

# ARNOLDIA



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## CASORON—A NEW WEED KILLER TO PROTECT WOODY PLANTS

**A** MOST difficult and costly problem experienced in the Arnold Arboretum is the keeping of weeds and grass—especially quack grass (*Agropyron repens*)—from encroaching around the bases of newly planted trees and shrubs. Such weeds and grasses compete with the roots of the young plants for nutrients and especially for soil moisture. Hoeing or machine cultivation around hundreds of individual trees and shrubs distributed over 265 acres is just not practical. Many weed killers have been tried, some with only fair success and others with injurious effects to the plants. Mulching has, of course, been practiced but sooner or later weeds and especially quack grass, grow in the mulches. Now it looks as if a comparatively new material, Casoron, is the chemical weed killer most suitable for this specific purpose.

Casoron is a dichlobenil (2, 6-dichlorobenzonitrile) pre-emergence selective herbicide. Casoron G-4 (i.e. 4% granular), the form that we use, is granular, and is spread with a small hand duster (Smith Pestmaster Midget hand duster with extension tubes, costing about \$10.50). In all our trials it has been used at about the rate of 1 oz. per 20 square feet. It is a root killer, especially effective for controlling such broad leaved perennial weeds as quack grass, *Artemisia*, Canada thistle, curly dock, fescue, leafy spurge, orchard grass, timothy, wild artichoke, wild aster, yellow rocket and wild carrot. It also controls many (if not most) of the common annual weeds with which we have to deal in the Arnold Arboretum.

### Advantages

1. Casoron G-4 is granular and is easily distributed by a small hand operated duster.
2. It is applied in November or even December just before or just after the ground freezes at a time when outdoor labor is not at a premium for other

things. It should always be applied when temperatures are low. Much of its effectiveness is lost by volatilization if applied in warm weather.

3. Only 1 oz. per 20 sq. ft. is used (under conditions in the Arnold Arboretum), making very small amounts to handle. A 50 lb. bag goes a long way!
4. It can be spread through the branches of a low plant like a juniper for instance, not necessarily just on the perimeter of its branches. The advantages of this are obvious!
5. If applied in the late fall, the effects (under the conditions existent in the Arnold Arboretum) last until September.
6. According to the manufacturer, it has no cumulative effects in the soil, unless it is incorporated into the soil. The best means of application is to the surface of the soil from November 15–February 15.
7. With reasonable care, it is not dangerous to the operator.

#### **Disadvantages**

1. It should not be stored for any length of time nor stored exposed to the air.
2. It should not be applied to dahlias or tuberous rooted plants and has been reported injurious to hydrangeas, firs, and hemlocks, *Ilex crenata*, *I. rotunda* and *I. vomitoria*.
3. It should not come in contact with skin or eyes nor should one breathe the dust.
4. The smallest size package available at this time of writing is a 50 lb. bag.
5. Effectiveness is reduced if the ground is cultivated before application.

One should thoroughly read the label on the outside of the package for other precautionary procedures.

#### **Use in the Arnold Arboretum**

Our experience with Casoron G-4 started in the fall of 1966 when it was applied to a bank of junipers by the greenhouses where there was always serious trouble with quack grass in the planting. The Casoron G-4 was spread (1 oz. to 20 sq. ft.) in December over quack grass and junipers and then two inches of wood chips was applied as a mulch about the plants. This eliminated the quack grass and other weeds in 1967 and we again applied the Casoron G-4 in the fall of '67 and '68. Because the control of weeds and grasses in this area was so good, it was applied experimentally to other collections (especially the entire juniper collection) and many other individual plants, with equally good results.

One collection which has always given trouble is the *Chaenomeles* at the Case

Estates, where some 200 plants are growing. Many methods have been tried to control the weeds and grass coming up in these multi-stemmed thorny plants—none with perfect results. Casoron G-4 applied in the fall of 1967 at the rate of 1 oz. per plant (an area of about 20 square feet about the plant) merely broadcast on top of the ground with dead and living weeds present. This eliminated all weeds and grass in these plants until the first of October 1968. This was so successful, in a trying situation where vicious weeds could not be controlled before without hand pulling, that trial applications have been made in many of the collections in the Arnold Arboretum. It must be noted, however, that our experience and recommendations are only for woody plants, and that our best results have come from late November or December applications!

Casoron G-4 has been applied at the rate of 1 oz. per 20 square ft. about the plants in late November or December when the weather is cold, to species in the following genera without any injury. This resulted in good control of grasses and broad leaved weeds in and about the plants during the following growing period. Control lasted until late summer or even into early fall. It should be emphasized, however, that sometimes only one or two plants of a species were tried, that amounts and time of applications were always as noted above.

Acanthopanax	Iberis	Quercus
Acer	Ilex laevigata	Rhamnus
Alyssum	Ilex verticillata	Ribes
Azalea	Ilex montana	Robinia
Berberis	Indigofera	Rosa
Betula	Juniperus	Salix
Buxus	Kerria	Sambucus
Caragana	Kolkwitzia	Sorbaria
Carpinus	Larix	Spiraea
Ceanothus	Lespedeza	Staphylea
Chaenomeles	Ligustrum	Stephanandra
Chamaecyparis	Lonicera	Symphoricarpos
Cornus	Lycium	Syringa
Cotoneaster	Malus	Taxus
Crataegus	Nemopanthus mucronatus	Thuja
Deutzia	Orixa	Tilia
Elaeagnus	Philadelphus	Tripterygium
Euonymus	Physocarpus	Ulmus
Fagus	Picea	Viburnum
Forsythia	Pinus	Weigela
Gleditsia	Potentilla	Zanthoxylum
Hibiscus syriacus	Prinsepia	
Hypericum	Pseudotsuga	

# 1969 Spring Classes of the Arnold Arboretum

## FIELD CLASS IN ORNAMENTAL PLANTS

DR. DONALD WYMAN

The month of May is the peak of the flowering period for most of the trees and shrubs in the living collections of the Arnold Arboretum. Field classes will permit observation of most plants as they come into flower. Discussions will include an evaluation of many plants with suggestions on their availability, culture, and proper use. There will be ample opportunity for questions. In case of rain, the meetings will be held indoors.

Five classes: Fridays, 10 to 12 A.M.

May 2-30

## "THE SPRING GARDEN" LECTURE SERIES

A series of talks by some members of the staff of the Arnold Arboretum of Harvard University.

Time: 6:00 to 7:30 P.M., Wednesday evenings, April 30 to May 28, 1969.

Place: The Red Schoolhouse, 133 Wellesley Street, Weston, Mass. The group will meet here but the classes will involve visiting various parts of the Case Estates as a kind of outdoor class room, depending upon the topic of the evening.

Please park cars in the area indicated near the barn.

April 30: Spring Pruning Practices

Mr. Robert G. Williams, Superintendent, Arnold Arboretum

May 7: Spring "Bulbs": Their kinds and uses in the spring garden  
George H. Pride, Associate Horticulturist

May 14: Propagation Pointers for Spring  
Alfred J. Fordham, Propagator

May 21: Herbaceous Perennials: A practical approach to establishing an herbaceous perennial garden  
Robert S. Hebb, Assistant Horticulturist

May 28: Some of our Best Ground Covers  
Dr. Donald Wyman, Horticulturist

Each of the above two series of talks requires a registration fee of \$5.00 for Friends of the Arnold Arboretum.\* A \$10.00 fee for others.

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\* Information on how to become a "Friend of the Arnold Arboretum" can be obtained by writing or calling the Arnold Arboretum, The Arborway, Jamaica Plain, Ma. 02130—Tel. 524-1717.