

LET'S TAKE A LOOK AT GREENHOUSE BENCHES

Karl E. Robinson

Regional Horticulturist, Northern Connecticut

Cut flower crops that are growing well and look green and healthy are probably in good benches. But mums--or snapdragons, etc.--that have stunted growth, yellowing foliage, or marginal leaf browning may be in questionable benches.

The problems mentioned above may be symptoms of high levels of soluble salts or poor drainage. When benches don't permit good drainage, fertilizers and other salts accumulate in the soil and build up to toxic levels.

The common types of benches are wood, corrugated asbestos, and concrete. Any of these types can give good service if drainage systems are provided and kept unclogged.

Wooden benches are most widely used because of low initial cost. However, growers should realize that conditions in the greenhouse will make maintenance or replacement of wooden benches necessary. Most wooden benches are constructed of redwood, 1" thick bottom boards, 1"x6" side boards, two 1"x4" cross-pieces at each set of 2"x4" legs. The legs should be spaced on 4' centers. The benches should be up to 4' wide and 18" high for convenience in handling cut flower crops in contrast to the 30" height for pot plants. The

bottom boards of the benches should be spaced 1" apart for drainage. Copper naphthenate is the only preservative recommended for extending the life of wooden benches.

Corrugated asbestos benches are a wise choice for new construction or if wooden benches must be replaced. An asbestos bench should be constructed with 3/8" corrugated asbestos bottom. The sides should be flat asbestos or redwood 6" to 8" high. The sides should be raised 1" above the valleys of the corrugated bottom. This construction provides for side drainage. Corrugated bottom benches which do not drain well should have 1" holes drilled in the valleys. These should be spaced 15" apart in a staggered pattern so as not to weaken the asbestos and cause cracking.

Concrete benches, either poured or built with slabs, are expensive to install. However, with periodic maintenance to repair cracks, these benches are a permanent investment.

For overall service, asbestos benches are practical in terms of cost and durability. In terms of crop growth and care, drainage is the most important consideration. Once good benches with adequate drainage are constructed, a grower must never skimp on water. Liberal watering to obtain 10 to 15 percent leaching will keep soluble salts at safe levels.

If you are building or rebuilding benches, consider peninsular benching. (See Connecticut Florists Newsletter, July 1965.)

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POINSETTIA PEST CONTROL

Jay S. Koths
Extension Floriculturist

Nine insecticides are listed for control of the five most common insect pests encountered on poinsettias. After color shows, use only dithio or Vapona and be especially certain that the plants are dry. Do not apply insecticides when the temperature is over 80°F. When using an unfamiliar material, try it on a small portion of your crop first. Be certain to follow label directions.

WARNING!

MOST PESTICIDES ARE POISONOUS. READ AND FOLLOW ALL DIRECTIONS AND SAFETY PRECAUTIONS ON LABELS. Handle carefully and store in original containers with complete labels, out of reach of children, pets and livestock. Dispose of "empty" containers right away, in a safe manner and place. Do not contaminate forage crops, streams and ponds.

<u>Material</u>	<u>Formulation</u>	<u>Dosage</u>
Dithio	Smoke	Follow label.
	Aerosol	1 lb. 5%/10,000 cu. ft.
Vapona (DDVP)	Vapor (4-S)	1 oz. /10,000 cu. ft.
	Smoke	Follow label.
Parathion	15% WP	1.5 lbs. /100 gal.
	Aerosol	1 lb. 10%/10,000 cu. ft.
Diazinon	2.67 EC	1 pint/100 gal.
	50% WP	1 lb. /100 gal.
Guthion	22.2% EC	2 pints/100 gal.
Pentac	50% WP	1/2 lb. /100 gal.
Dimethoate (Cygon)	2.67 EC	1 pint/100 gal.
Lindane	25% WP	1 oz. /30 gal.

Restrictions:

1. Do NOT USE after color shows.
2. Alternate materials in resistance are indicated.

<u>Controls</u>	<u>Restric- tions</u>	<u>Number of Applications</u>	<u>Days Apart</u>
Mealy bug	-----	2-3	14
White fly	-----	6	4
Soft brown scale	-----	4	3
Spider mite	2	4	4
Fungus gnat, adults	-----	2	7-10
Mealy bug	-----	Various	7-14
White fly	-----	6	4
Spider mite	2	4	4
Mealy bug	1	Various	7-14
White fly	1	3	8
Spider mite	1, 2	4	4
Mealy bug	1	3	10
White fly	1	2	7-10
Soft brown scale	1	2	7-10
Fungus gnat	1, 3, 4	1	----
White fly	1	3	8
Fungus gnat	3	1	----
Spider mite	1	2-3	14
Fungus gnat	3	1	----
Fungus gnat	3	1	----

3. Drench soil to control fungus gnat larvae only once.

4. Spray under benches, on walls and tops of plants for adults.

Brief Summary of Poinsettia Varietal Characteristics

	Weeks to Flower	<u>Growing Temperatures</u>			Branch- ing Habit	Lighting Period	<u>Response to Growth Regulators</u>		Fert. Level	Root Rot
		Before Flower- ing	Bract Forma- tion	Finish			CCC	B9		
Annette Hegg White, red, dark and bicolor	8-9	60-62°	60-65°	60°	Free	None or 9/5-10/5	Consid- erable	Low	M.High	Tolerant
Barbara Ecke Supreme ⁽³⁾	8-9	60-62	62-64	60	Sparce	9/20-10/5	High	Low	Mod.	Susc.
Ecke White	8-9	60-62	62-64	60	Sparce	None	M.Low	---	Mod.	Tolerant
New Ecke White	8-9	60-62	62-64	60	Sparce	None	M.Low	Low	Mod.	---
Eckespoint C1 ⁽¹⁾ Red, pink, bicolor	9-10	60-62	65-68	62	Good	None	Low	M.Low	High K High	M.Susc.
Eckespoint C35	7-8	62	62	62	---	9/1-10/8	Low	M.Low	---	---
Eckespoint C64	9	---	---	---	---	9/1-10/8	Variable	High	---	Tolerant
Eckespoint D7 White ⁽¹⁾	9	62-64	62-64	60	Good	---	High	Mod.	---	---
Elizabeth Ecke	9-10	62	62-64	60	---	None	High	---	---	Susc.
Ind. Red ⁽³⁾	8-9	60	60-62	60	Sparce	---	High	High	Mod.	---
Paul Mikkelsen, Mikkel White, Pink and Dawn ^{(2) (3)}	9	58-68	65-68	58	Good	9/5-10/5	High	Mod.	M.High	Tolerant
Mikkel Rochford	8-9	65-68	68	58	Free	---	High	---	M.High	---
Mikkel Scandia	8-9	---	68	58	Free	---	---	---	High M.High	---
Mikkel Swiss	---	60-68	65-68	58	Free	---	High	Low	M.High	---
Red Baron	8-9	60	62-68	60	Sparce	---	Mod.	Mod.	---	---
Red Velvet ⁽³⁾	8-9	62	62	62	Sparce	---	Mod.	Mod.	---	---
Rudolph	9-10	60	62-68	60	Good	None	M.High	Mod.	---	---
Stoplight ⁽²⁾	10	65	65	65	Sparce	None	Low	Mod.	High	---
White Cloud	10	---	65-68	---	Good	None	Low	Low	---	---

The data in this table is compiled from many publications. In cases of conflicting data, the editors have selected that deemed most appropriate for Connecticut. (1) Excessive drying may cause leaf drop. (2) Do not perform well under limited light. (3) Flowering may be delayed if temperature is over 68° at night.

WEED CONTROL FOR GLADIOLI

*Richard J. Shaw
Assistant Professor of Plant and Soil Science
University of Rhode Island*

Gladioli are showy flowers and are an excellent contribution to the cut flower market. Outdoor production in New England supplies the summer market in this area with gladioli from early July through September.

Weed control is becoming more of a problem each year. Weeds are unsightly in the field and if allowed to mature, they serve as a source of seeds for more weeds. Weeds compete with gladioli for water, nutrients and light; and consequently, reduce the yield and quality of the crop. They also serve as an excellent habitat for insects and disease organisms.

Several chemicals are safe on gladioli for weed control. The area to be treated should be weed-free before applying the chemical. Adequate soil moisture is necessary at the time or immediately following treatment. The chemicals are effective only against germinating seeds.

TRIFLURALIN (TREFLAN 4E) can be applied at the rate of 1 to 2 pints in enough water to cover an acre and immediately incorporated into the soil by rototilling to a depth of 2-3 inches. Trifluralin can be used as a preplanting treatment; however, it may be safer and more effective when applied immediately after planting. It will control most annual weeds except ragweed and Galinosoga.

DCPA (DACTHAL WP) is effective for seedling weed control if applied before the weeds emerge either before or after the gladioli emerge. Use at the rate of 15 pounds active ingredient per acre (20 pounds of 75% WP or 30 pounds of 50% WP per acre).

DINOSEB (DINITRO, PREMERGE OR SINOX) can be used as a preemergence treatment if applied as a spray of 4 to 8 pounds active ingredient per 100 gallons of water per acre when the weeds have emerged but before the gladioli plants appear. Do not allow the spray to drift to other plants. After the gladioli have emerged, use the 10% granular dinitro at the rate of 60 to 80 pounds per acre.

DIURON (KARMEX) can be used for corms of size 4 or larger (3/4" and up) and should be applied immediately following planting. Apply at the rate of 1.25 pounds of 80 WP diuron per acre. A lay-by application of 1.25 pounds of 80 WP diuron can be applied as a second treatment when the spikes first appear.

ORNAMENTAL WEEDER (Ammonium salt of amiben-4.3%) applied at the rate of 100 pounds per acre is effective when applied immediately after planting the corms at a depth of 4-6 inches. A lay-by application of 100 pounds per acre can be applied as a second treatment 50-75 days after planting. If only one application is used, apply 150 pounds of Ornamental Weeder per acre immediately after planting or as a lay-by application.

All of these chemicals are effective against most annual weeds and are safe for gladioli if they are applied at the proper time and at the recommended rates.

Summary of Recommendations

<u>Material</u>	<u>Formulation</u>	<u>Active Ingredient</u>		<u>Commercial Product</u>	<u>Commercial Product</u> Per 1000 Sq. Ft.
		<u>Per Acre</u>	<u>Per Acre</u>		
Trifluralin	4 E	-----	1-2 pints		2 tsp.
DCPA	75 WP	15 lbs.	20 lbs.		0.5 lbs.
	50 WP	15 lbs.	30 lbs.		0.75 lbs.
Dinoseb	3 E	4-8 lbs.	1 1/3-2 2/3 gal.		5-7 tbsp.
	10% G	6-8 lbs.	60-80 lbs.		1.5-2 lbs.
Diuron	80 W	1.2 lbs.	1.5 lbs.		0.04 lbs.
Ornamental Weeder	4.3% G	4.3 lbs.	100 lbs.		2.5 lbs.

ARE THERE DIFFERENCES IN 'ACE' AND 'NELLY WHITE'?

Jay S. Koths
Extension Floriculturist

Does someone in this country have data on longevity and size of lily flowers? We would like to obtain your figures. Here is the reason.

On Easter Sunday, April 11, 1971, two double stemmed lilies were removed to home conditions (68-70°F). The 'Ace' had three and four (total, seven) buds, the 'Nelly White' had five and six (eleven) buds. Measurements of flower size and life were taken. The results were a surprise.

To determine flower size, measurements across the three opposing pairs of lobes were measured and an average taken on 4/20/71 when the first five flowers were open on each cultivar. At the same time, the length of the flower was measured. At this date, 60% of the open life of these flowers had passed.

The accompanying table shows that the 'Ace' flowers lasted 1.5 days longer and were 15 mm (3/5 inch) wider and 9 mm (1/3 inch) longer than 'Nelly White.' The greater diameter of the 'Ace' flower was quite obvious when the plants were side by side. Since this is not obvious when observing large crops in greenhouses, it may have been these particular plants.

The longer life was anticipated from growers' comments. The larger size may have been due to smaller flower number on the 'Ace' plants, but this was not anticipated.

Are 'Nelly White' flowers larger than 'Ace' as reported by producers? Do they last as long? Please let us hear about your data!

Comparison of 'Nelly White' and 'Ace' Blossoms

	<u>Flower Number</u>	<u>Days of Life</u>	<u>Flower Width</u>	<u>Flower Length</u>
Ace	1	7.5	136 mm	145 mm
	2	7.5	149	145
	3	7.5	142.3	144
	4	7.5	142.7	142
	5	8.0	125.3	145
Average		7.6	139.1	144.2
Nelly White	1	6.5	126 mm	135
	2	6.0	124.7	134
	3	6.5	123.7	134
	4	5.5	124.7	140
	5	6.0	119.3	135
Average		6.1	123.7	135.6
Differences			15.4 mm	8.6 mm