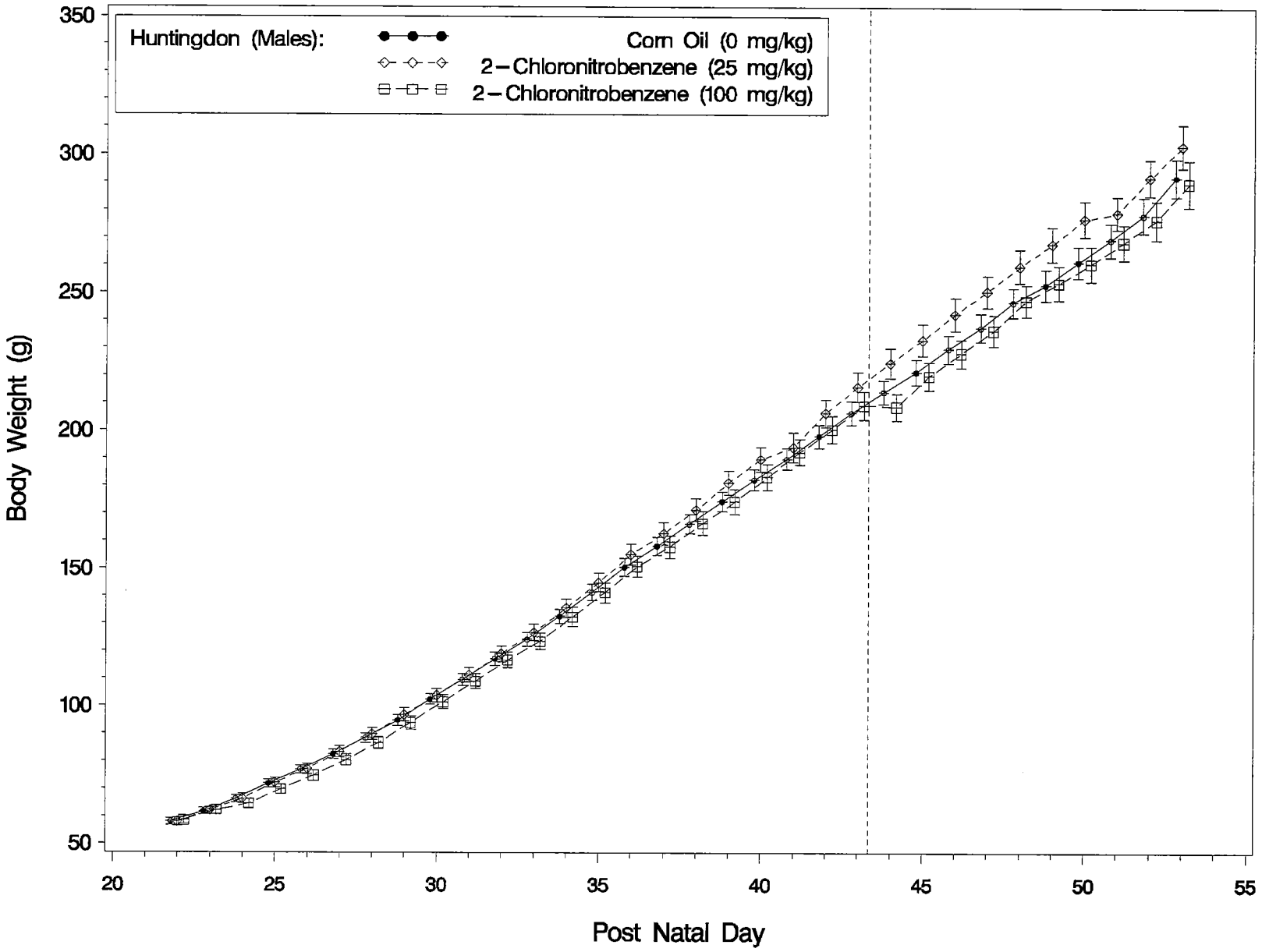

Figure 10. **<u>Huntingdon Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two 2-Chloronitrobenzene Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

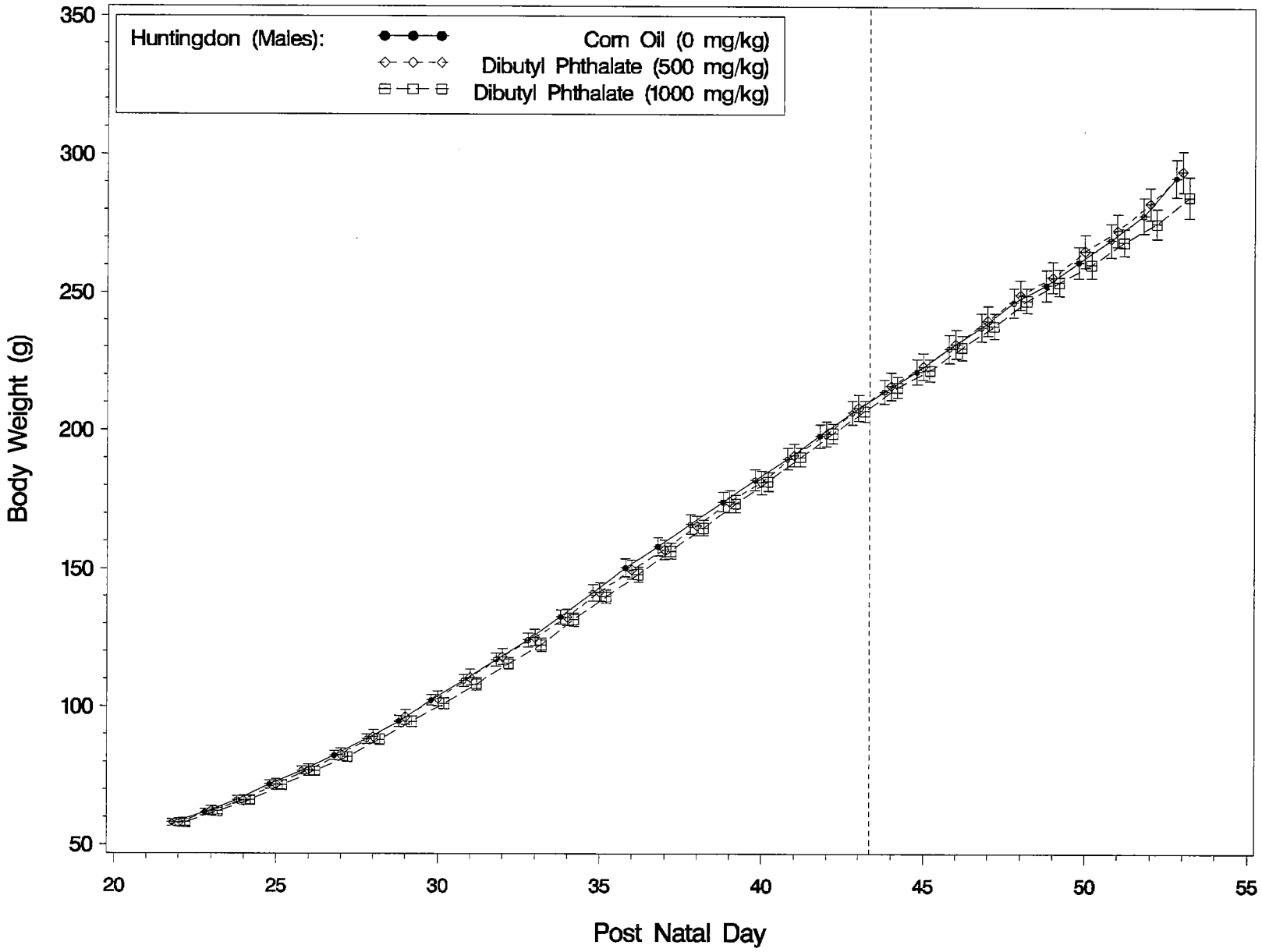

Figure 11. **<u>Huntingdon Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Dibutyl Phthalate Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

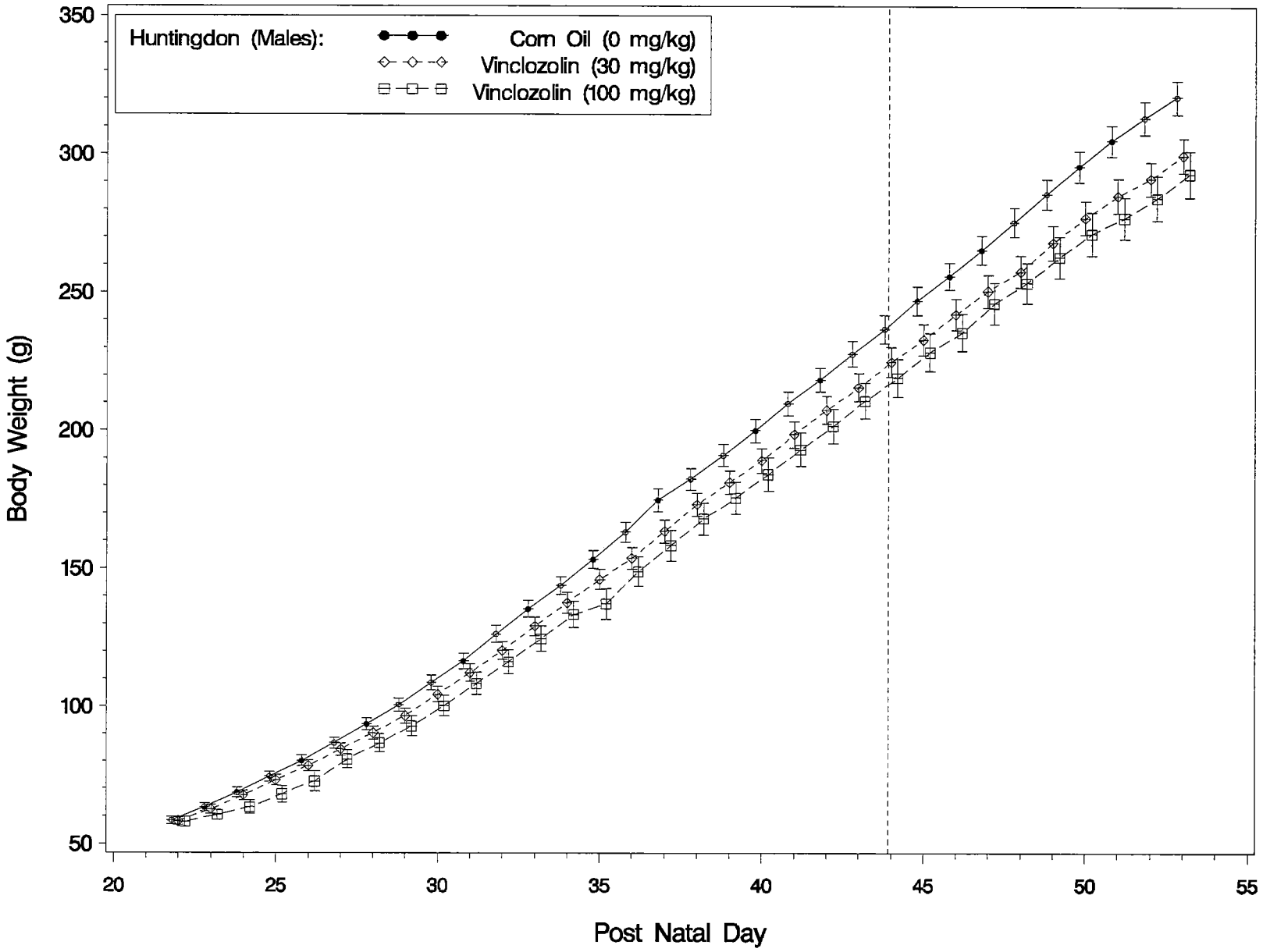

Figure 12. **<u>Hungtingdon Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Vinclozolin Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

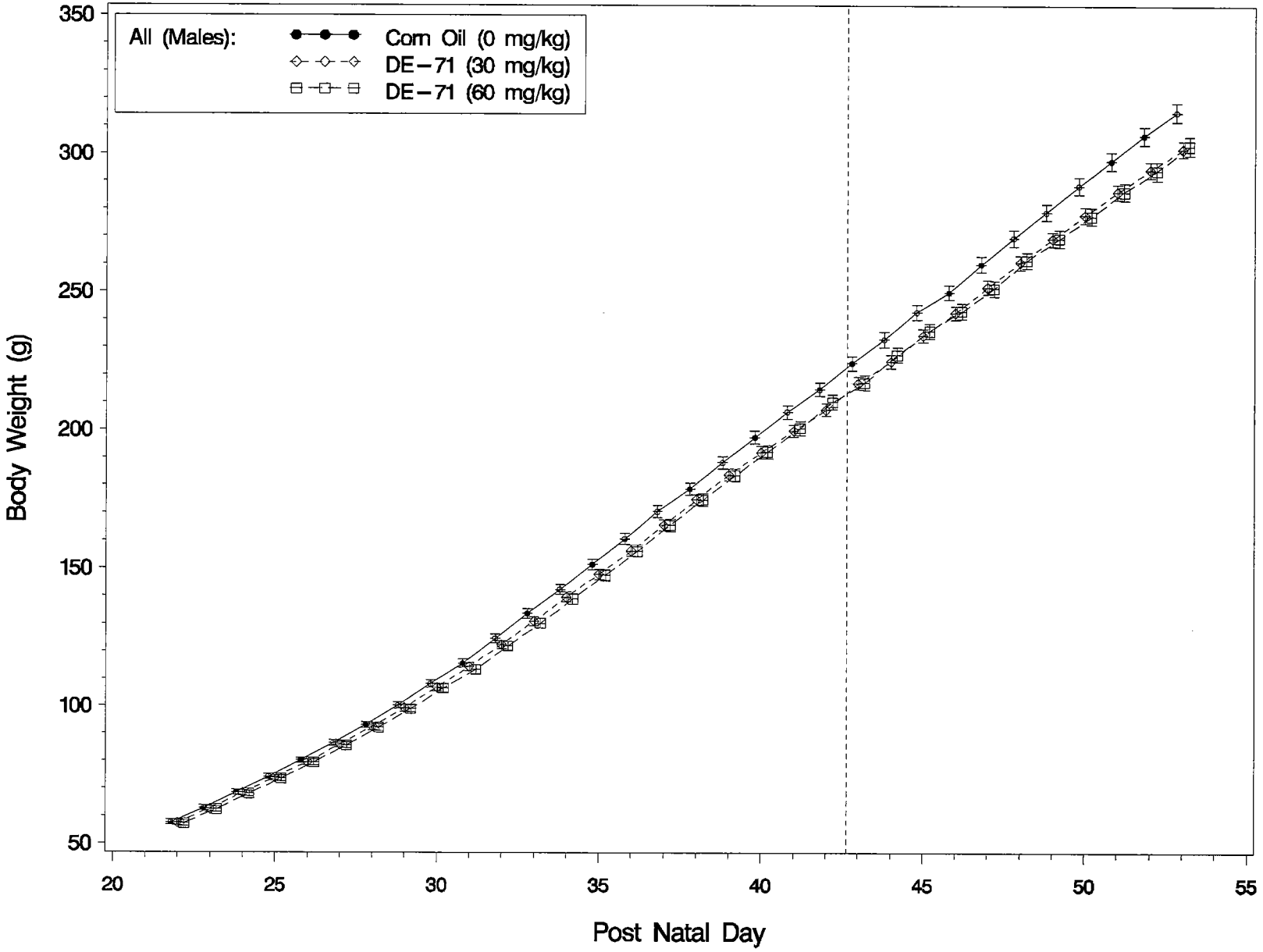

Figure 13. **<u>All Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two DE-71 Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

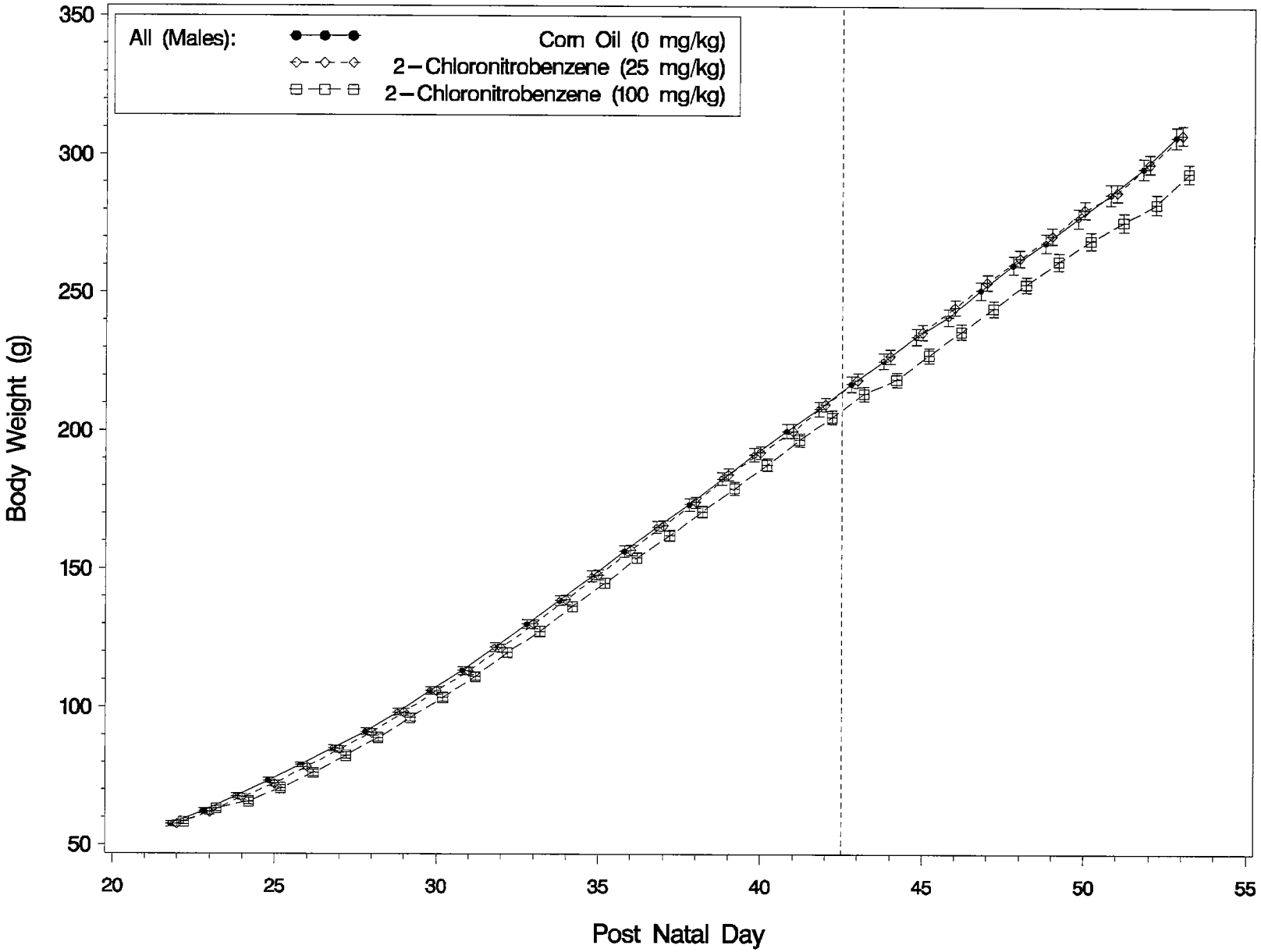

Figure 14. **<u>All Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two 2-Chloronitrobenzene Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

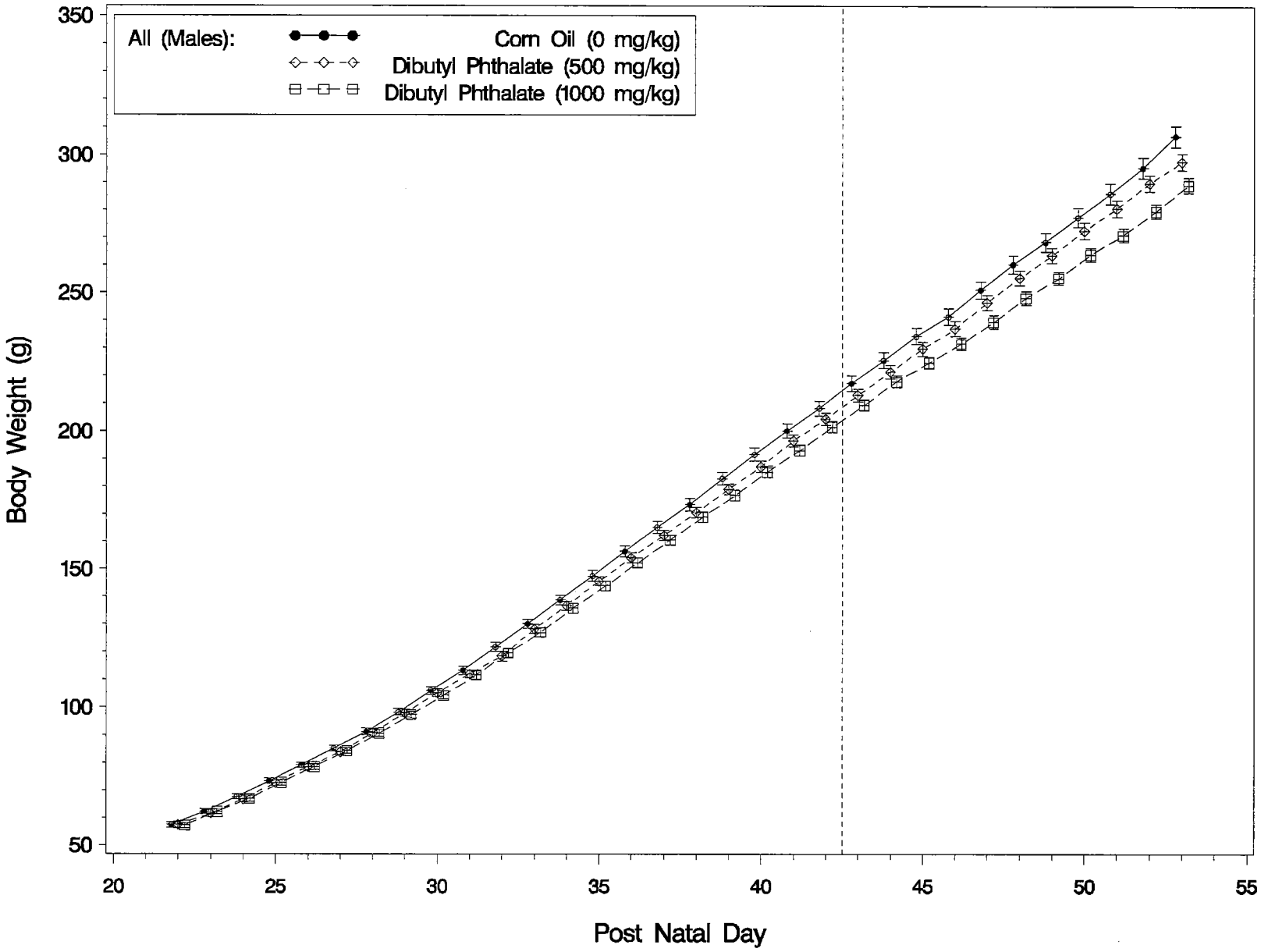

Figure15. **<u>All Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Dibutyl Phthalate Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

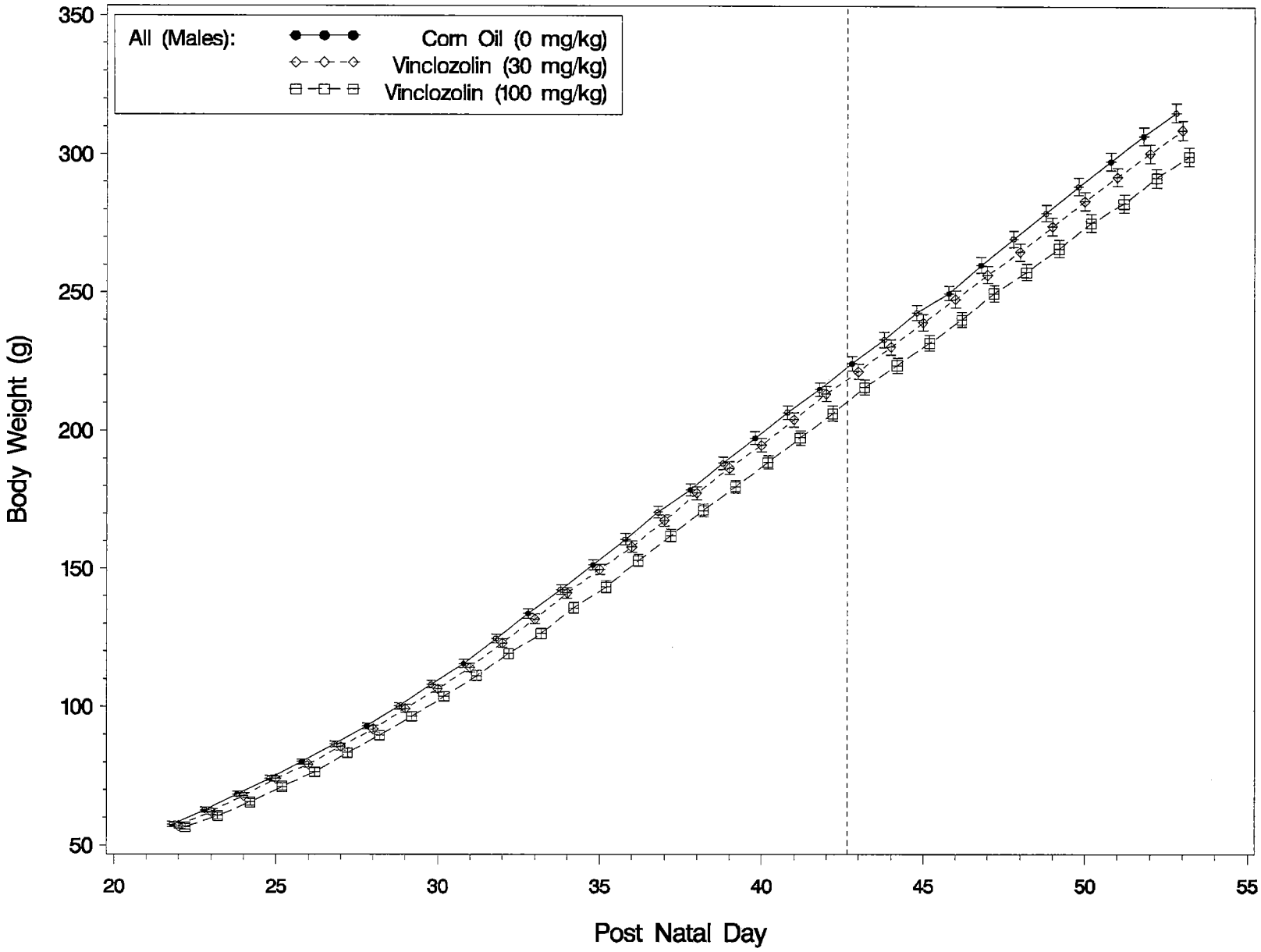

Figure16. **<u>All Males</u> Means (with ± 2 Standard Error Bars) of Body Weights (g) on Each Day from Weaning through Dosing (PND 22 to PND 53) for the Control Group (Corn Oil) and the Two Vinclozolin Dose Groups. The Reference Line Corresponds to the Mean Age of the Control Group at PPS.**

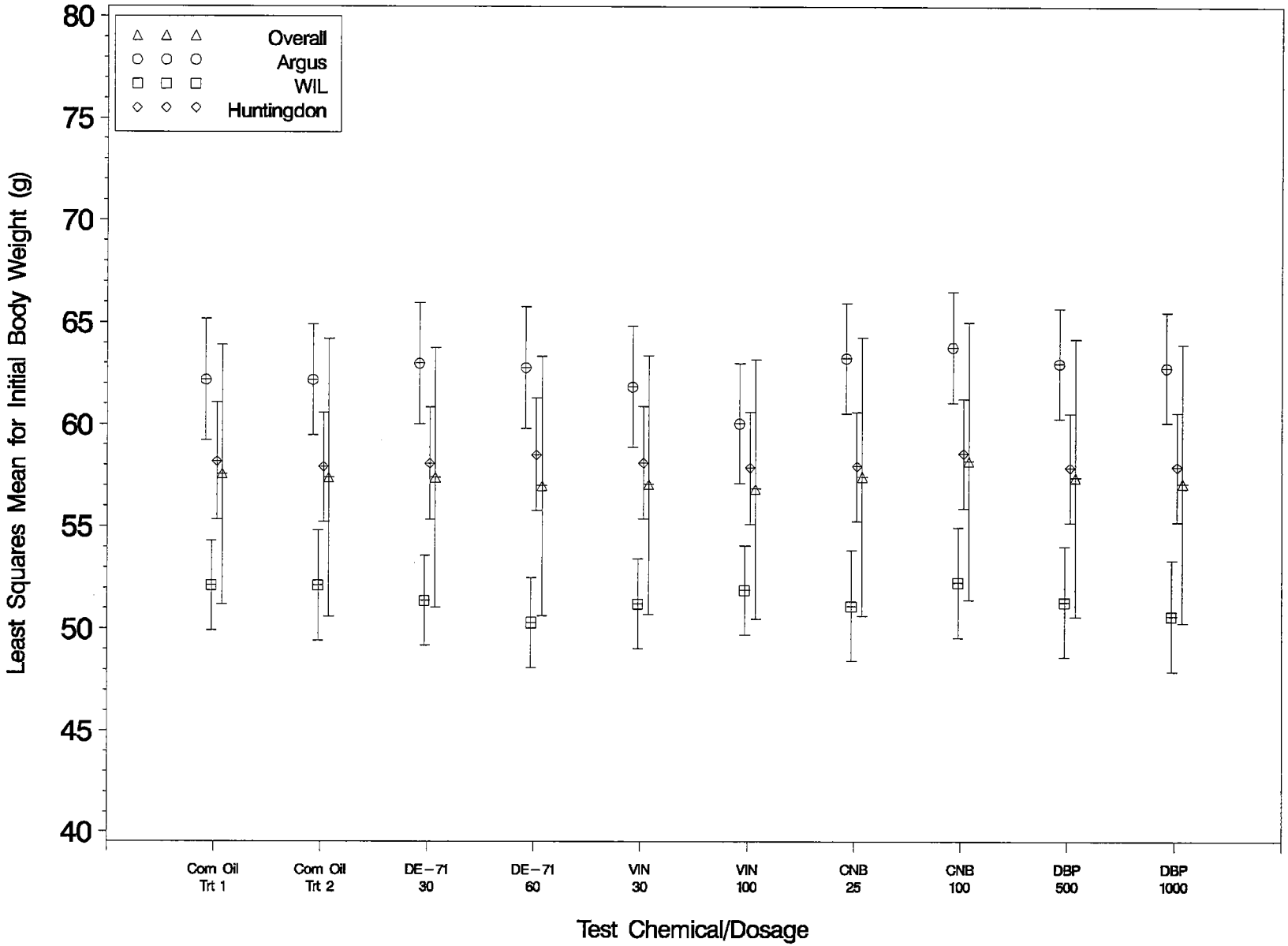

Figure 17. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Initial Body Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

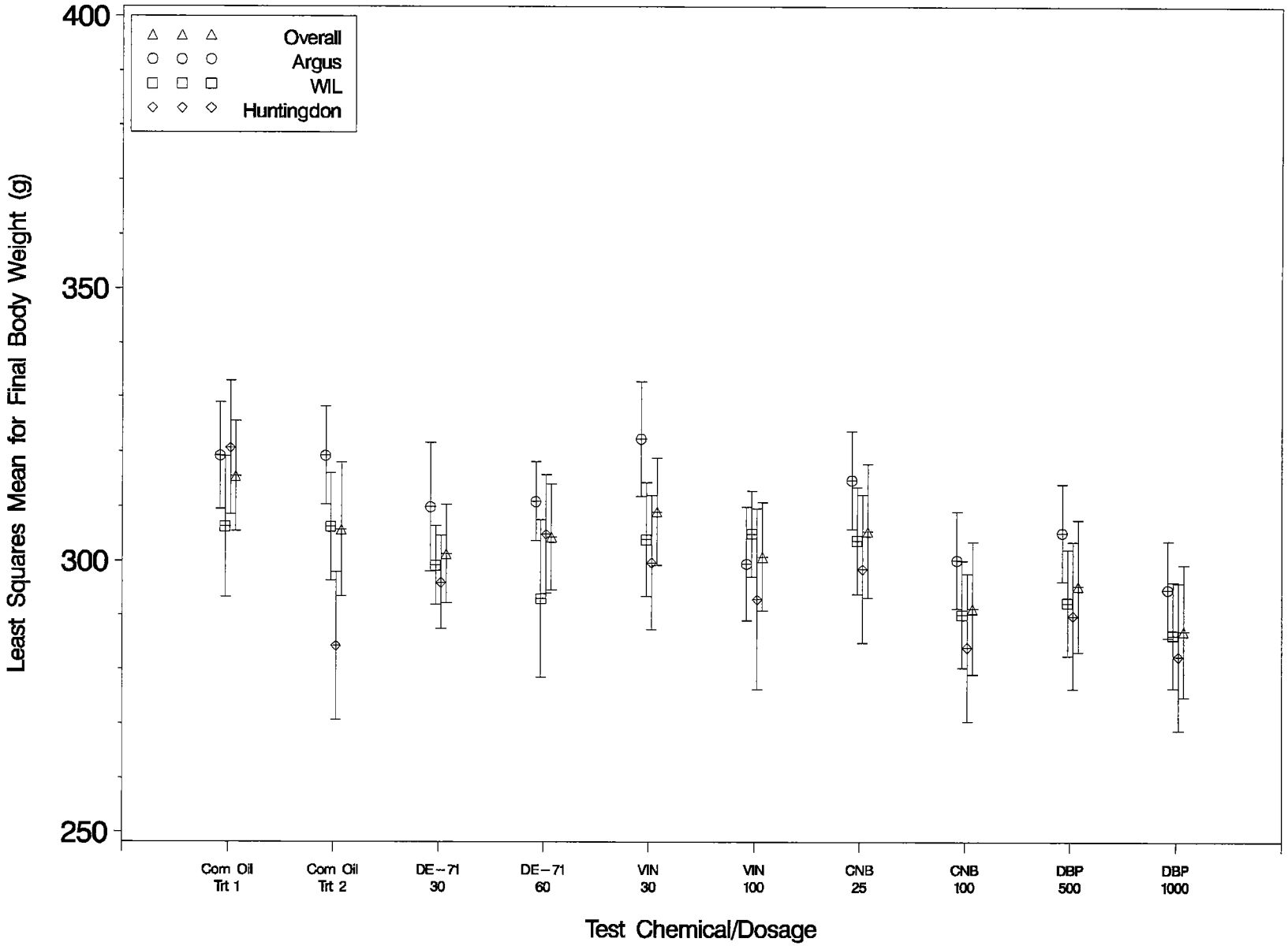

Figure 18. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Final Body Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

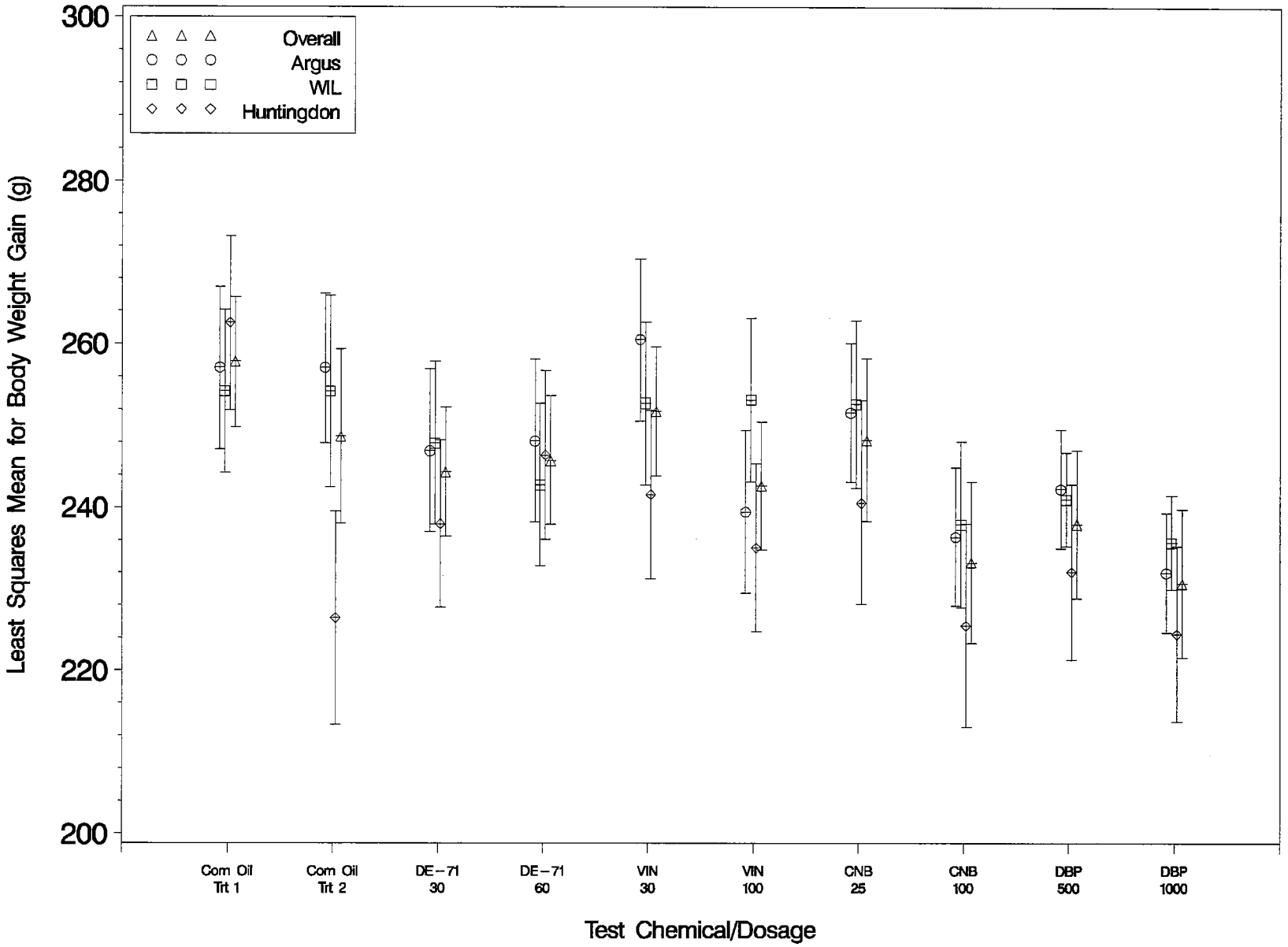

Figure 19. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Body Weight Gain (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

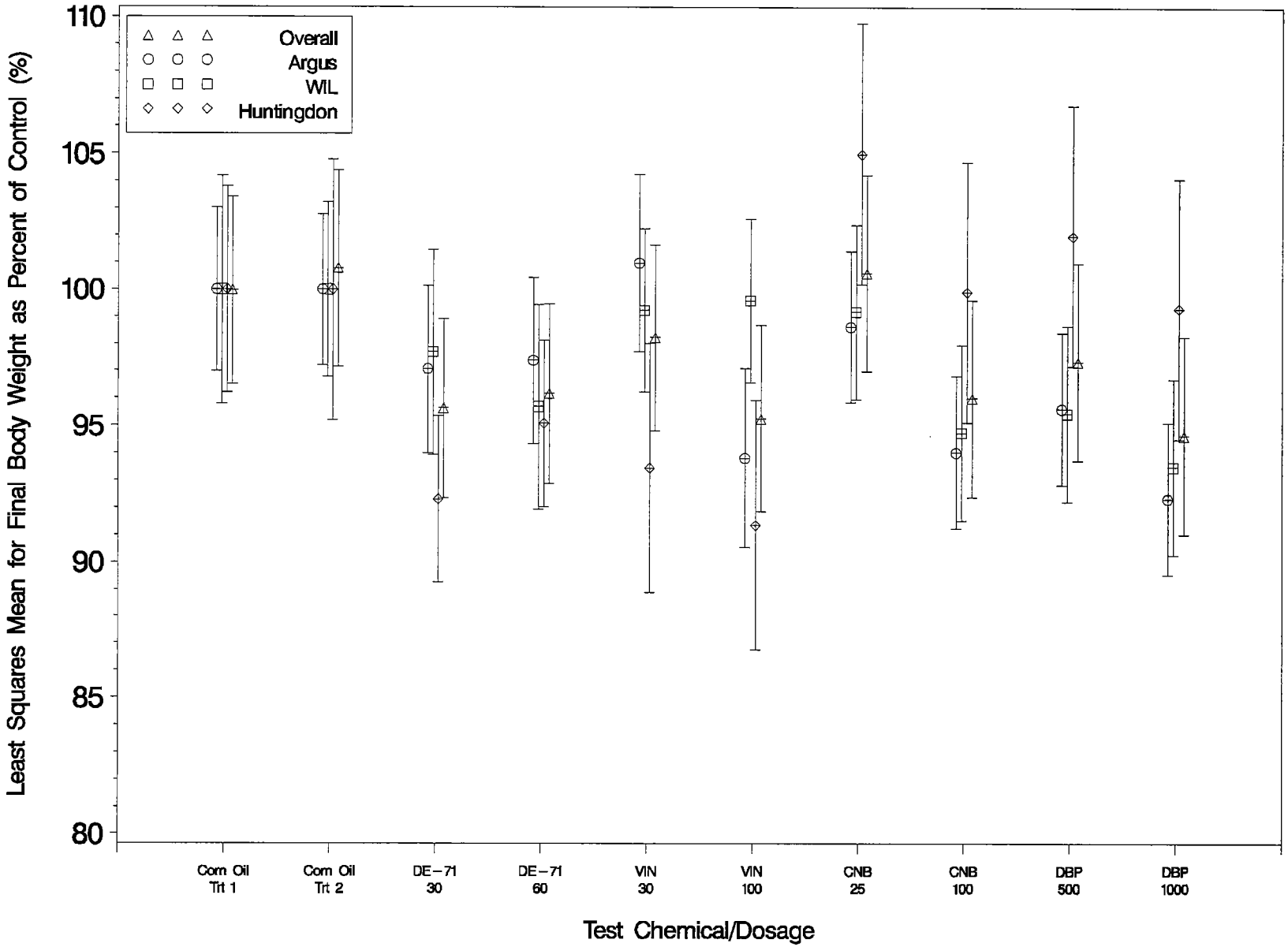

Figure 20. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Final Body Weight as Percent of Control (%) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

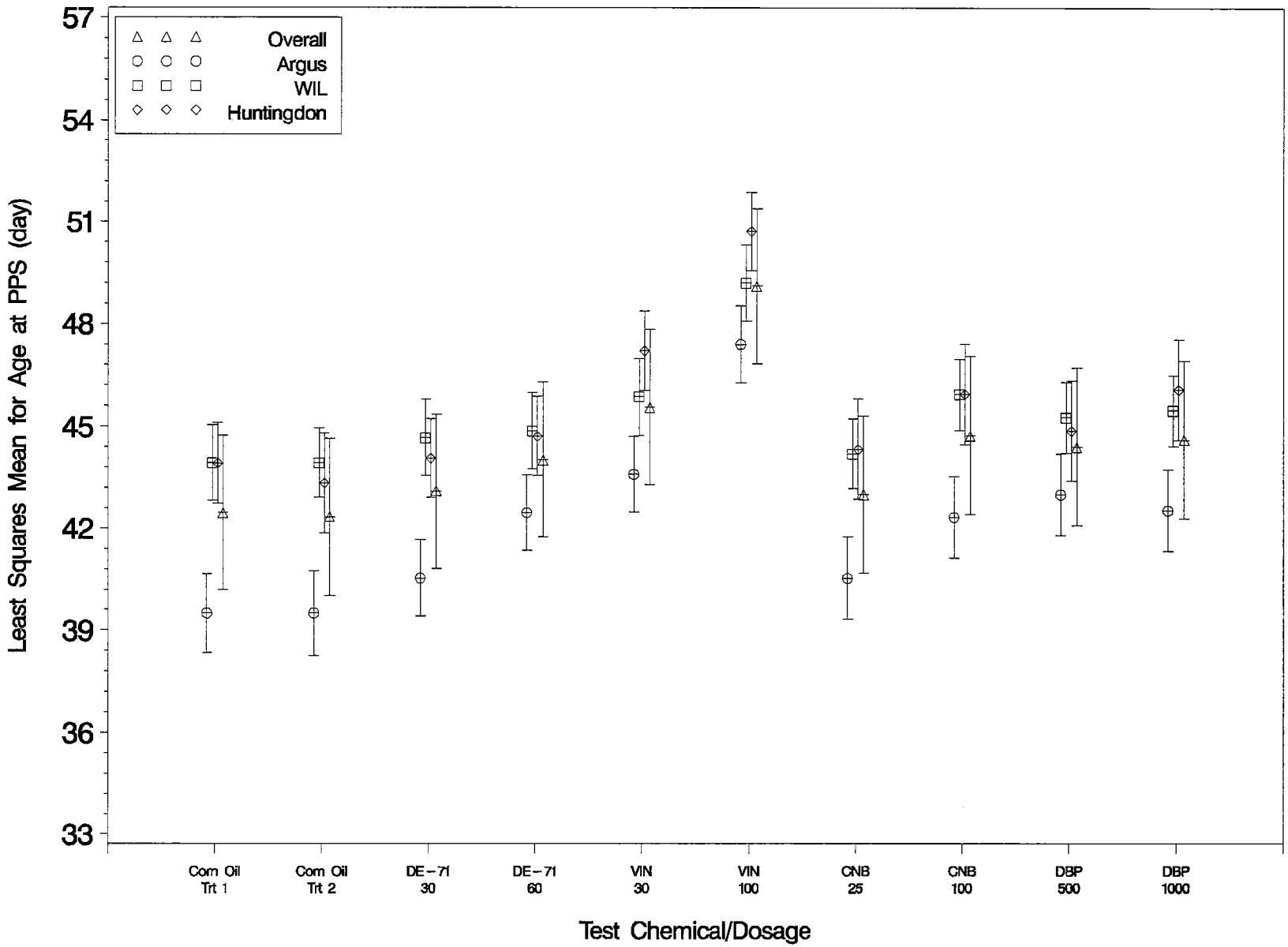

Figure 21. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Age at PPS (day) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

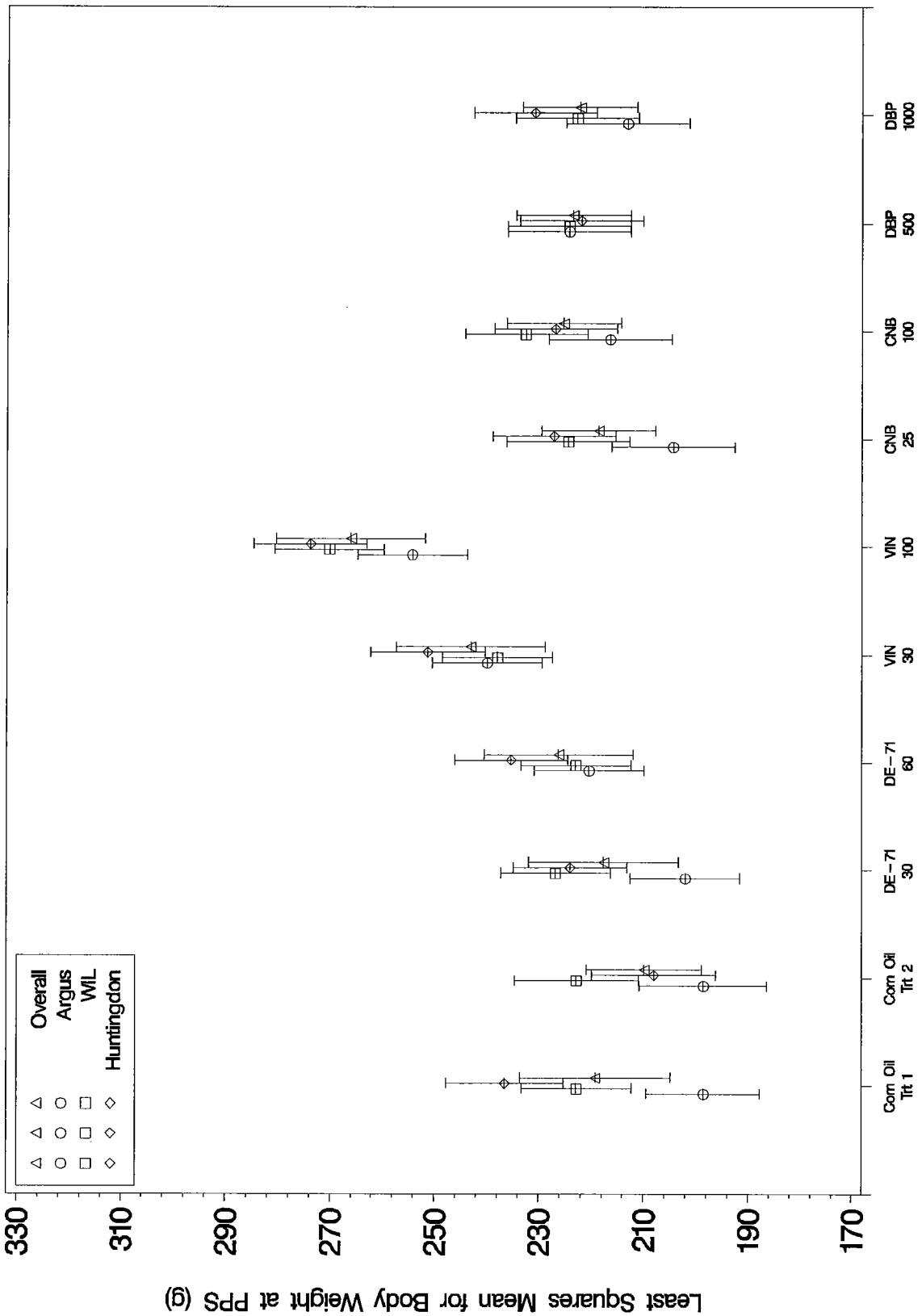

Figure 22. Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Body Weight at PPS (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)

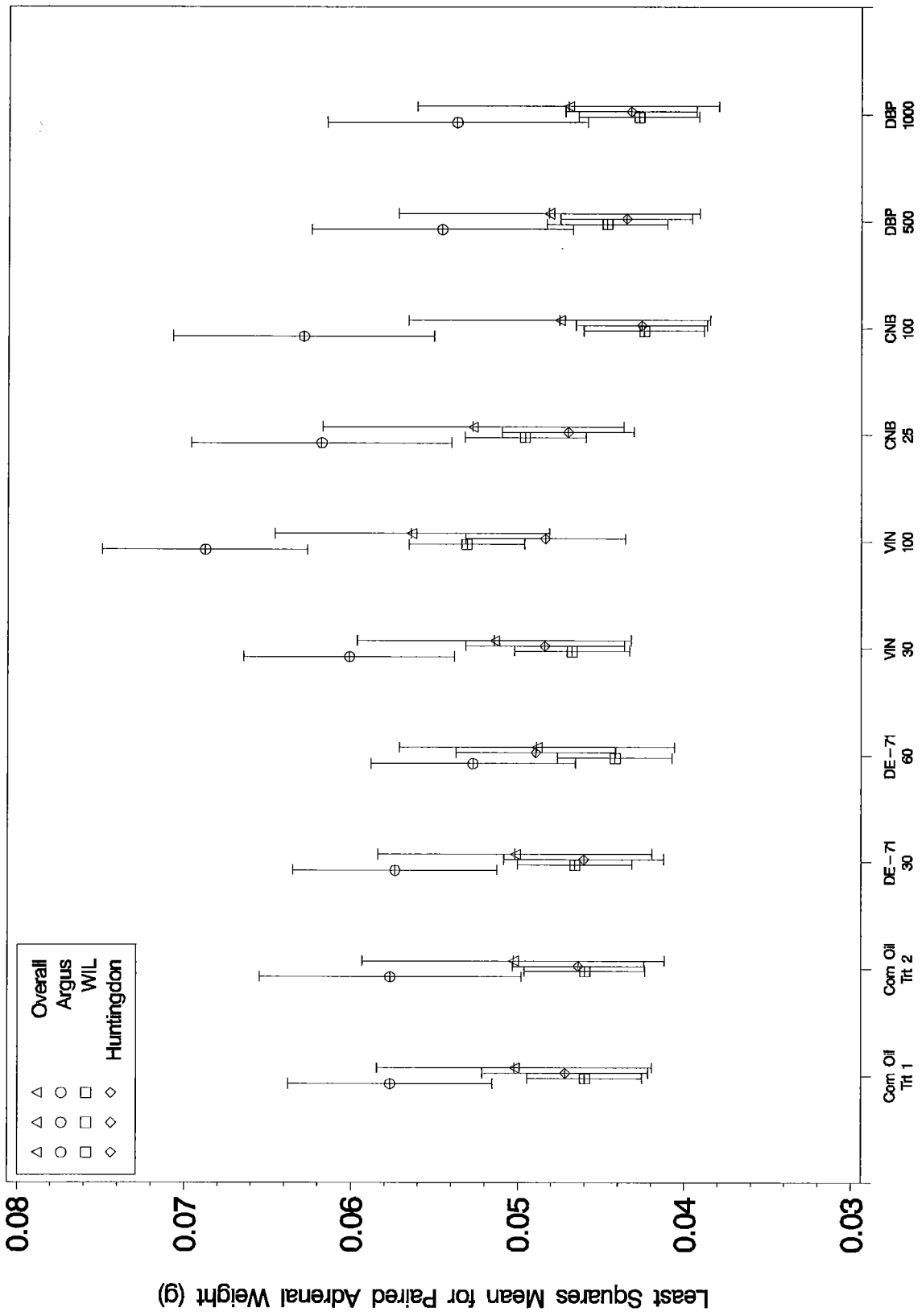

Figure 23. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Paired Adrenal Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

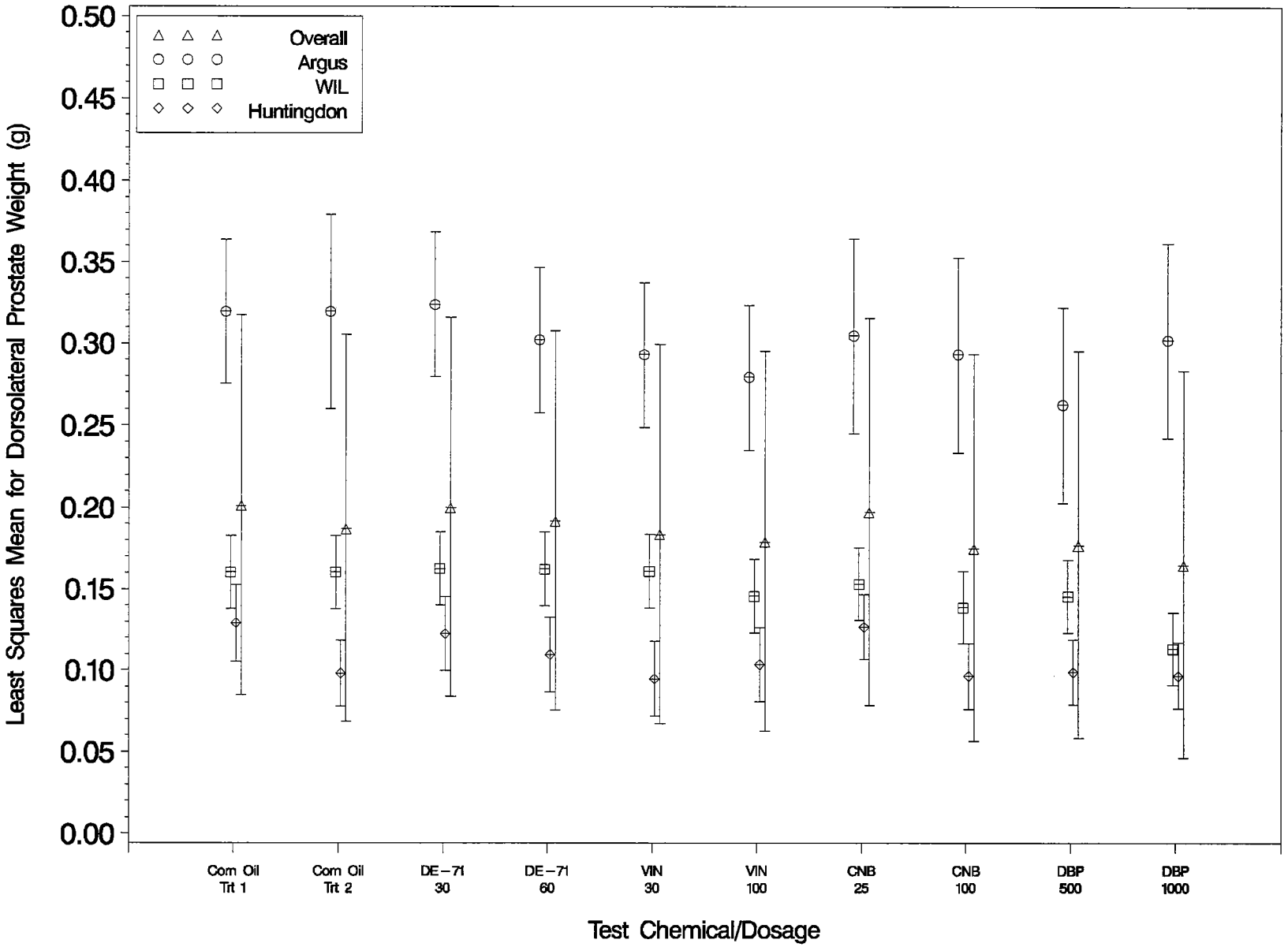

Figure 24. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Dorsolateral Prostate Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

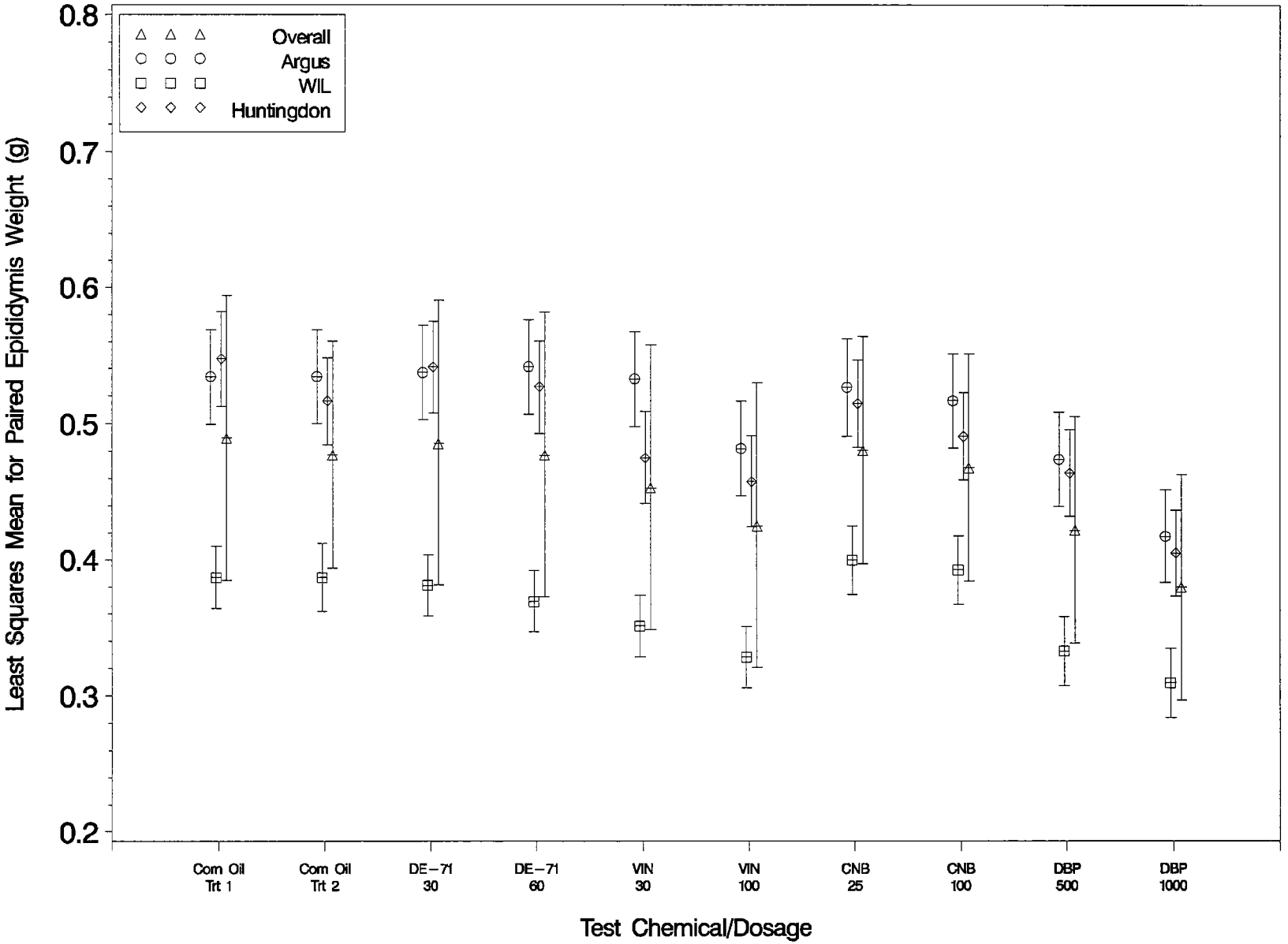

Figure 25. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Paired Epididymis Weight (g) for Each Dose Group Across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

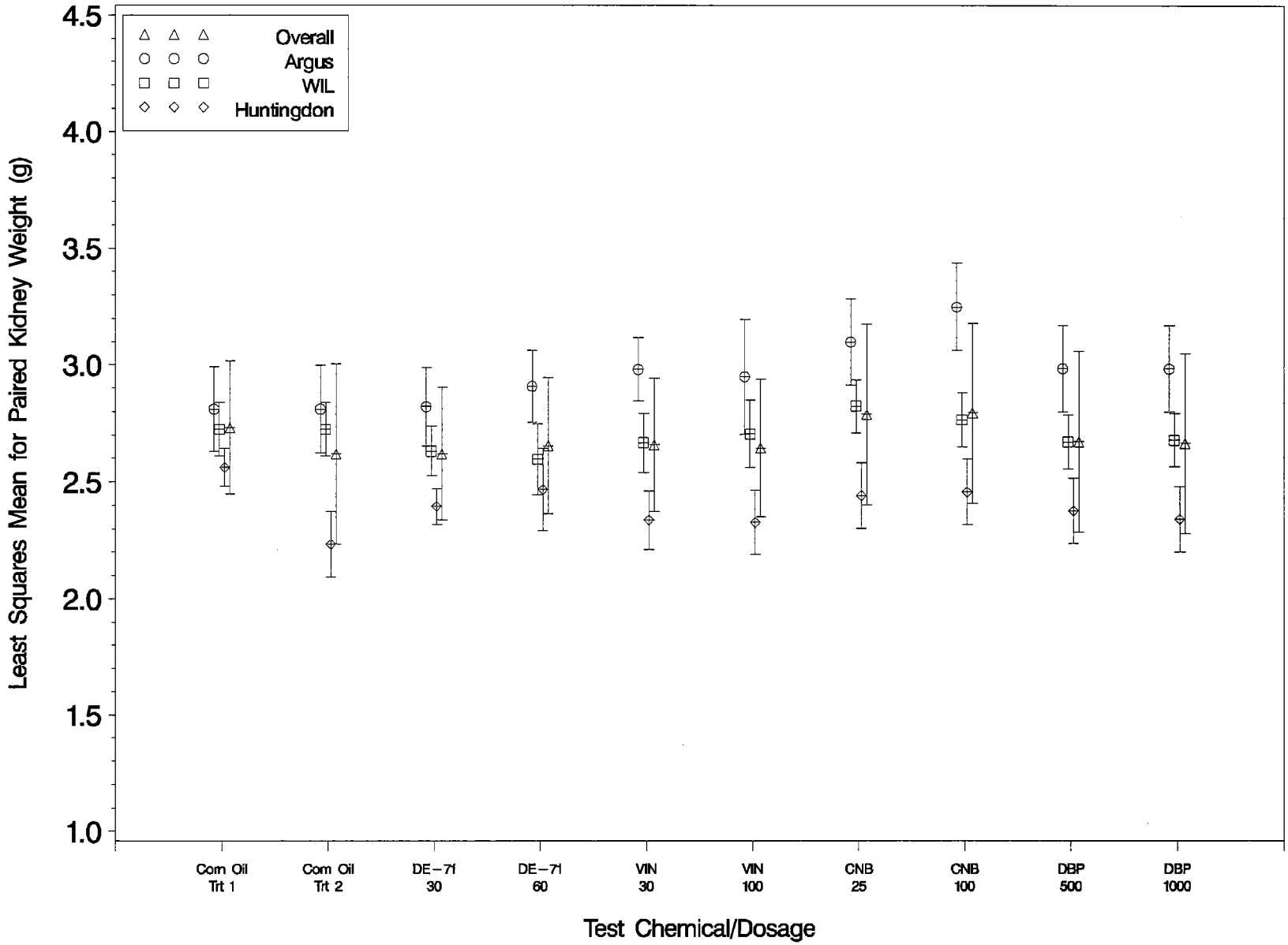

Figure 26. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Paired Kidney Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

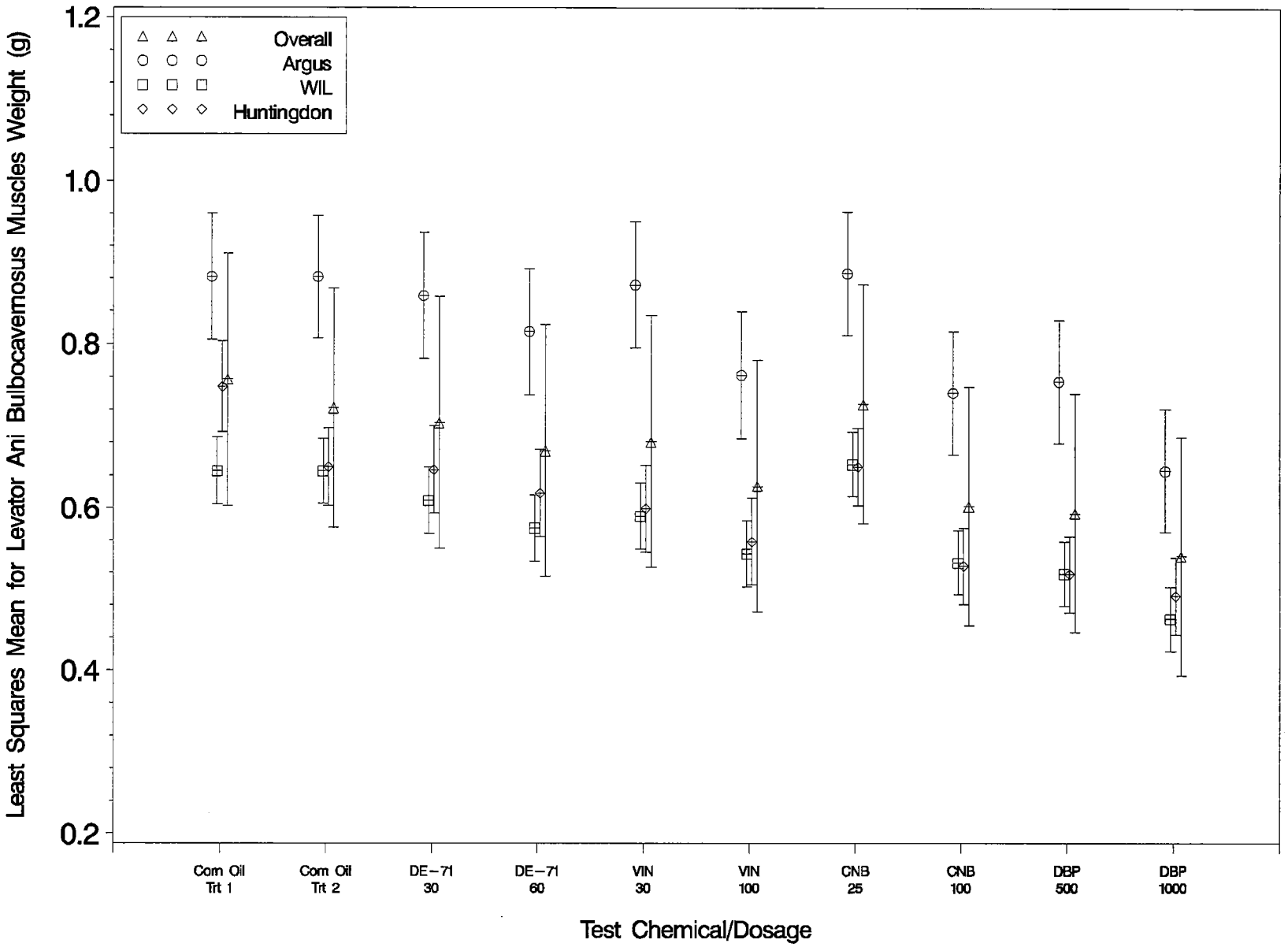

Figure 27. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Levator Ani Bulbocavernosus Muscles Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

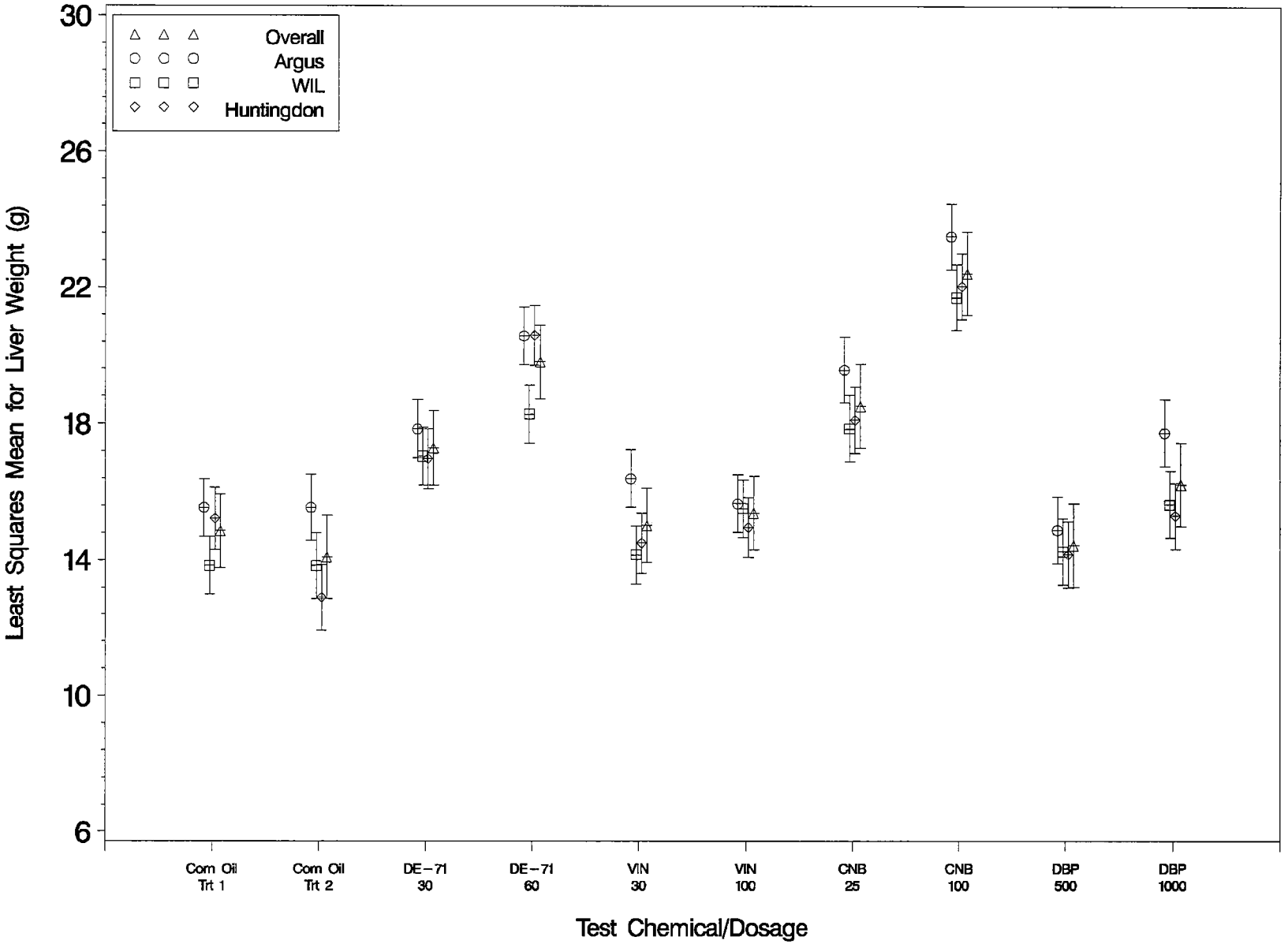

Figure 28. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Liver Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

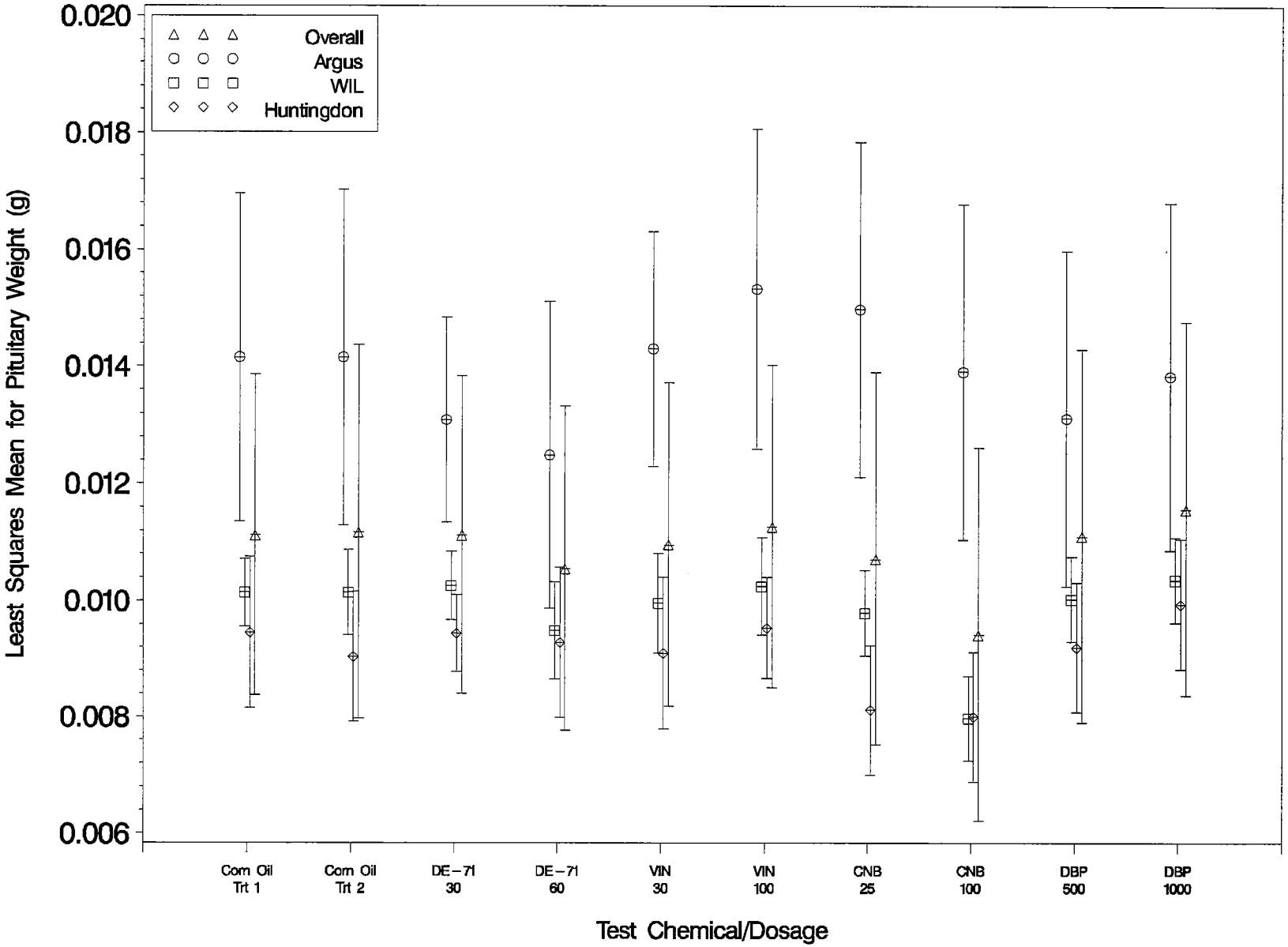

Figure 29. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Pituitary Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

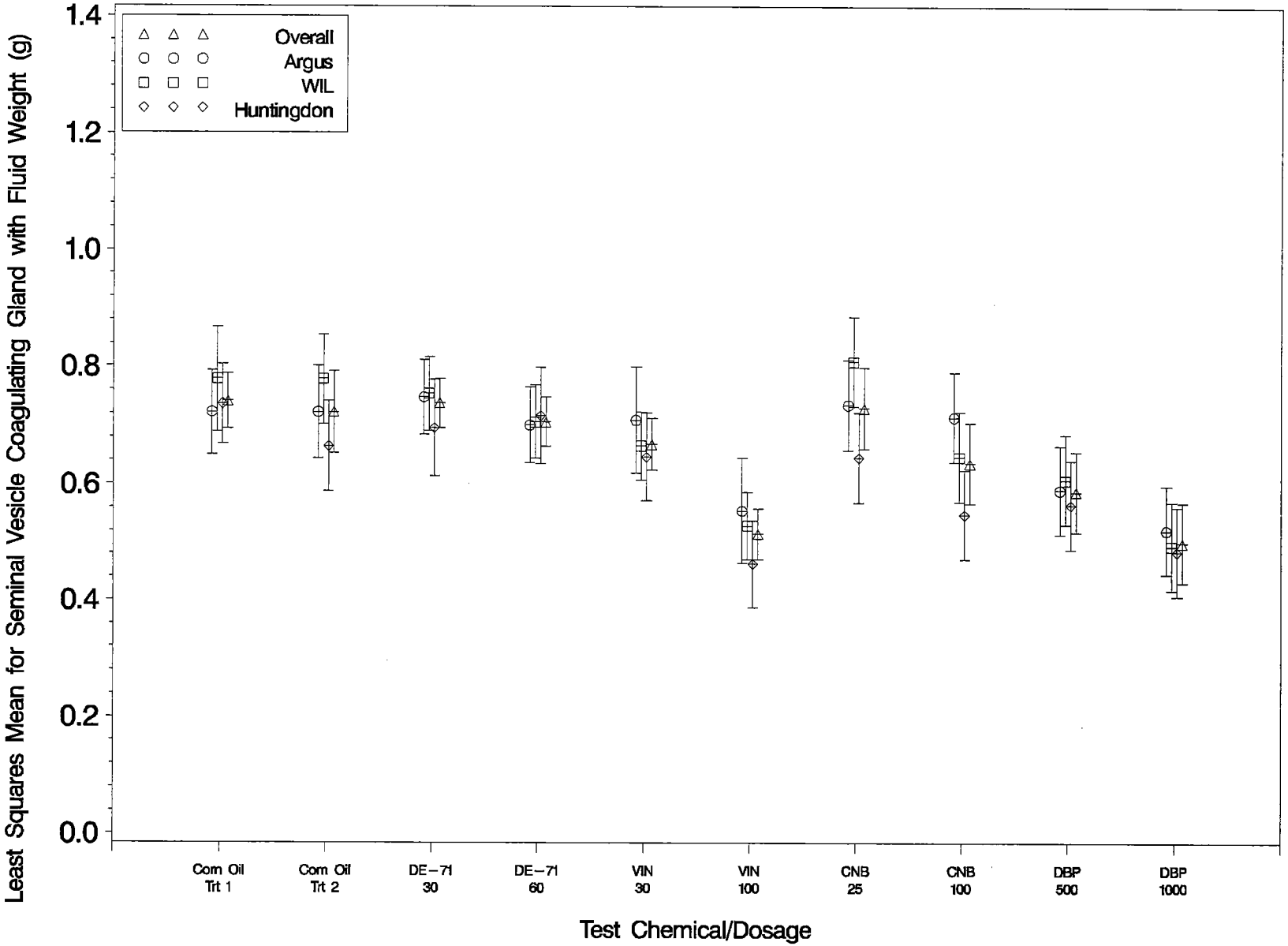

Figure 30. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Seminal Vesicle Coagulating Gland with Fluid Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

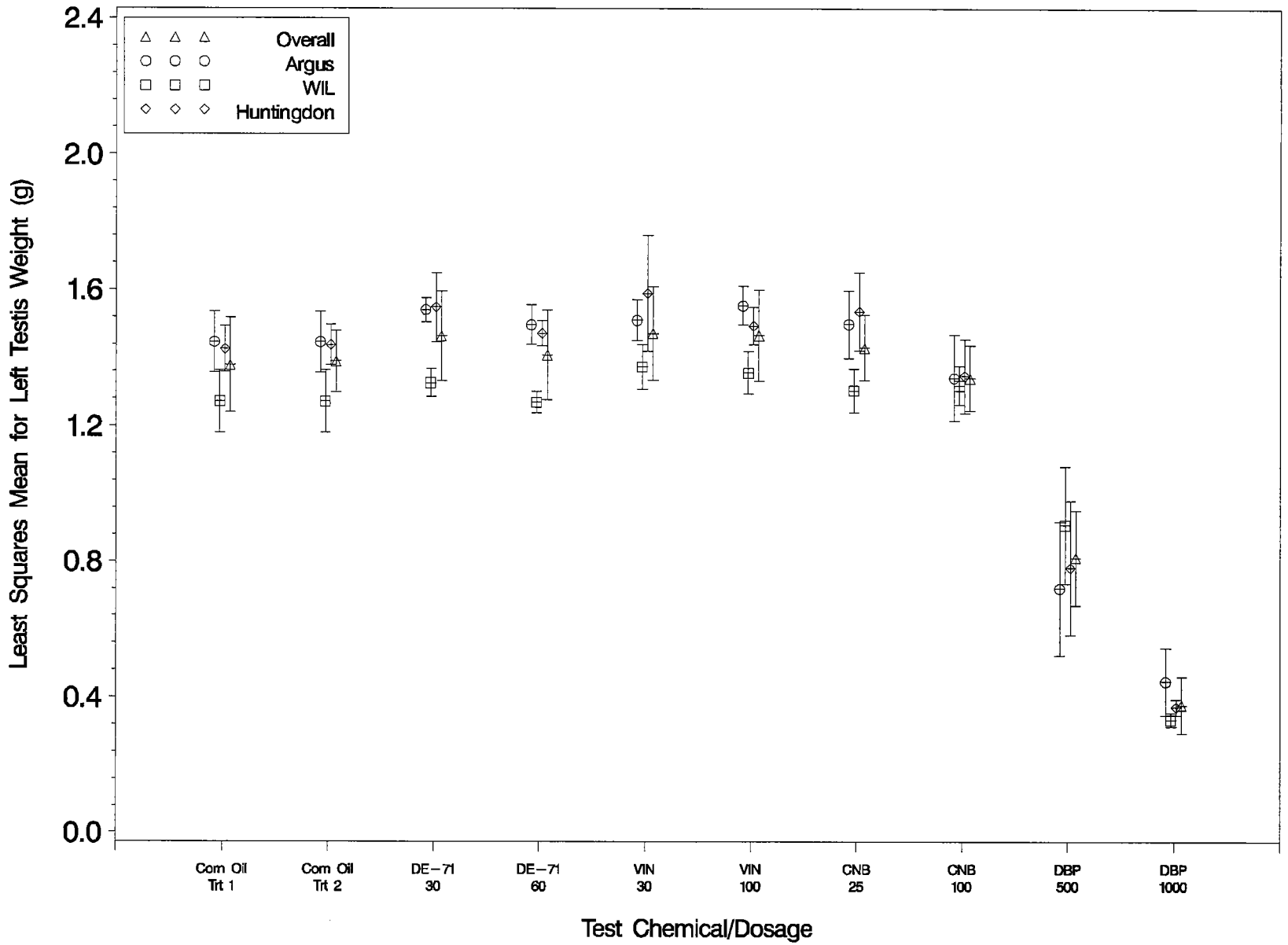

Figure 31. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Left Testis Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

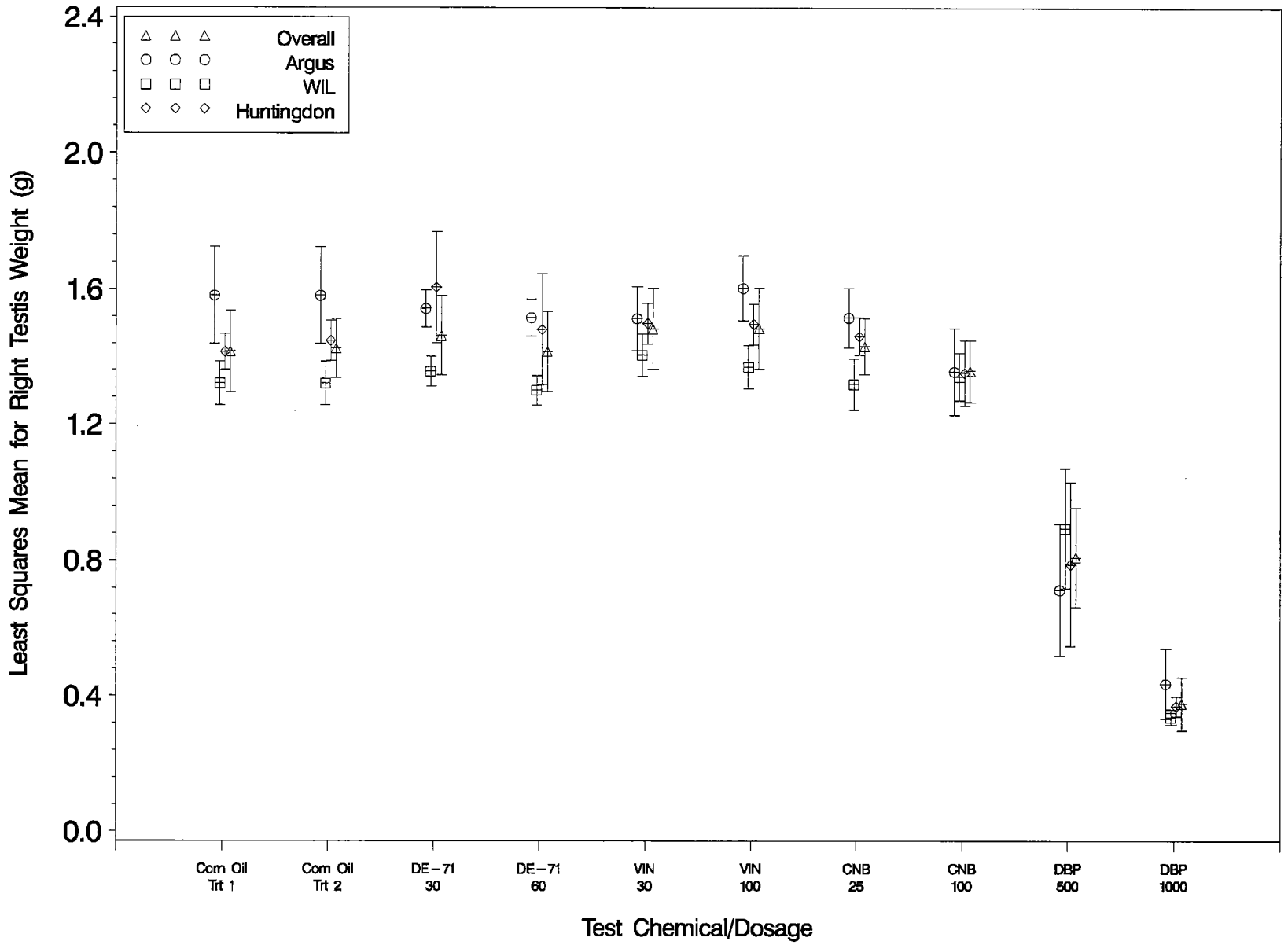

Figure 32. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Right Testis Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

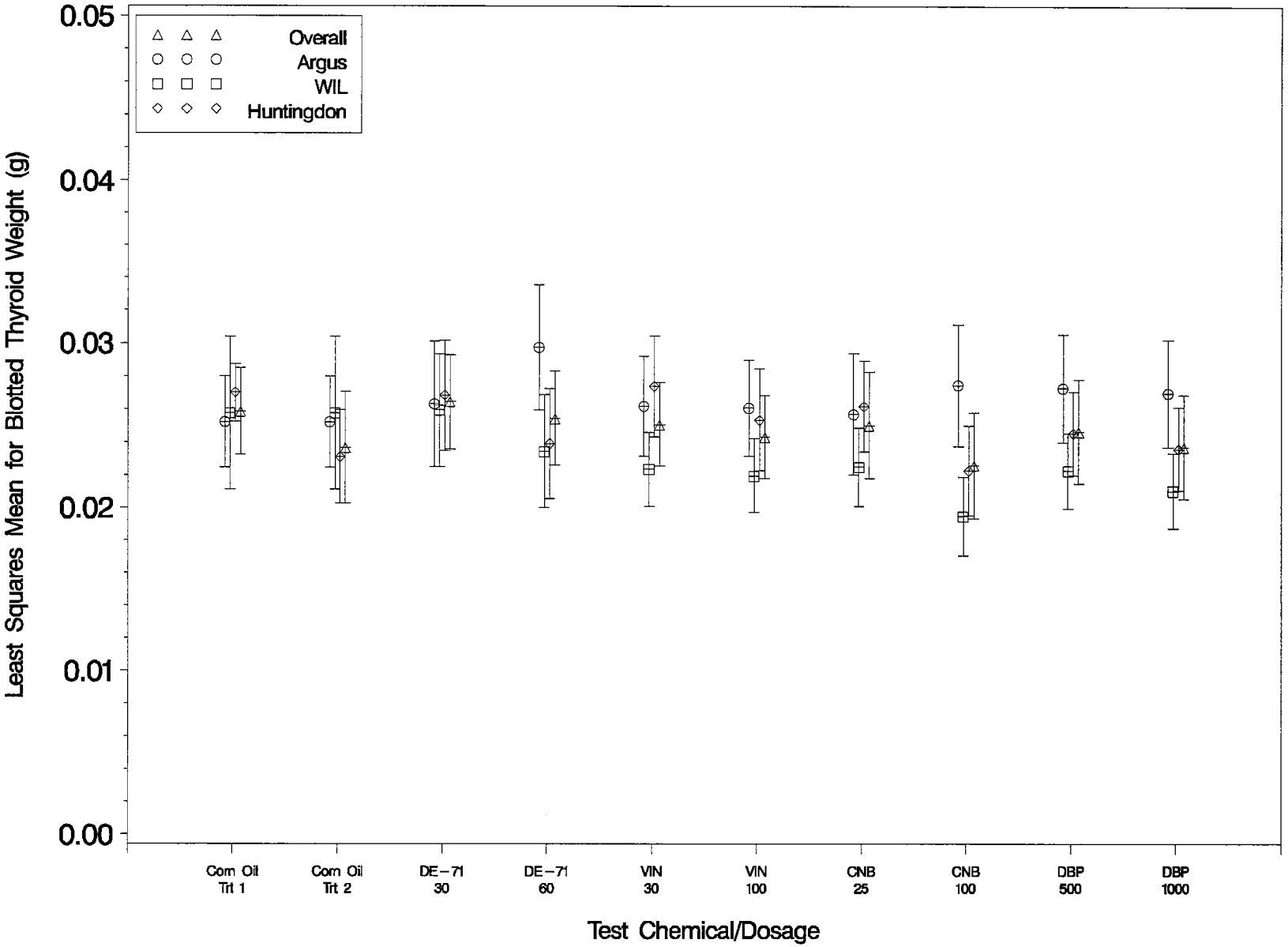

Figure 33. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Blotted Thyroid Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

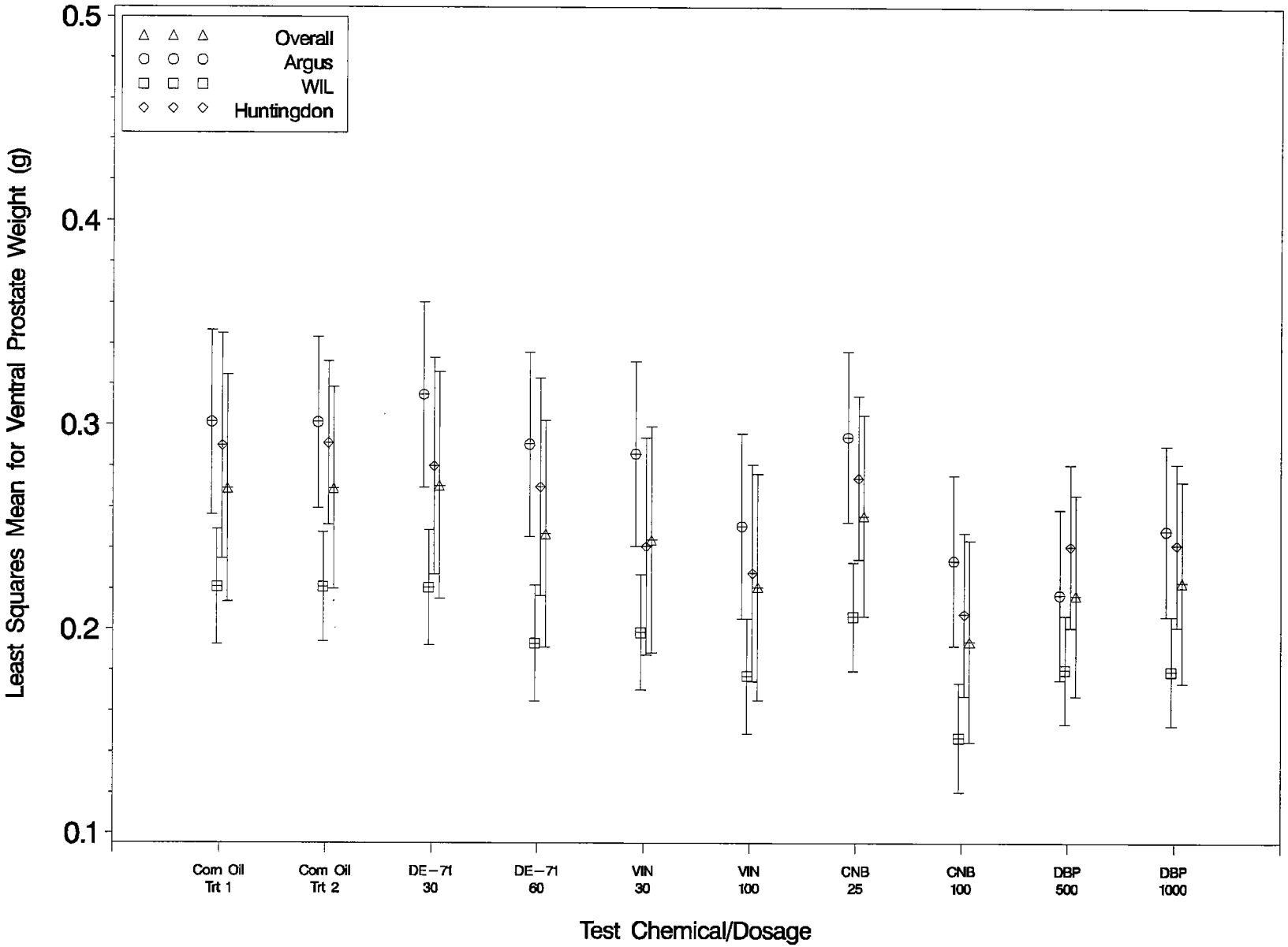

Figure 34. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Ventral Prostate Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

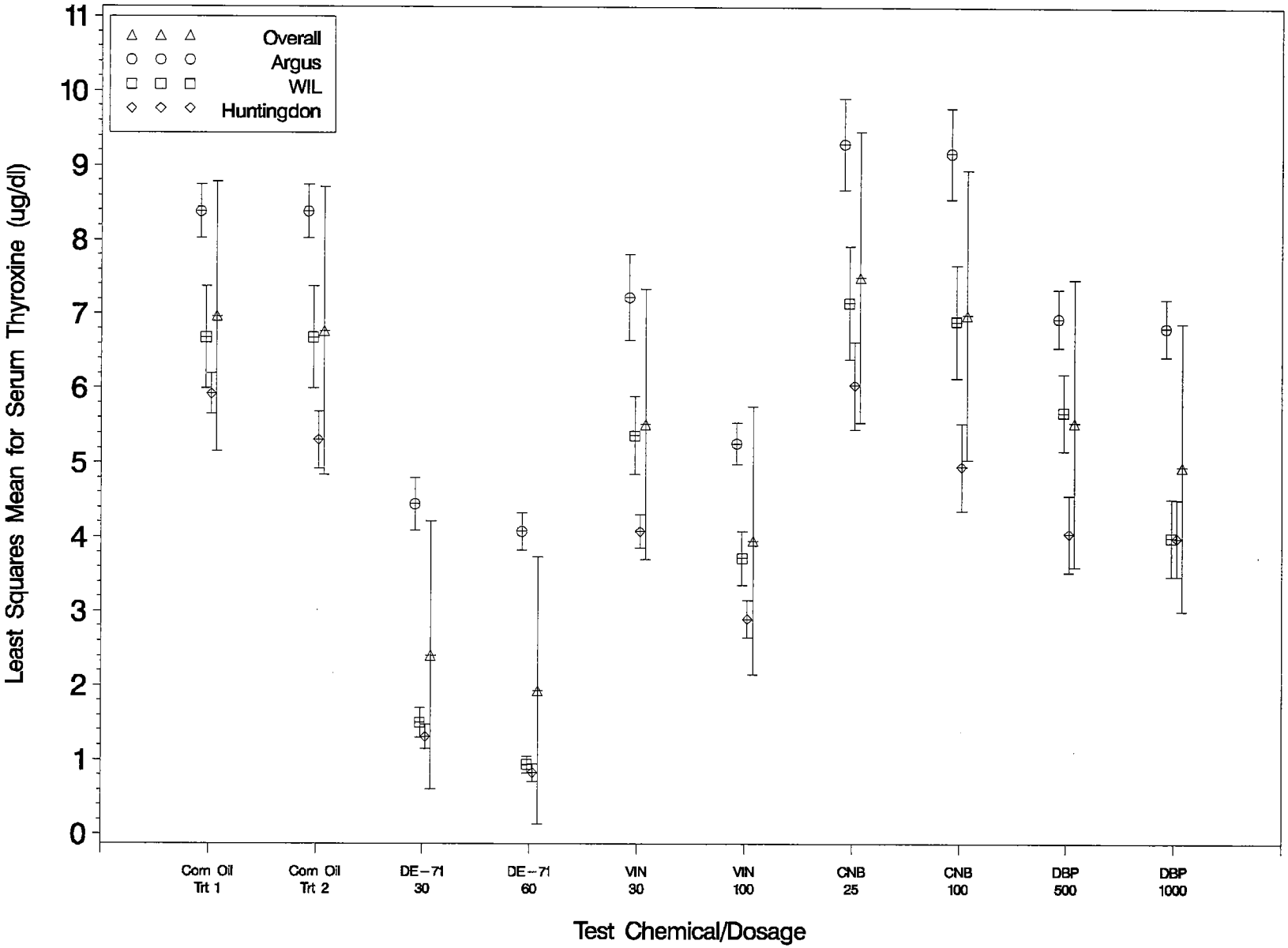

Figure 35. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Serum Thyroxine (µg/dl) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

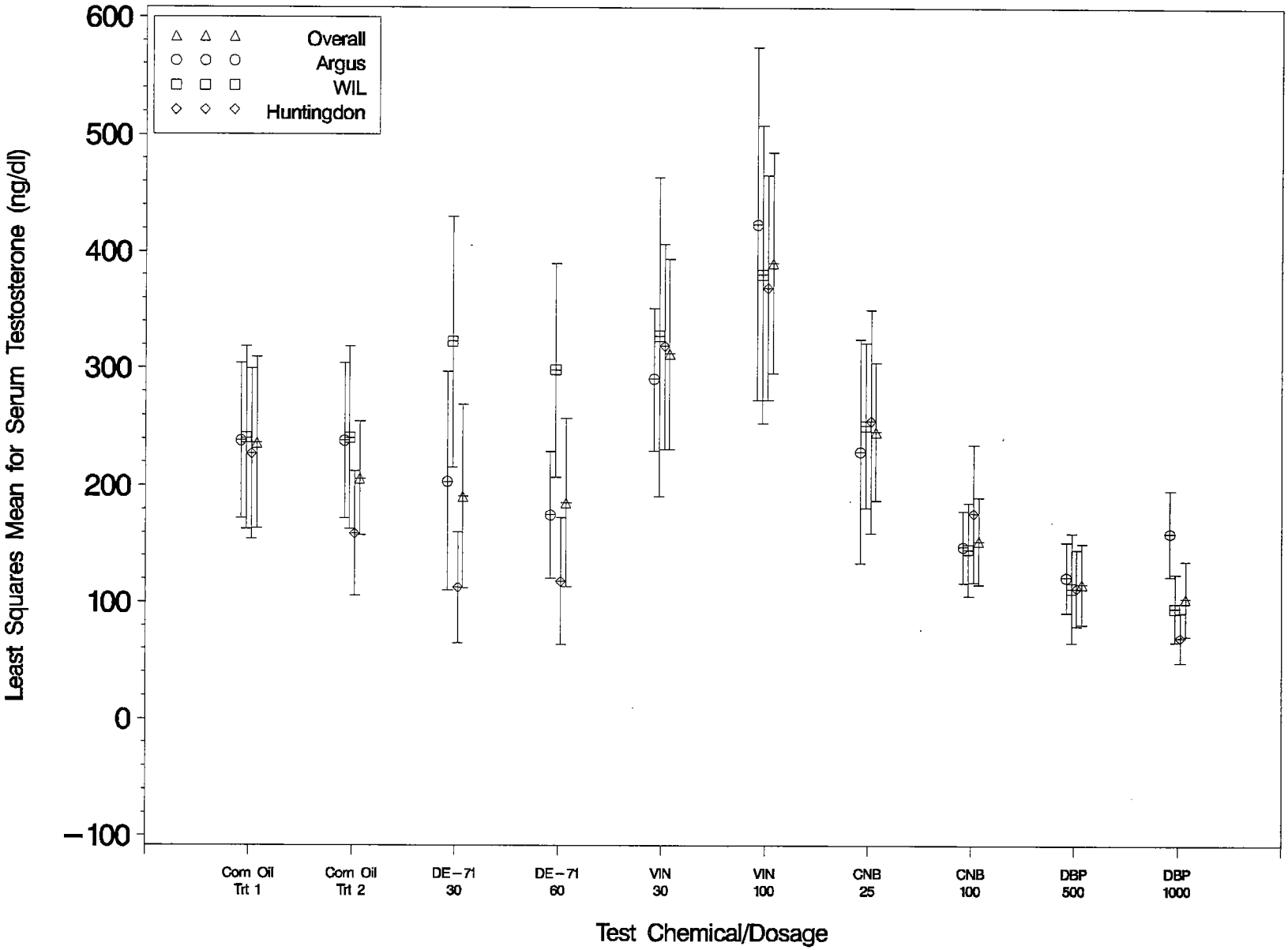

Figure 36. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Serum Testosterone (ng/dl) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

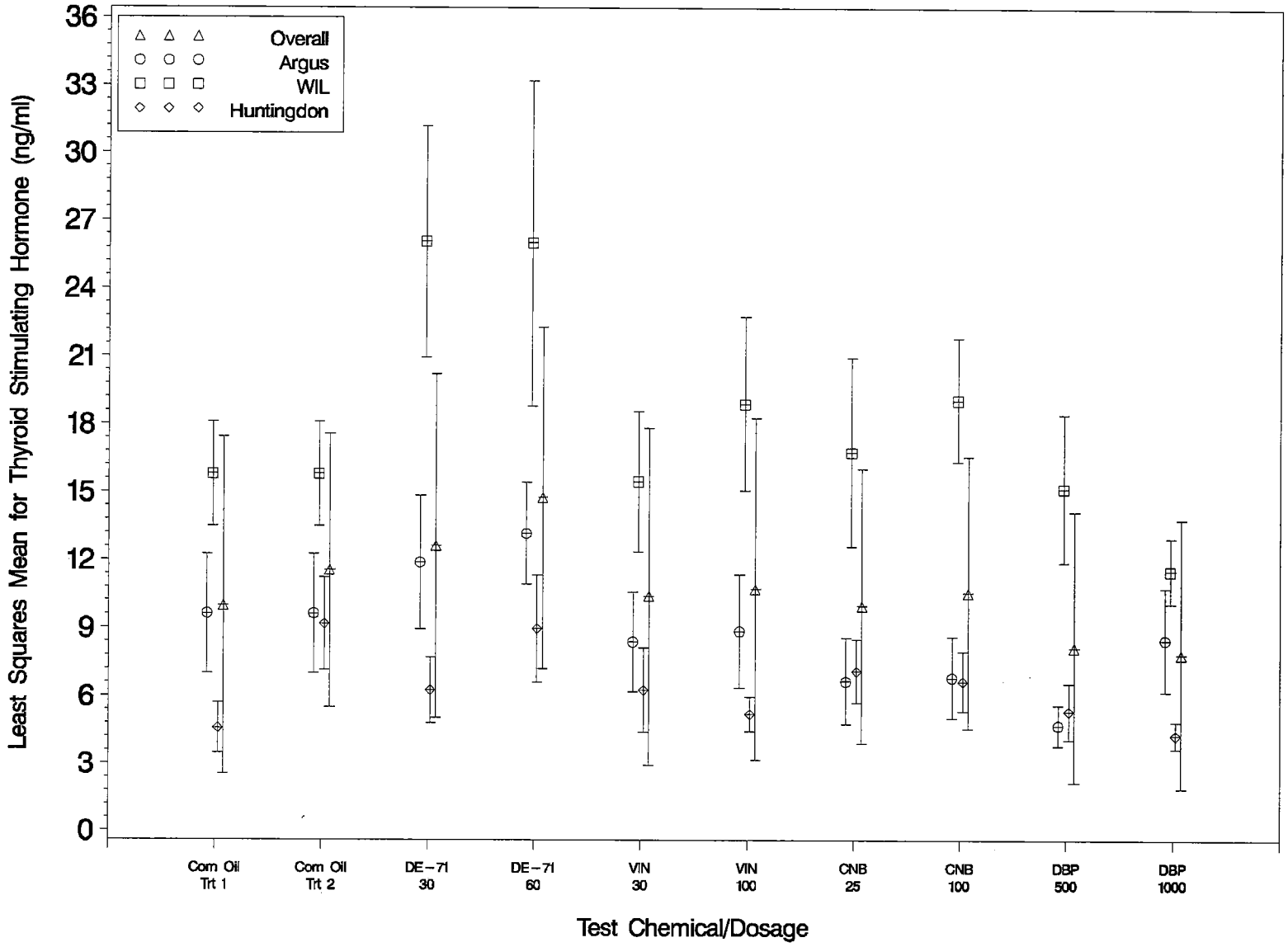

Figure 37. **Unadjusted Least Squares Means (with ± 2 Standard Error Bars) for Thyroid Stimulating Hormone (ng/ml) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

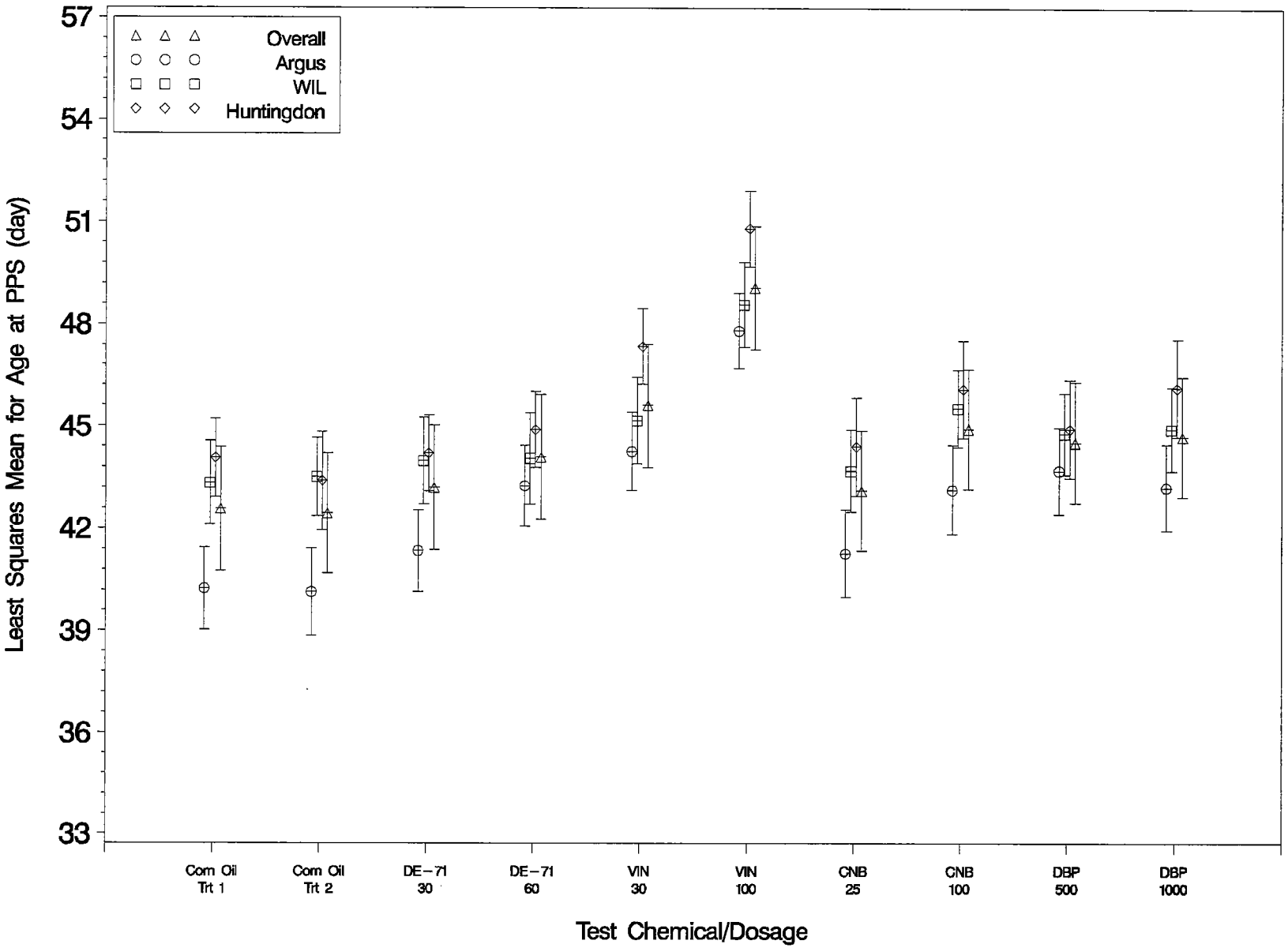

Figure 38. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Age at PPS (day) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

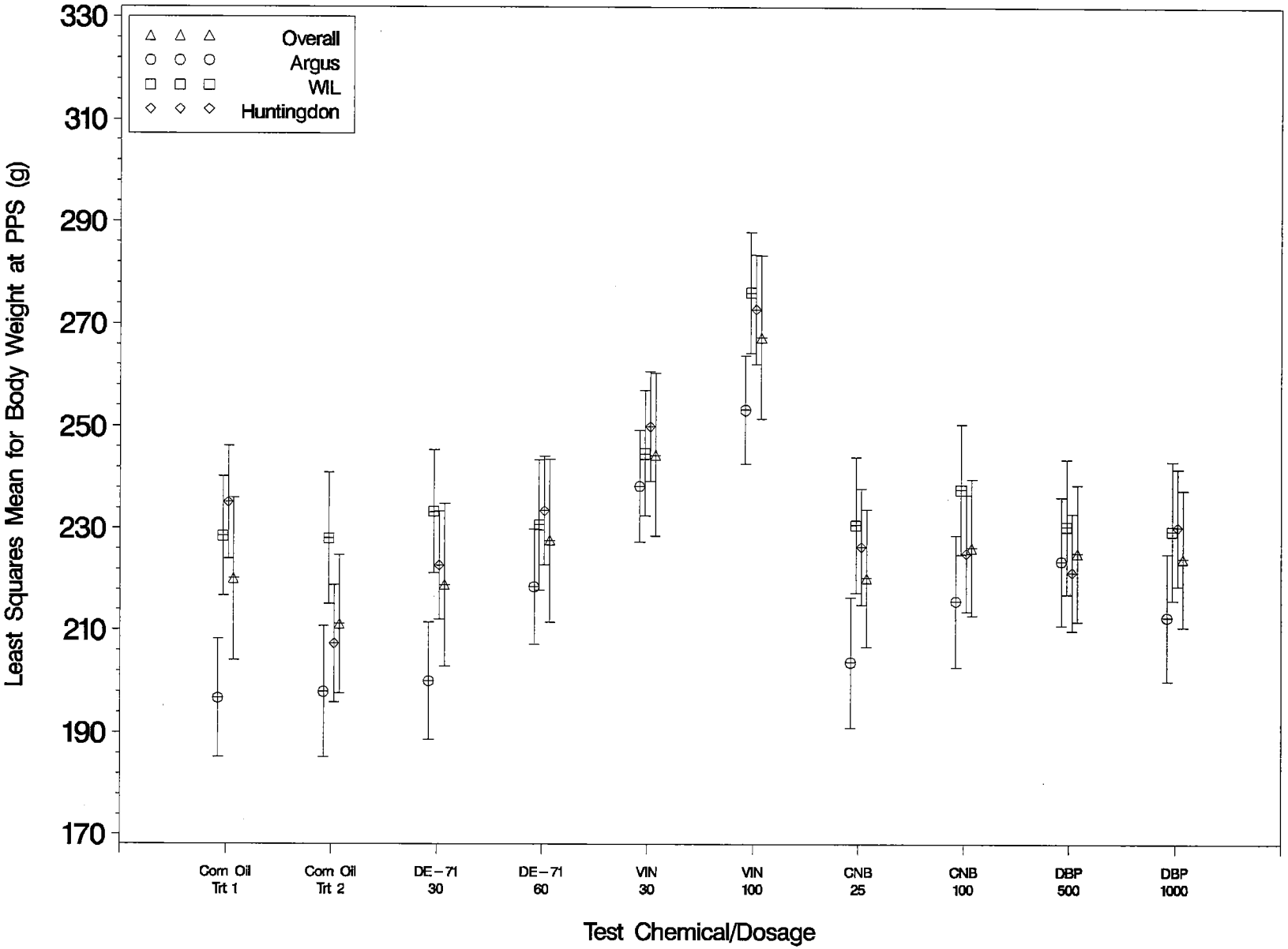

Figure 39. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Body Weight at PPS (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

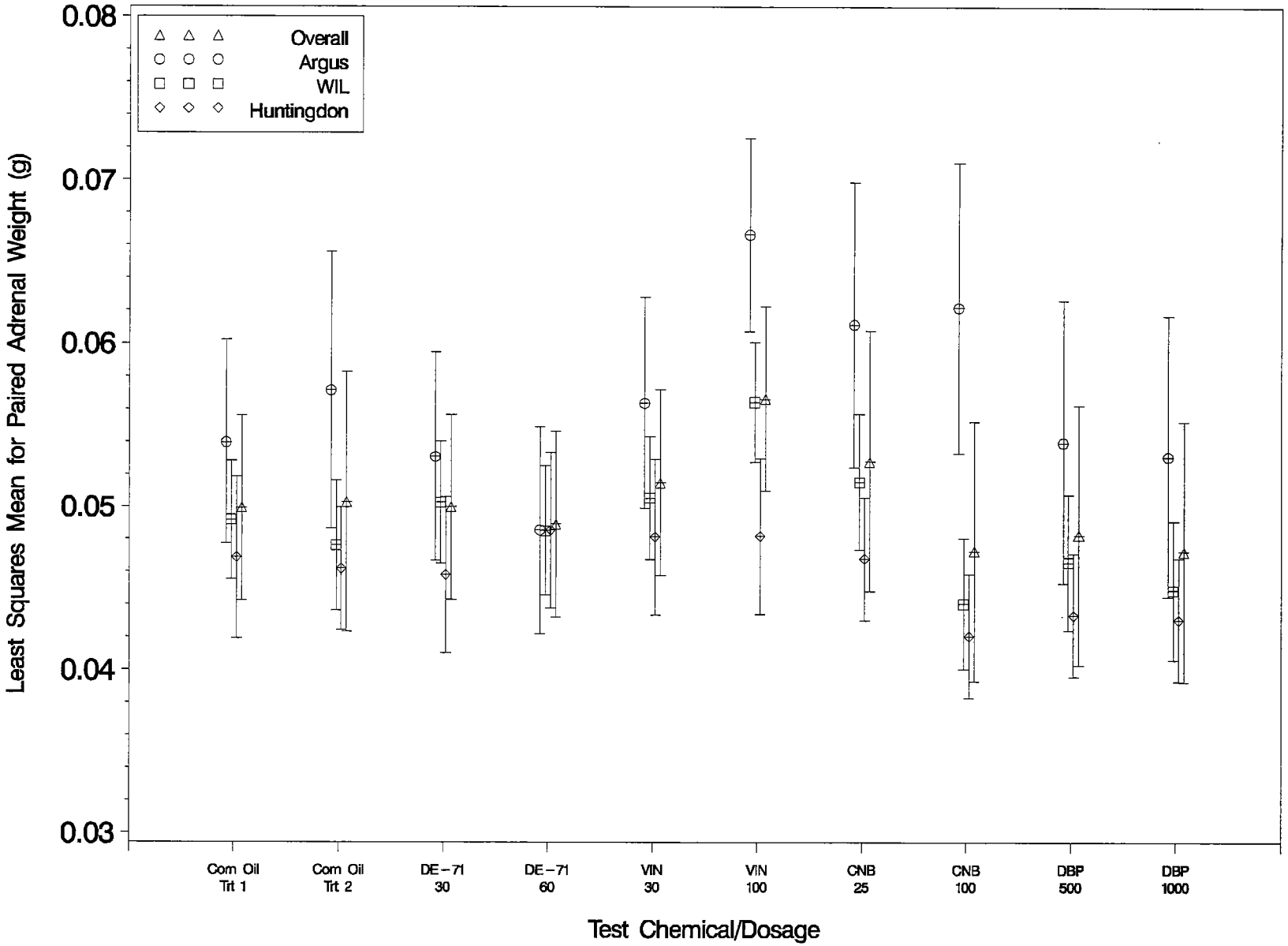

Figure 40. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Paired Adrenal Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

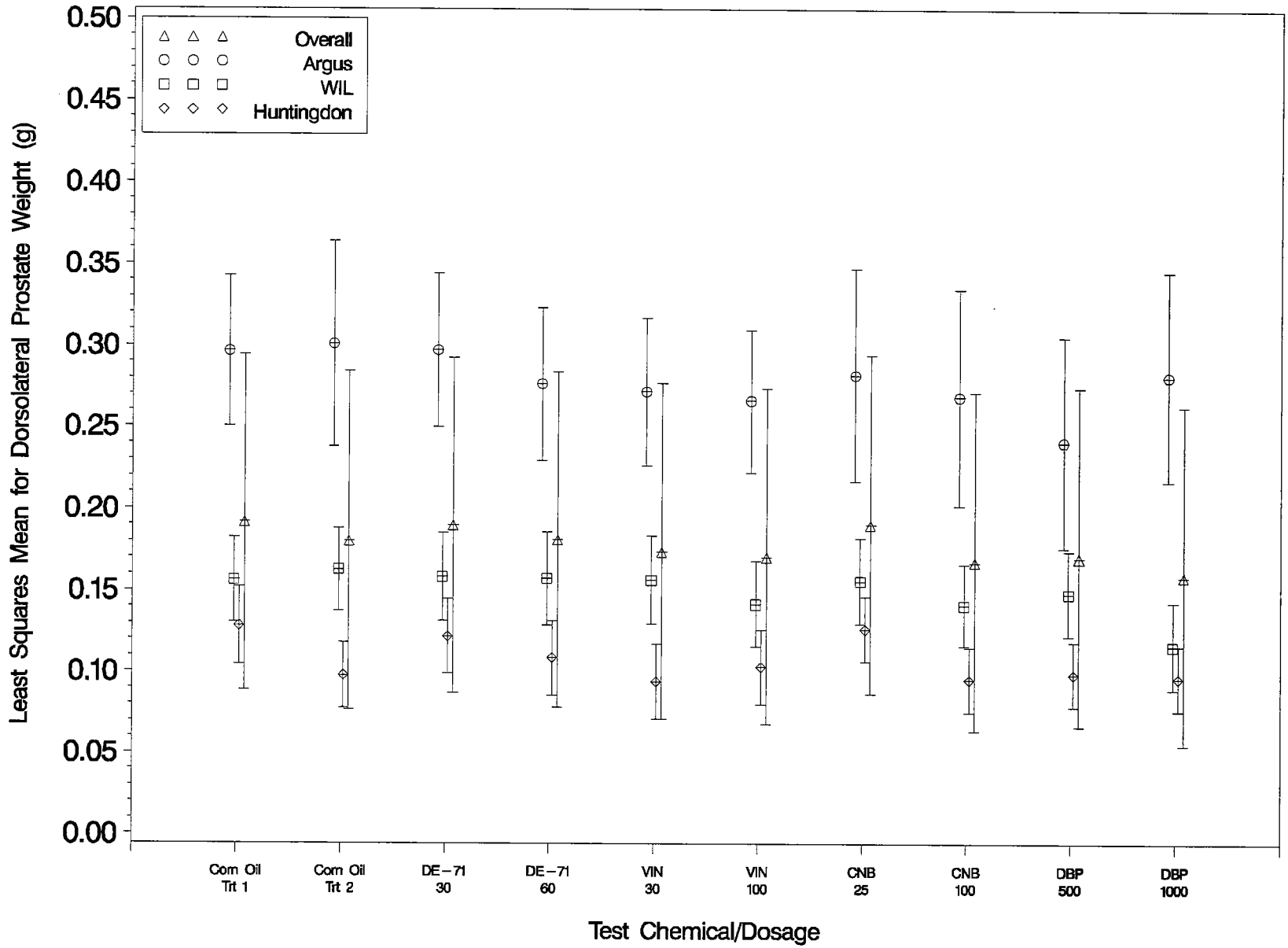

Figure 41. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Dorsolateral Prostate Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

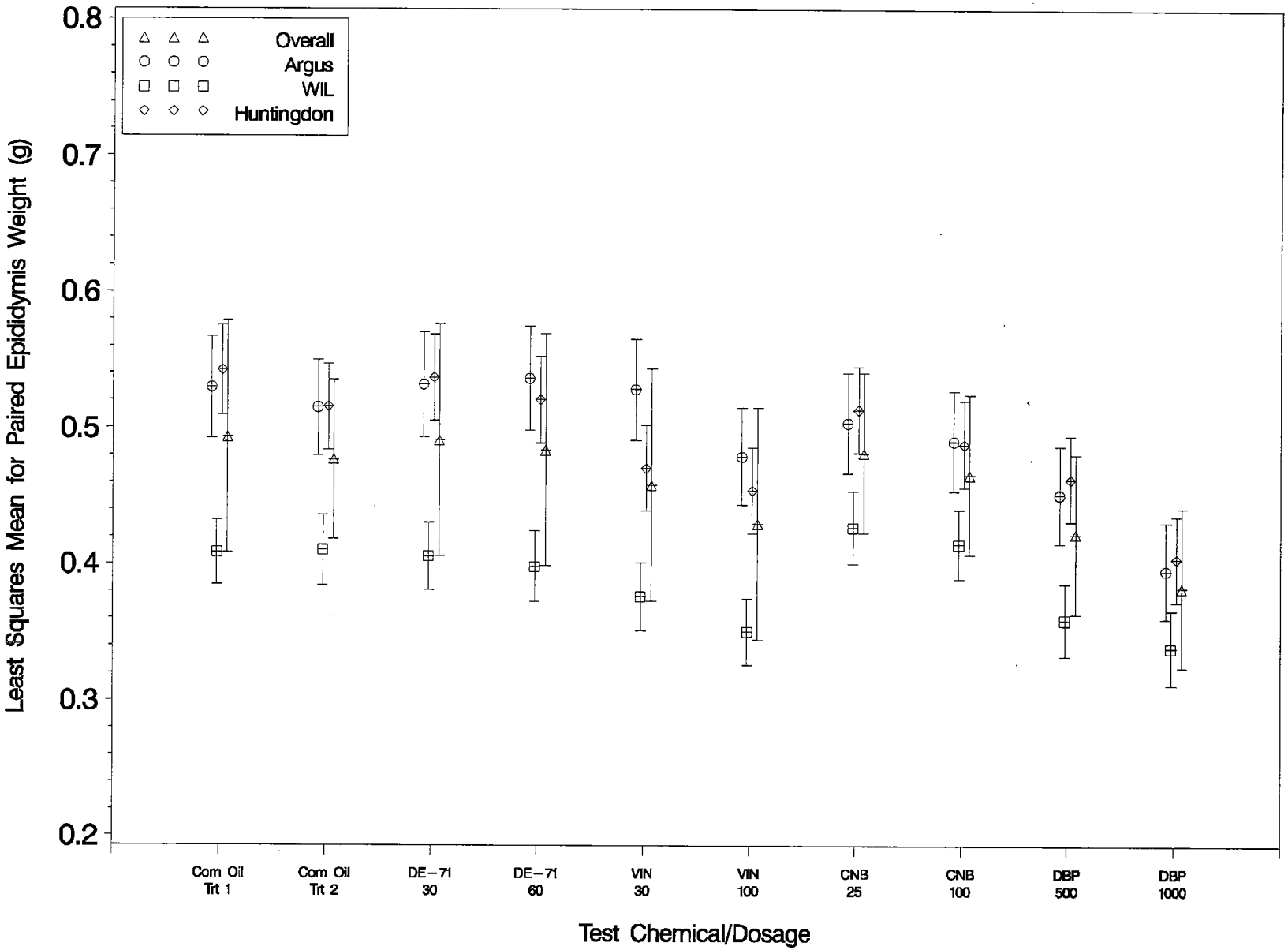

Figure 42. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Paired Epididymis Weight (g) for Each Dose Group Across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

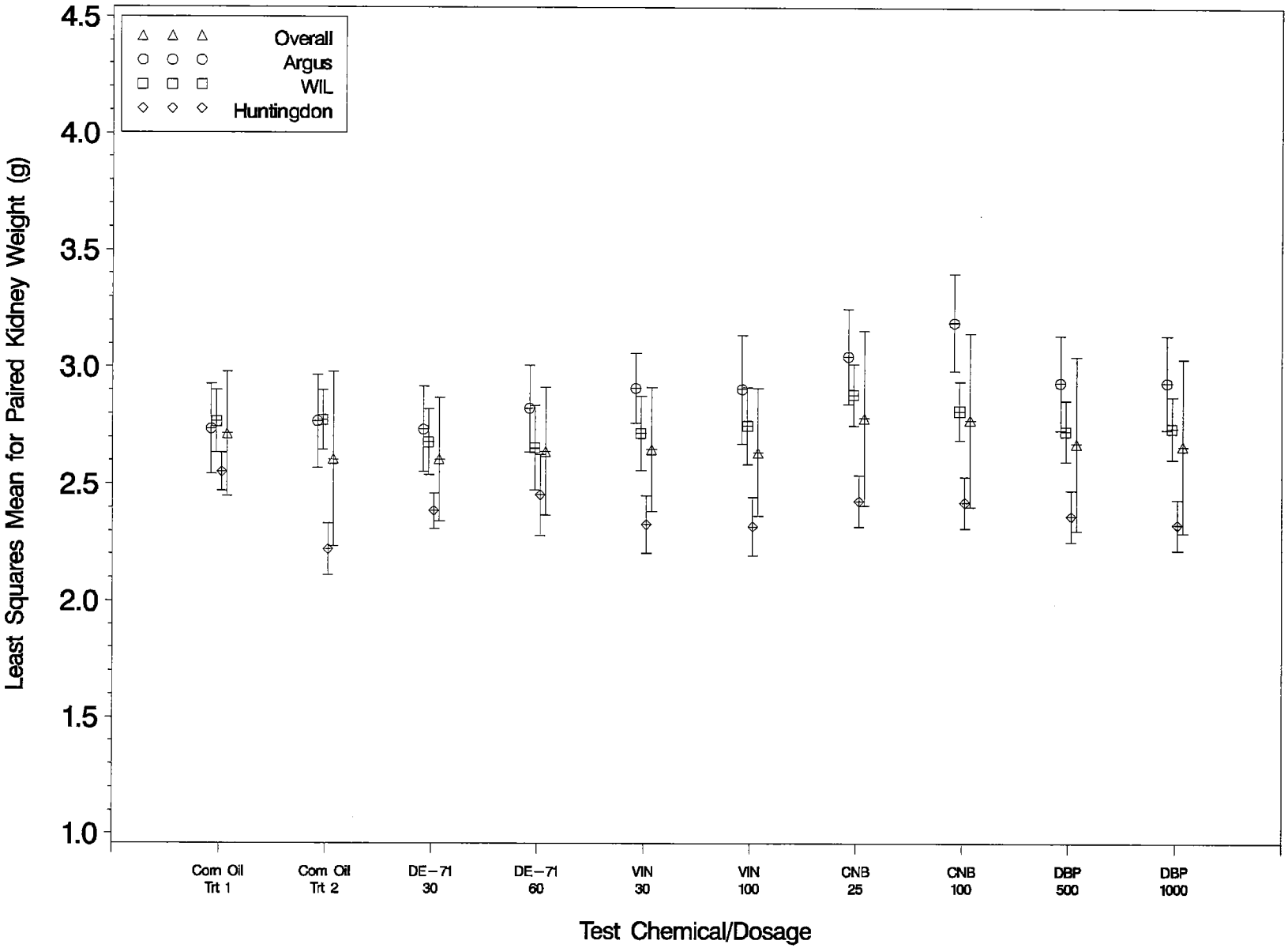

Figure 43. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Paired Kidney Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

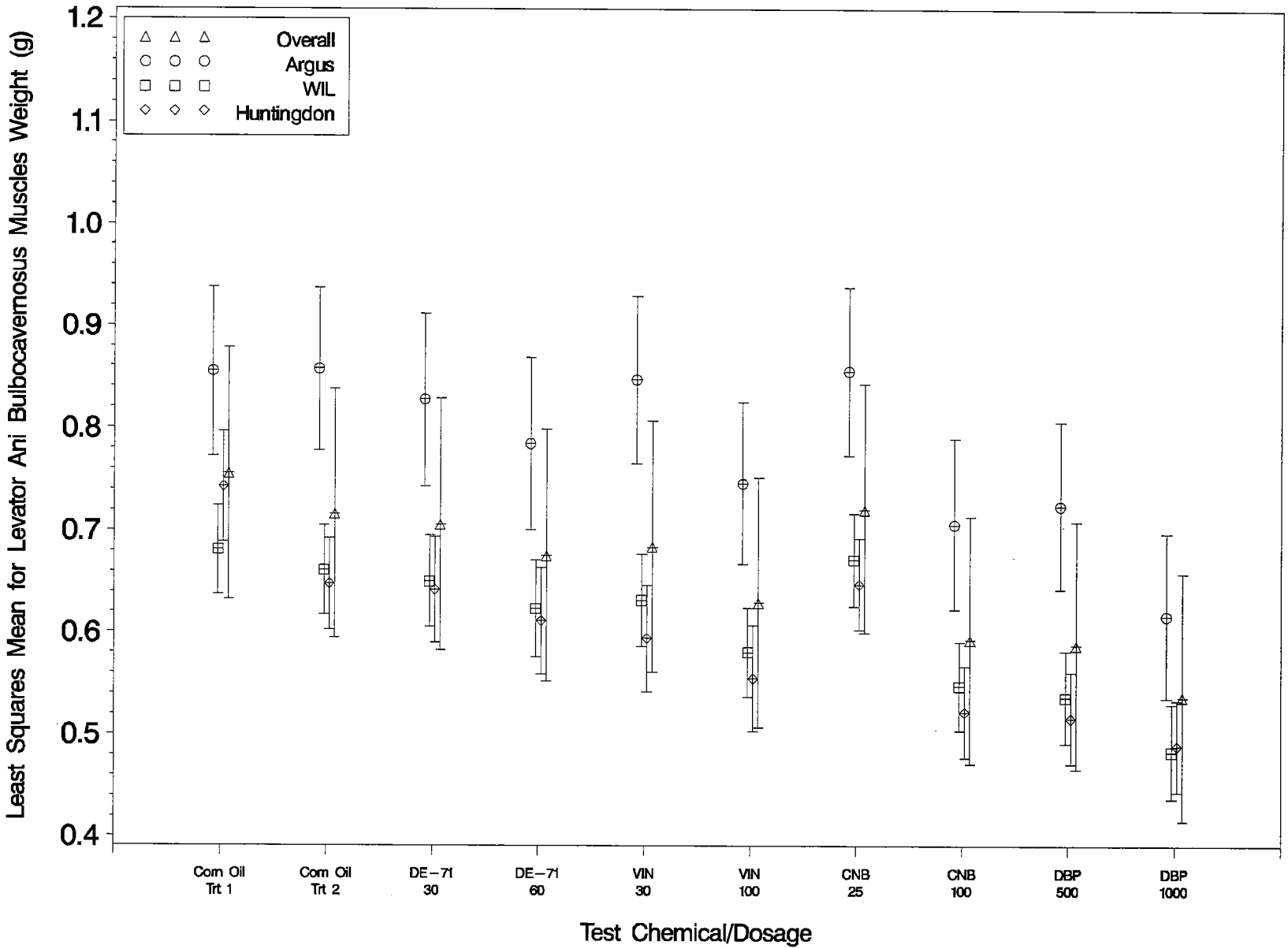

Figure 44. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Levator Ani Bulbocavernosus Muscles Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

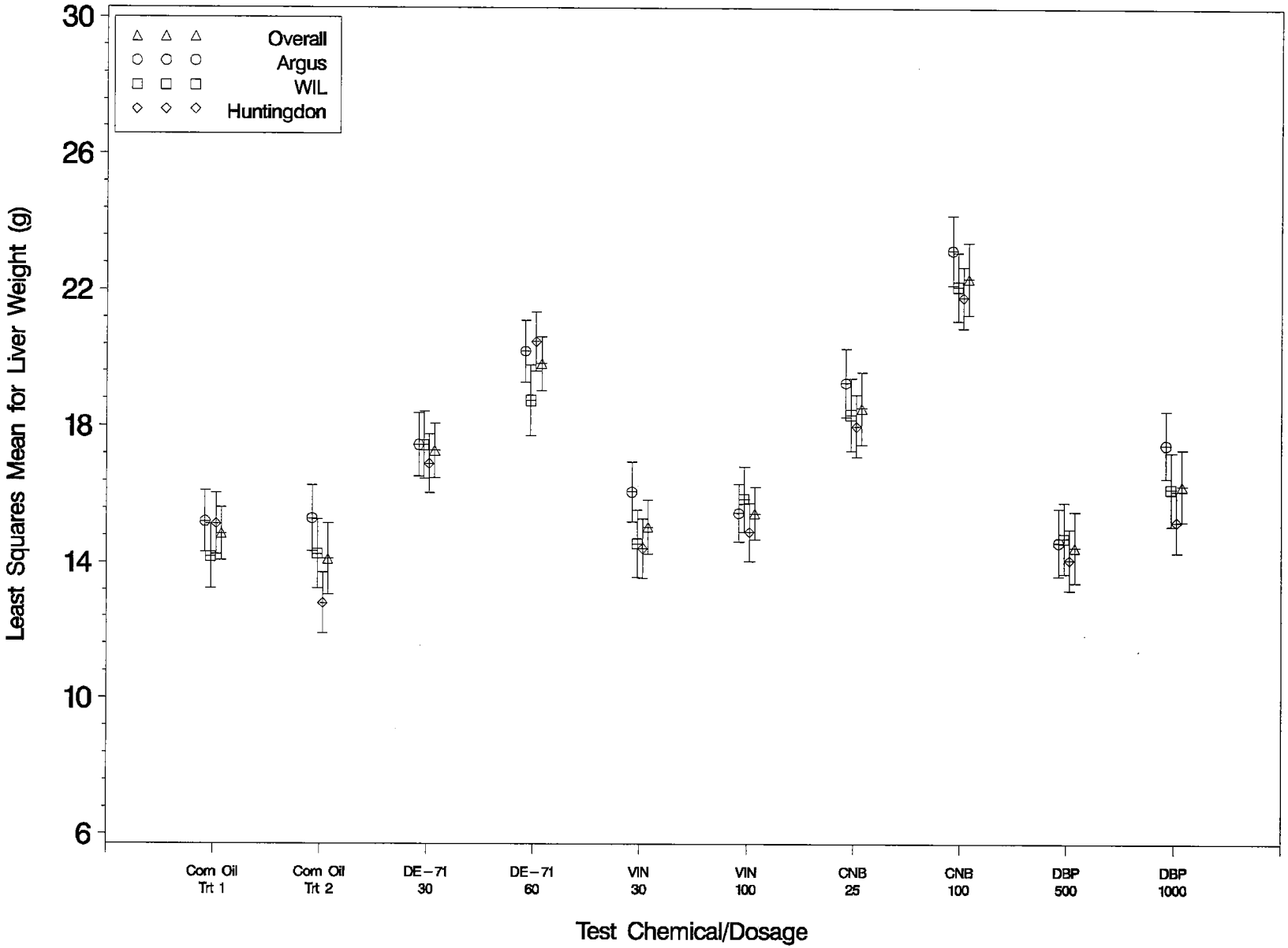

Figure 45. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Liver Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

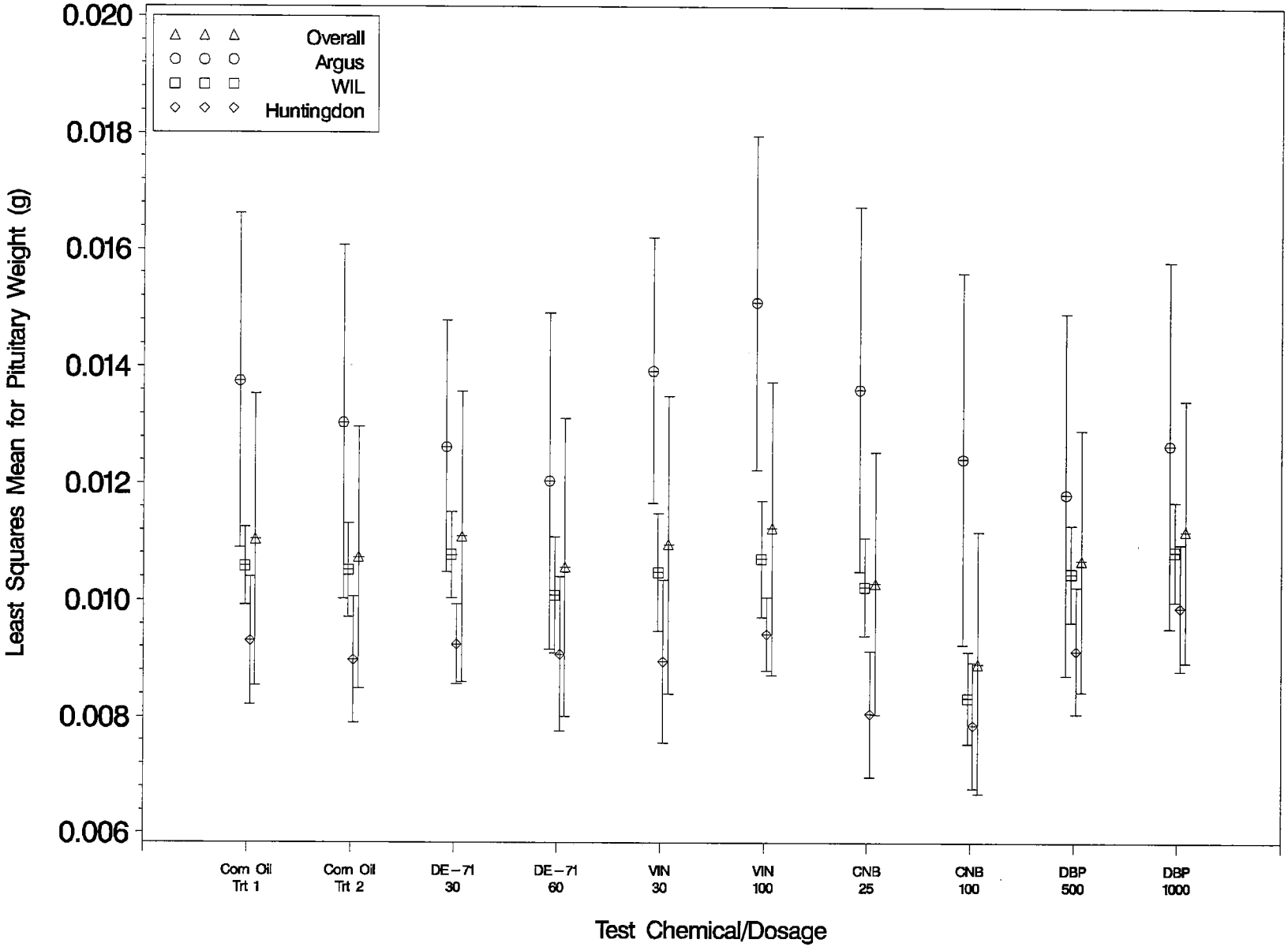

Figure 46. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Pituitary Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

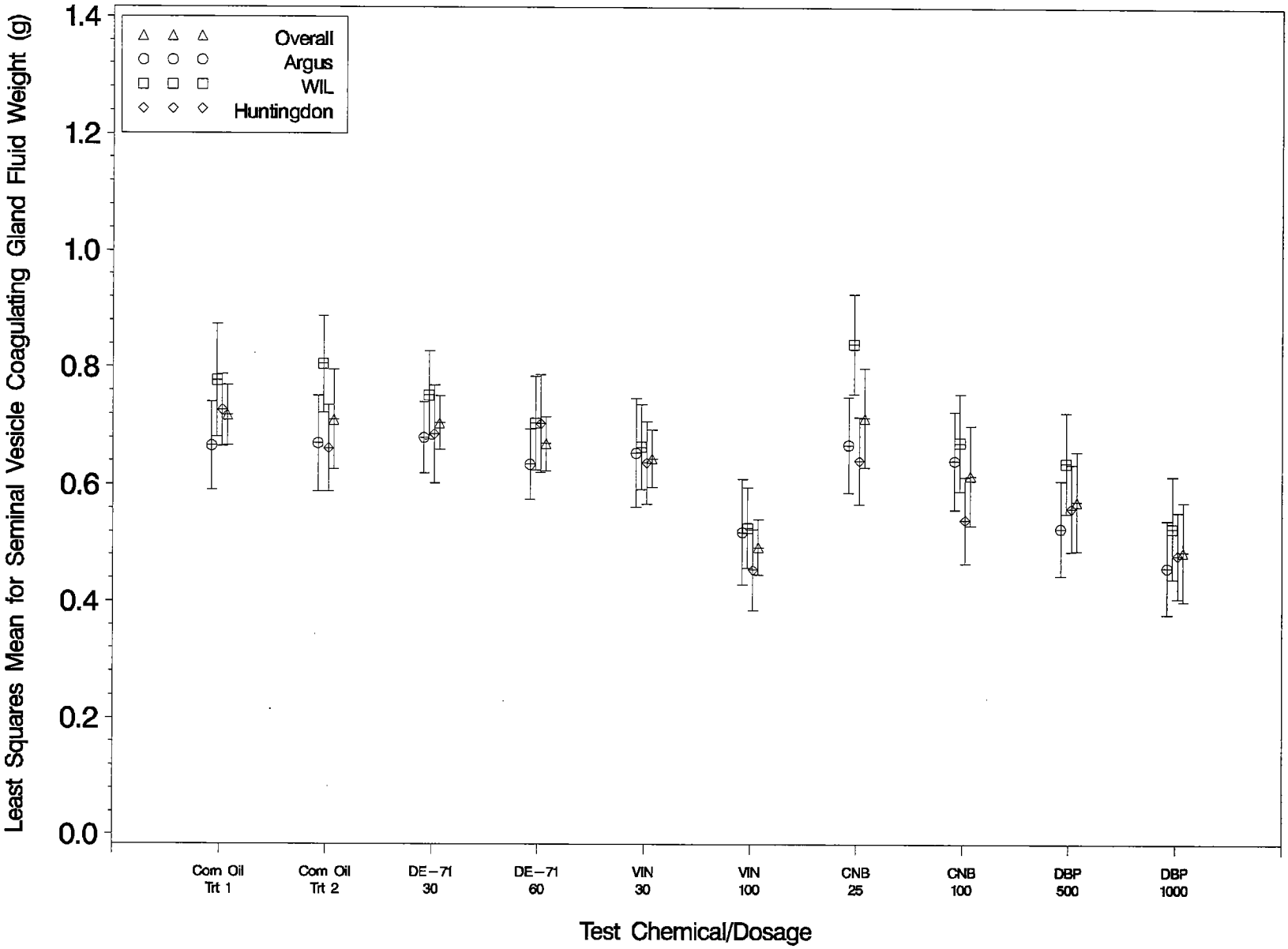

Figure 47. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Seminal Vesicle Coagulating Gland with Fluid Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

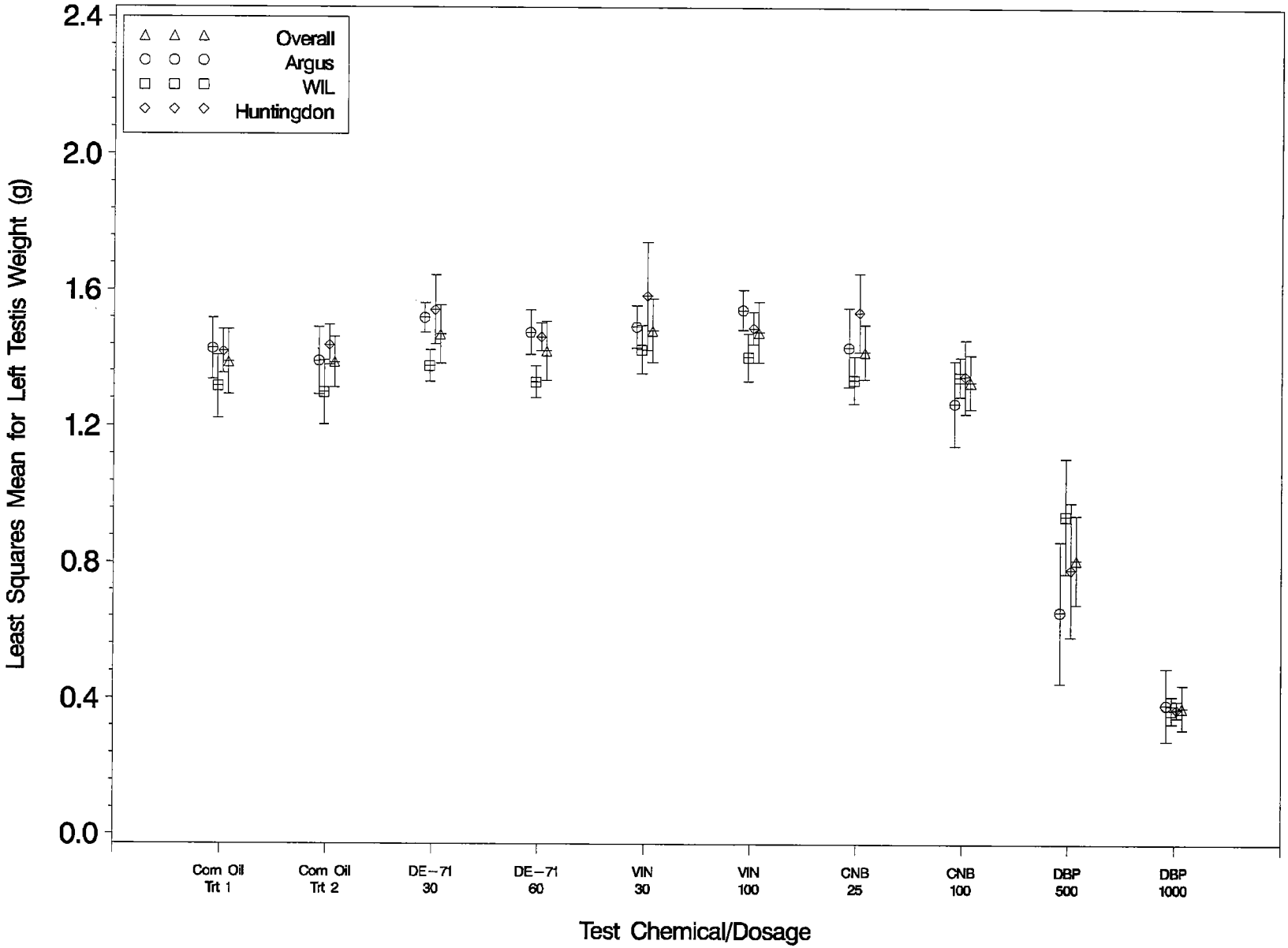

Figure 48. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Left Testis Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

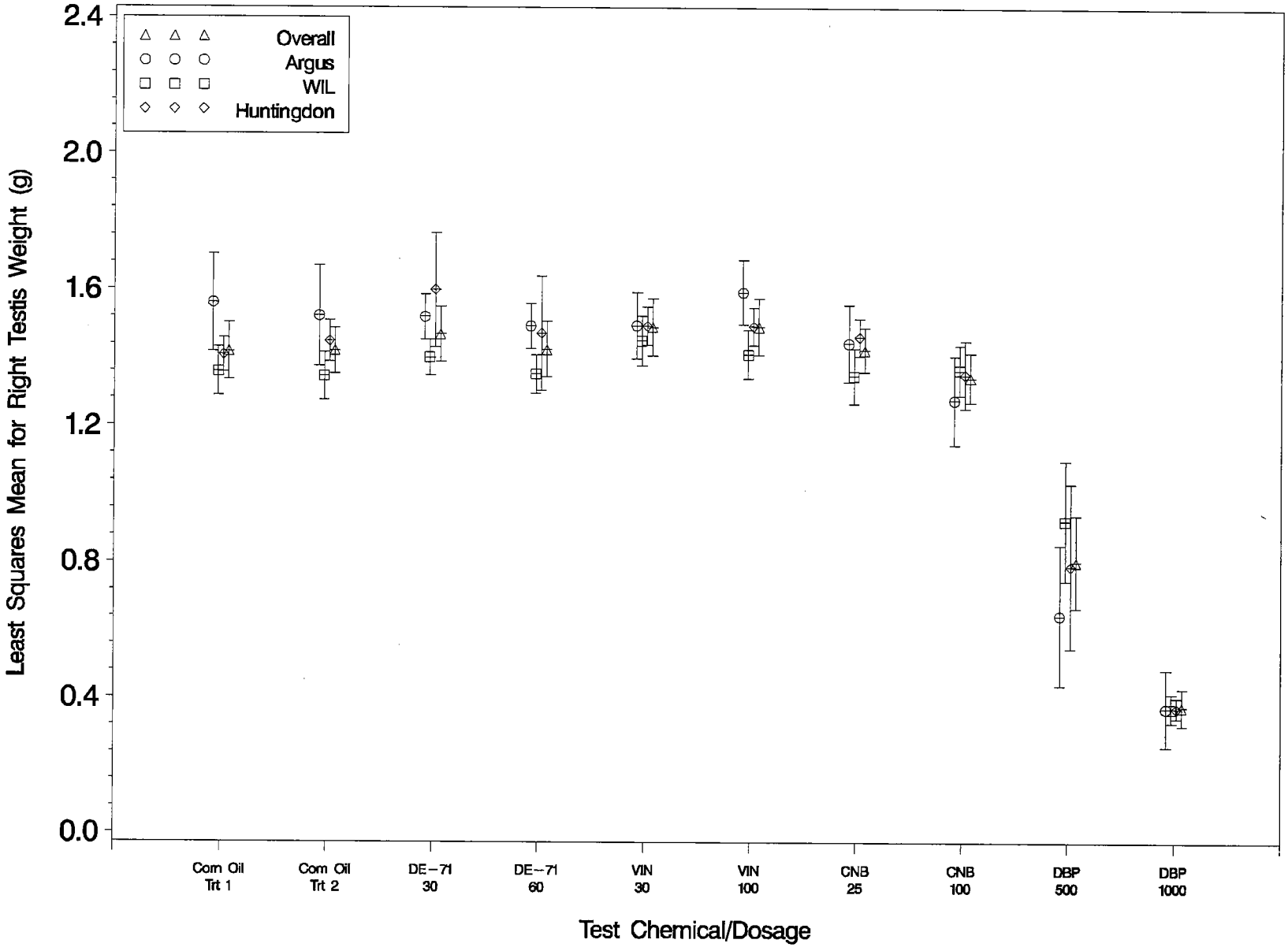

Figure 49. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Right Testis Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

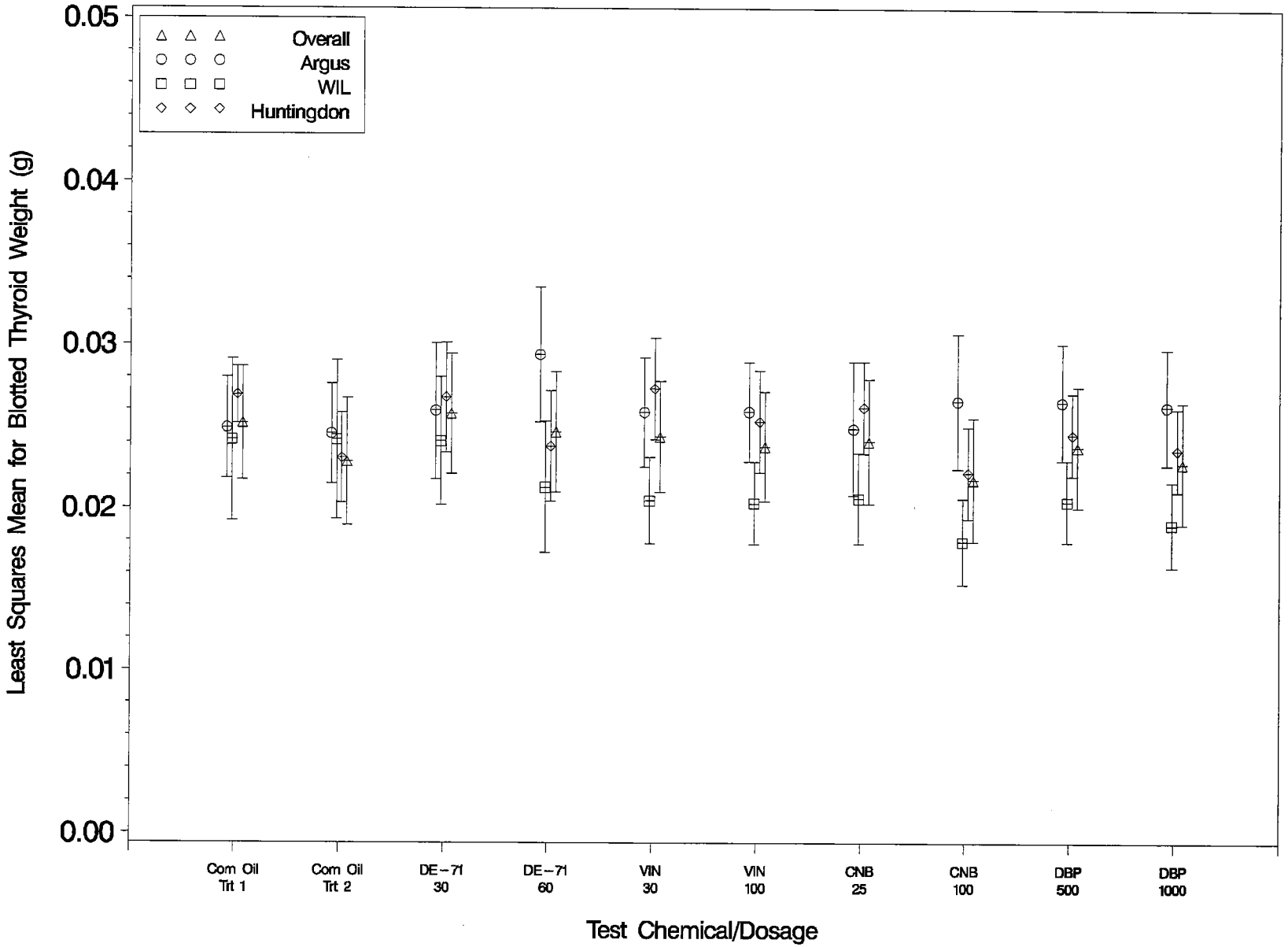

Figure 50. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Blotted Thyroid Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**

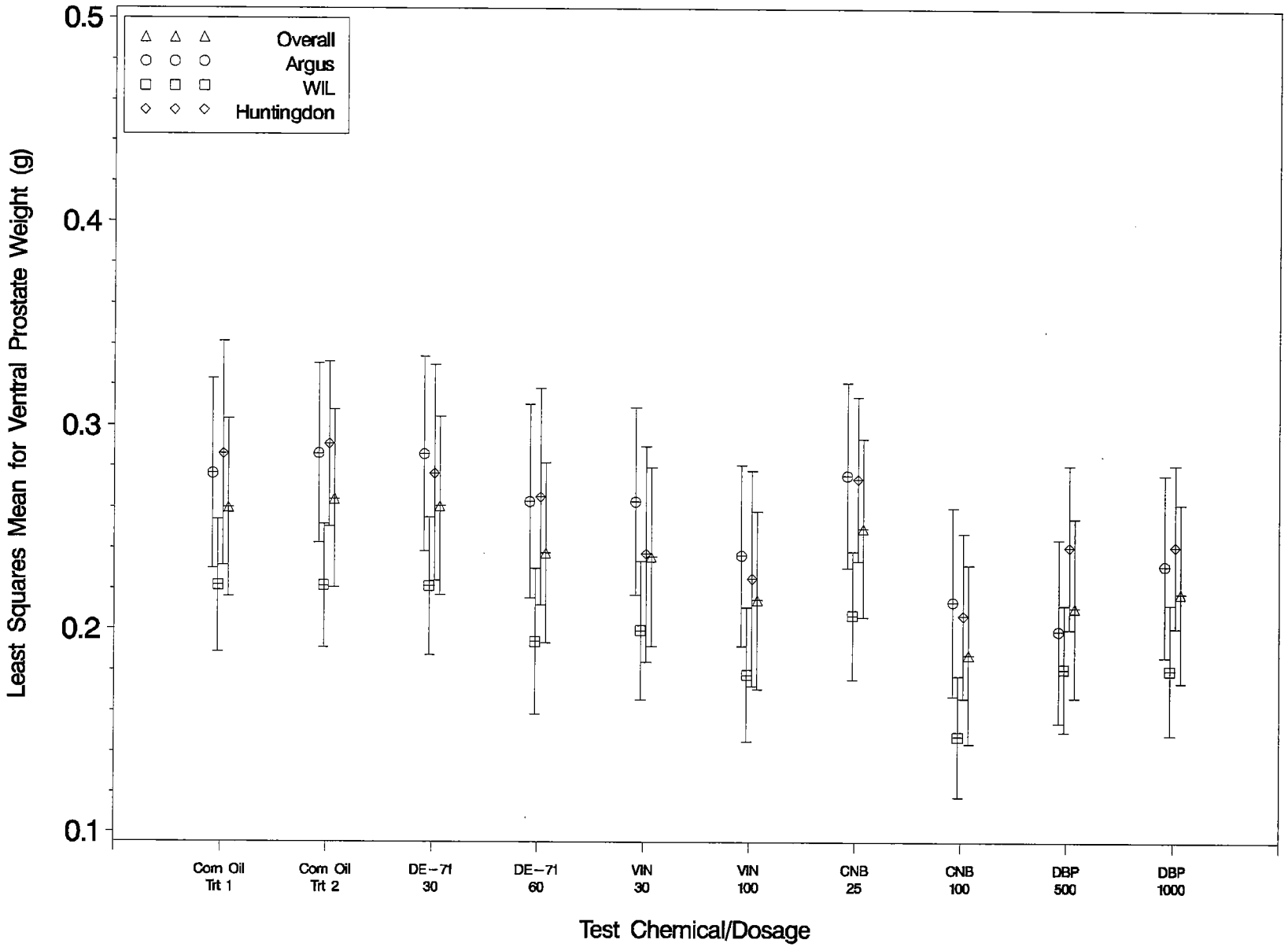

Figure 51. **Adjusted Least Squares Means (with ± 2 Standard Error Bars) for Ventral Prostate Weight (g) for Each Dose Group across Laboratories and for Each Laboratory. (VIN, CNB and DBP Denote Vinclozolin, 2-Chloronitrobenzene and Dibutyl Phthalate Respectively.)**