

# **WEED MANAGEMENT PROGRAMS FOR FIELD- GROWN NURSERY STOCK**

**JOHN AHRENS  
EMERITUS PLANT SCIENTIST  
CONNECTICUT AGRICULTURAL  
EXPERIMENT STATION  
WINDSOR**



# **SITE PREPARATION**

- **APPLY ROUNDUP 2 TO 3 TIMES THE YEAR BEFORE PLANTING –TREAT EXISTING WEED GROWTH; DO NOT TILL BETWEEN TREATMENTS; RETREAT AFTER REGROWTH OCCURS . NOT EFFECTIVE ON NUTSEGE.**
- **THE TIME TO CONTROL MOST PERENNIAL WEEDS IS BEFORE PLANTING.**
- **FUMIGATION MAY BE NECESSARY IN HIGH VALUE CROPS,SUCH AS IN BEDS TO CONTROL YELLOW NUTSEGE AND MUGORT.**

# **PREEMERGENCE “GRASS” HERBICIDES**

- **SURFLAN - ORYZALIN**
- **BARRICADE - PRODIAMINE**
- **PENDULUM / HURDLE - PENDIMETHALIN**
- **TRILIN / TREFLAN - TRIFLURALIN**
- **DEVRINOL - NAPROPAMIDE**
- **PENNANT MAGNUM - S- METOLACHLOR**
- **PREDICT - NORFLURAZON**

# **PREEMERGENCE BROADLEAF HERBICIDES**

- **PRINCEP & OTHERS –SIMAZINE- FOR MANY WOODY ORNAMENTALS.**
- **GOAL 2XL-OXYFLUORFEN –FOR CONIFERS AND SHADE TREES.**
- **GALLERY 75 DF- ISOXABEN –FOR MANY ORNAMENTALS ,INCLUDING SOME PERENNIALS.**
- **RONSTAR 2G-OXADIAZON-FOR WOODY ORNAMENTALS.**

# **COMBINING 'PRE' BROADLEAF &'PRE' GRASS HERBICIDES CAN GIVE BROAD-SPECTRUM CONTROL**

- **PRINCEP PLUS SURFLAN, PENDULUM BARRICADE OR PENNANT.**
- **GALLERY PLUS SURFLAN, PENDULUM OR BARRICADE.**
- **GOAL PLUS PENNANT**
- **GRANULAR COMBINATIONS-RONSTAR PLUS DEVRINOL ,PRE-PAIR,SNAPSHOT TG,**
- **OH-2, ETC.**

# **BROAD SPECTRUM PREEMERGENCE HERBICIDES**

- **CASORON 4G- DICHLOBENIL-FOR ANNUAL AND PERENNIAL WEEDS IN WOODY ORNAMENTALS.**
- **SUREGUARD 51DG AND BROADSTAR .25 G- FLUMIOXAZXIN -FOR ANNUAL GRASS AND BROADLEAF WEEDS, PRIMARILY IN WOODY ORNAMENTALS.**





**Control escapes before they spread**





# SureGuard Sprays at 8, 16 and 32 oz/A on Shrub Liners on April 2

- Caused early necrosis and suppression on *Viburnum nanum* 'Farreri' when applied during bud swell. Recovery was complete in 2 months.
- Caused no early injury to dwarf winged euonymus (EAC) when applied when buds were tight (dormant). However, plant vigor was reduced 20% by mid-summer, only at 32oz product/A.



**Fat buds of viburnum prone to SureGuard injury**

Untreated





**SureGuard injury**



**Timing study**



**SureGuard Injury to hemlock at bud break**

## SureGuard injury to hemlock in June



A top-down photograph of a soil surface with several small green seedlings. The soil is dark brown and contains some dry plant matter. The seedlings are scattered across the frame, with some showing distinct leaf shapes characteristic of crabgrass and C. ragweed.

**Crabgrass & C. ragweed seedlings**



**2 weeks after SureGuard**

# Results of Timing Study

- SureGuard gave excellent preemergence and early postemergence control of crabgrass and ragweed.
- SureGuard caused no visual injury to the arborvitae, junipers or Taxus at any date.
- Eastern hemlock was injured only slightly at budbreak but was severely injured during active growth in June or July. No injury occurred in October.

# Observations

**Flumioxazin (SureGuard) did not control yellow nutsedge or quackgrass, but did control seedling poplars.**

The background of the slide features several concentric, light blue circular ripples that resemble water droplets hitting a surface, scattered across the lower half of the frame.

# SureGuard Summary

- **Susceptible woody ornamentals include actively growing deciduous plants and some actively growing conifers such as firs and hemlock ; also Colorado spruce and poplars from seed**
- **Tolerant woody ornamentals include dormant deciduous and conifers and some actively growing conifers such as juniper , arborvitae and Taxus.**
- **When we consider its efficacy in controlling many important weeds it is safe to say that SureGuard will be an extremely useful tool for weed management in woody plants.**

# POSTEMERGENCE HERBICIDES

- **BROAD SPECTRUM-NON-SELECTIVE -**  
ROUNDUP-GLYPHOSATE  
FINALE -GLUFOSINATE
- **CERTAIN BROADLEAF-**  
LONTREL-CLOPYRALID
- **GRASSES-FUSILADE-FLUAZIFOP-P-BUTYL**  
VANTAGE-SETHOXYDIM  
ENVOY -CLETHODIM

# **SHIELDED SPRAYS OF ROUNDUP WILL BECOME MORE COMMON:**

- a) TO REDUCE COSTS.**
- b) TO REDUCE RISKS OF LEACHING.**
- c) TO IMPROVE CONTROL OF  
PERENNIAL WEEDS.**

# **MANKAR ULV SPRAYERS**

- **APPLY UNDILUTED ROUNDUP  
AT ABOUT 1 QUART/A.**
- **A SHIELDED CONTROLLED  
DROPLET APPLICATOR (CDA).**

# Shielded sprayer







# **SUCCESSFUL WEED MANAGEMENT REQUIRES**

- **IDENTIFYING THE PROBLEM WEEDS.**
- **SELECTING HERBICIDES FOR THE WEEDS  
AND THE CROPS.**
- **TIMING-ACCORDING TO HERBICIDE  
ACTION.**
- **RAINFALL OR IRRIGATION TO ACTIVATE  
PREEMERGENCE HERBICIDES.**

**THE MOST SUCCESSFUL  
GROWERS  
HAVE 'HERBICIDE' / 'PESTICIDE'  
OR 'PLANT HEALTH'  
MANAGERS**

**WEEDS SHOULD NOT TAKE A BACK  
SEAT TO DIGGING AND SHIPPING!**

# VALUABLE REFERENCES

## ➤ WEED IDENTIFICATION

- WEEDS OF THE NORTHEAST-  
CORNELL UNIV. PRESS.

## ➤ HERBICIDE PROPERTIES & USES

- WEED CONTROL SUGGESTIONS FOR  
CHRISTMAS TREES, WOODY  
ORNAMENTALS AND FLOWERS-  
N.C. STATE UNIV. RALEIGH.