

***METHODS AND MATERIALS
FOR MANAGING WEEDS IN
CHRISTMAS TREES***

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VALUABLE REFERENCES

- WEED IDENTIFICATION

 - *WEEDS OF THE NORTHEAST*
CORNELL UNIV. PRESS.

- HERBICIDE PROPERTIES & USES

 - 2006 NEW ENGLAND GUIDE TO
CHEMICAL WEED & BRUSH CONTROL IN
CHRISTMAS TREES-*

 - COOPERATIVE EXTENSION OR ON THE
WEB

- SOURCE OF LABELS

 - www.CDMS.net

WHY CONTROL WEEDS?

- TO SHORTEN ROTATION
- TO IMPROVE QUALITY
- TO INCREASE PROFITS

A photograph of a pine nursery field. The foreground and middle ground are filled with rows of young pine trees planted in a field of grass and some dry leaves. In the background, a wooden fence runs across the field, and behind it, there is a dense line of taller, more mature pine trees. Further back, some trees with autumn-colored foliage (orange and red) are visible against a dark background. The overall scene is a well-maintained nursery area.

SPOT SPRAYS

**MOWING
ONLY**

Simazine

Untreated





CHRISTMAS TREE HERBICIDES

PREEMERGENCE

- **SIMAZINE – PRINCEP, SIM-TROL**
- **ATRAZINE – AATREX**
- **OXYFLUORFEN – GOAL, GALIGAN**
- **FLUMIOXAZIN – SUREGUARD**
- **ORYZALIN –SURFLAN**
- **PENDIMETHALIN – PENDULUM**
- **S-METOLACHLOR – PENNANT MAGNUM**
- **NAPROPAMIDE - DEVRINOL**

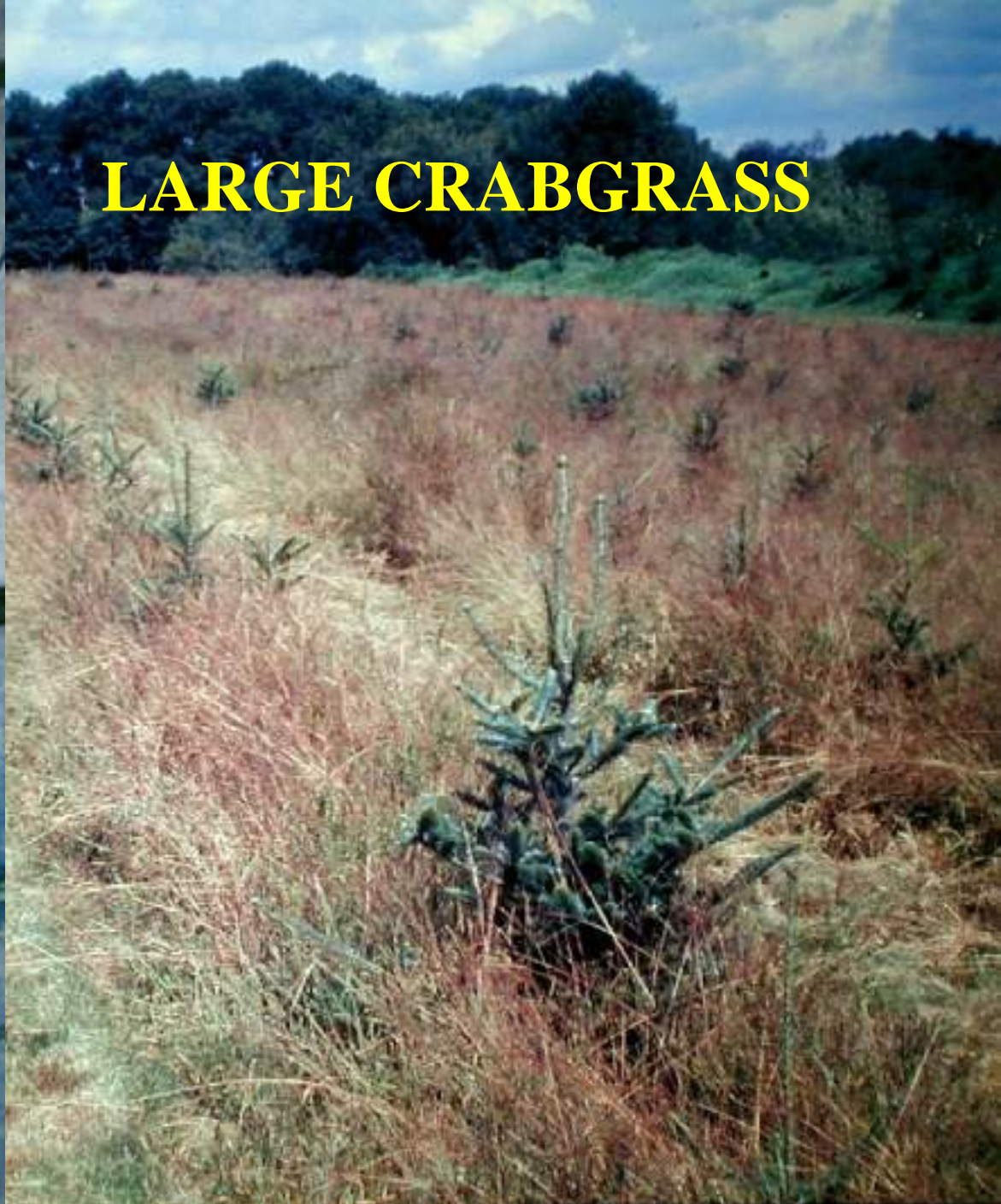
CHRISTMAS TREE HERBICIDES

POSTEMERGENCE

- **GLYPHOSATE – ROUNDUP, MANY OTHERS**
- **TRICLOPYR – GARLON 3A**
- **ASULAM - ASULOX**
- **PRONAMIDE - KERB**
- **CLETHODIM - ENVOY**
- **FLUAZIFOP- BUTYL - FUSILADE**
- **SETHOXYDIM - VANTAGE**
- **CLOPYRALID - STINGER**

WEED LIFE CYCLES

- ANNUALS –COMPLETE THEIR LIFE CYCLE IN ONE YEAR. EXAMPLES- ANNUAL GRASSES -CRABGRASS, FOXTAILS,BARNYARD GRASS –ANNUAL BROADLEAVES-PIGWEEED, RAGWEED ETC.
- BIENNIALS.-COMPLETE LIFE CYCLE IN 2 YEARS. EXAMPLES-WILD CARROOT, MULLEIN, BURDOCK.
- PERENNIALS –LIVE MANY YEARS BY OVERWINTERING ROOTSTOCKS,RHIZOMES ,TUBERS. EXAMPLLES-QUACKGRASS , TIMOTHY ,BINDWEED, GOLDENROD , SMOOTH BEDSTAW ETC.



LARGE CRABGRASS



YELLOW GIANT GREEN
FOXTAILS



yellow nutsedge

● 3



QUACKGRASS



**RHIZOMATOUS GRASSES SPREAD INTO
TREATED BANDS IN SUMMER .**



•POSTEMERGENCE GRASS **HERBICIDES**

- CONTROL ONLY GRASSES, NOT SEDGES OR BROADLEAVES.**
- SAFE OVER CONIFERS AND MOST DECIDUOUS PLANTS AND BROADLEAF PLANTS.**

1-ENVOY- CLETHODIM

2-FUSILADE –FLUAZIFOP BUTYL

3- VANTAGE- SETHOXIDIM



Horseweed



A STRANGE NEW WEED!

SMOOTH BEDSTRAW



CONTROL OF BEDSTRAW

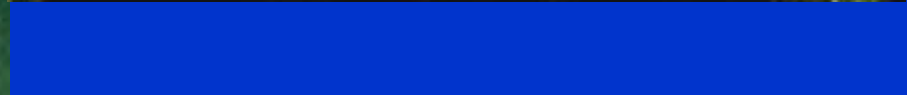
- GARLON 3A - 21 FL. OZ / A or
- ROUNDUP “ORIGINAL” - 32-43 FL. OZ / A
- GARLON SAFE IN GRASSY ROW MIDDLES
- FALL OR SPRING DORMANT
- DRY FOLIAGE
- SUREGUARD 12 OZ + ROUNDUP ‘O’ 11/3 QTS/A IN SPRING BEFORE BUD BREAK.



GOLDENROD



Hedge bindweed



SITE PREPARATION

- **CONTROL PERENNIAL WEEDS AND BRUSH THE SEASON BEFORE PLANTING**
- **BRUSH- ROUNDUP OR GARLON.**
- **PERENNIAL WEEDS AND GRASSES- ROUNDUP, REPEATED IF NECESSARY ,ESPECIALLY BEFORE PLANTING SEEDBEDS OR TRANSPLANT BEDS.**



Fall Roundup . . .

+

Spring Princep

A photograph of a field filled with wildflowers and weeds. The foreground is dominated by green plants with white and yellow flowers. The middle ground shows a mix of green and brownish plants. In the background, there is a dense line of dark green trees under a clear sky. The text "ROUNDUP IN FALL , NO HERBICIDE IN SPRING" is overlaid in the lower half of the image.

ROUNDUP IN FALL , NO HERBICIDE IN SPRING

A BASIC WEED MANAGEMENT PROGRAM

- **ROUNDUP &/GARLON BEFORE PLANTING.**
- **PREEMERGENCE HERBICIDE[S] AFTER PLANTING.**
- **ROUNDUP IN FALL FOR BRUSH OR PERENNIALS.**
- **STINGER GOAL OR POST- GRASS HERBICIDES IN SUMMER,IF NEEDED.**

CONTROLLING EMERGED WEEDS IN THE SPRING

- PRINCEP + AATREX
- PRINCEP + GOAL
- PRINCEP + ROUNDUP “ORIGINAL”
- SUREGUARD + ROUNDUP ‘ORIGINAL’
1 PINT TO 1 QUART/A

SUREGUARD

- **BROAD SPECTRUM PREEMERGENCE**
- **FOR DORMANT CONIFERS ONLY**
- **FOR TRANSPLANT BEDS, FIELD, NOT SEEDBEDS**
- **ADD ROUNDUP 'O' FOR EMERGED WEEDS AND SMOOTH BEDSTRAW.**
- **POOR CONTROL OF MOST PERENNIALS**

PLANT FAMILIES CONTROLLED BY STINGER

- **PEA- ALFALFA ,CLOVERS ,VETCHES.**
- **ASTER – THISTLES, HORSEWEED,
GOLDENROD,ASTERS.**
- **SMARTWEED- DOCKS, SMARTWEEDS,RED
SORREL.**
- **MANY BROADLEAVES AND ALL GRASSES ARE
NOT CONTROLLED!**

CONTROL OF BIRD VETCH WITH STINGER



Glyphosate Formulations

- **Over 44 different products**
- **Not all are labeled for Christmas trees**

- **Roundup “Original” – our standard**
- **Equivalent formulations include**
 - Glyphos**
 - Credit**
 - Glyphosate 4**

- **Formulations are not important if sprays are fully directed**

**Roundup injury from adding
surfactant or over-applying**



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-
QUEBEC MODEL**

A photograph of a Christmas tree nursery. The image shows a central path of dead, brown vegetation, likely a result of herbicide application, flanked by rows of healthy, green evergreen trees. The trees are densely packed and appear to be in a nursery setting. The sky is overcast and grey.

**ROUNDUP +
2,4-D IN
JUNE**



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**SHIELDED SPRAYING
ONTARIO STYLE**

HERBICIDE RESISTANT WEEDS

- CAUSED BY USING THE SAME CHEMISTRY YEAR AFTER YEAR.
- EX.- TRIAZINE RESISTANT PIGWEED, LAMBSQUARTERS, HORSEWEED ETC.
- EX.-ROUNDUP RESISTANT HORSEWEED IN MID-ATLANTIC STATES , RAGWEED IN KY .
- USE COMBINATIONS ,ROTATE HERBICIDES WITH DIFFERENT MODES OF ACTION.



HOARY ALYSSUM

SUPPRESSION INSTEAD OF BARE SOIL?

SUPPRESSION OK -

- **FOR STEEP SLOPES**
- **ROCKY SITES**
- **SHORT-TERM CONTROL**
- **THREE TO FOUR APPLICATIONS / YR.
OFTEN NEEDED**

Weed suppression with Roundup – CT

**Knapsack sprayer, TK-2 Nozzle
6 ft swath, 9 gal/A**

1 – Late April – 1 oz/gal, 9 oz/A

2 – Late June – ½ oz/gal, 4.5 oz/A

3 – Late July – 1 to 2 oz/gal, 9 – 18 oz/A

Weed Suppression – Michigan

2 Knapsack applications

May 15, Before flush, and June 10

Roundup 4 oz +

Goal 16 oz. +

Stinger 3 oz/A



**"TOLERATES ROUNDUP
1 PT/A PER APPLICATION"**







Base trimming reduces need for SHIELDING

Off-center nozzles set too low

