

APPENDIX A

CANDIDATE TEST SUBSTANCES

Candidate test substances for avian reproductive tests have not been separately identified by the OECD Expert Group on Assessment of Endocrine Disrupting Effects in Birds for the Endocrine Disruptor Testing and Assessment Task Force, but rather the group proposes using the list of candidate chemicals developed by the Validation Management Group on Mammalian Test Methods of Endocrine Disruption (VMG-Mammal). The VMG-Eco recommended being consistent with this list. Compounds on these lists (Appendix B)¹ were reviewed by Battelle with input from the expert group. The draft OECD list of candidate test substances for test guideline development with fish was also reviewed (Appendix C). A range of pesticides, toxic effects, and modes of action are represented.

The EPA Office of Pesticide Programs' Environmental Fate and Effects Division (EFED) was also contacted for appropriate data from its pesticide toxicity database. A draft list of candidate substances developed previously by Dan Balluff (EFED) for testing in avian reproduction validation studies was provided (Appendix D). The criteria for selecting the listed chemicals from the EFED database were statistically significant reproductive effects in bobwhite quail, with preference to chemicals that showed reproduction toxicity at relatively low levels. Listed compounds, therefore, are reproductive toxicants, but not all of them are endocrine disruptors.

A similar list ("Substances Classified in the EU as Toxic to Reproduction") was obtained from the OECD Series on Testing and Assessment; document Number 15, Detailed Review Document on Classification Systems for Reproductive Toxicity in OECD member countries (Appendix E). Also, the scientific literature on avian and mammalian endocrine physiology and endocrine disruptors was searched for additional candidate substances. Compounds with toxicological importance for reproduction and development compiled from recent reviews (Soto et al., 1995; GEA, 1996; U.S. EPA, 1997) and other papers are listed in Appendix F.

¹ Appendix B, and the other appendices cited in this document, can be found in the separate "Revised Study Plan on Avian Dosing Study," EPA Contract No. 68-W-01-023, WA 2-17, Task 3, February 4, 2003.

Referenced Documents

Appendix B. Endocrine Disruption Candidate Test Substances for the Rat Uterotrophic Assay and the Rat Subchronic Study

Appendix C. Draft OECD List of Candidate Test Substances for Test Guideline Development with Fish

Appendix D. Draft Proposed List for Avian 1-Generation Reproduction Testing with Japanese Quail

Appendix E. Substances Classified in the EU as Toxic to Reproduction

Appendix F. Chemicals with Reported Reproductive and Developmental Effects

GEA (German Environmental Agency). 1996. Endocrinically active chemicals in the environment. Expert Round. Umweltbundesamt; 1995 Mar 9-10; Berlin, Germany: Nr 96/03.

Soto, A. M., C. Sonnenschein, K. L. Chung, M. F. Fernandez, N. Olea, and F. O. Serrano. 1995. The E-Screen assay as a tool to identify estrogens: an update on estrogenic environmental pollutants. *Environ. Health Perspect.* 103(7):113-122.

U.S.EPA (U.S. Environmental Protection Agency). 1997. Special Report on Environmental Endocrine Disruption: An Effects Assessment and Analysis. Washington DC: USEPA Risk Assessment Form. 111 p. EPA/630/R-96/012.