

# HORTICULTURE DIGEST

Department of Horticulture  
University of Hawaii

Cooperative Extension Service  
U.S. Department of Agriculture Cooperating

In this Issue: FLOWER AND NURSERY INFORMATION  
No. 16, August 1973

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### DONALD P. WATSON

Donald P. Watson, professor and specialist in urban horticulture at the University of Hawaii, and one of the nation's renowned horticulturist, is well known locally for his widely read column, formerly in the *Honolulu Advertiser*. He has recently published the first volume of his new book, *Plants Are for People*.

Dr. Watson was born and raised on a fruit farm in Canada and obtained his early horticultural training at Ontario Agriculture College of the University of Toronto. He spent 2 years at the University of London in England and 2 years as a student at the Royal Botanic Gardens at Kew.

After becoming a citizen of the United States in 1937, Dr. Watson taught fruit growing for 5 years at the Long Island Agricultural Institute in New York. He obtained the Ph.D. degree in plant anatomy, floriculture and ornamental horticulture from Cornell University. As a fellow of the U.S. War Department, Dr. Watson conducted research at the Tropical Botanical Garden of Harvard University at Cienfuegos, Cuba. He conducted research in morphological and physiological aspects of horticultural crops and directed graduate student research at Michigan State for 15 years.

Dr. Watson has been active in many local and national horticulture organizations. He holds membership in the American Horticultural Society, American Society for Horticultural Science, and Royal Horticultural Society, and is affiliated with several other horticultural groups.

Dr. Watson served as head of the Division of Ornamental Horticulture at Michigan State University and formerly was chairman of the Department of Horticulture of the University of Hawaii. He has served as chairman of the commission on Education for the American Horticultural Society.

He has published well over 150 scientific and popular papers and is co-author of another book, *Therapy through Horticulture*. Through the Extension Service he has published many circulars and leaflets on home gardening in Hawaii. He has had extensive experience with horticulture programs on television.

Dr. Watson now teaches an introductory course in horticulture and provides an educational program on plant care and landscaping chiefly for urban and suburban home owners.

### SEARCH FOR WHITE MARIGOLD CONTINUES

America's gardeners still have a chance to find that \$10,000 white marigold flower next summer for the W. Atlee Burpee Co. Two women came close to the goal during the past season, but the judges found their entries "just a bit wanting."

To qualify for the award, a flower must measure 2½ inches in diameter and be as white as 'Snowstorm Petunia,' according to the terms of the offer stated in Burpee's catalog. It sounds very simple, but 'Snowstorm' is very white. And the 2½ inches may not seem like much until you get out a ruler.

Now entering its 19th year, the white marigold search has actually come a long way, Burpee hybridists explain. The first seed offered was a large-flowered variety called 'Man-in-the-Moon' back in 1954. America's gardeners and Burpee's

own breeders have helped introduce several marigolds, such as 'Whitey,' 'Hopeful,' 'Cream Puff,' 'Silver Dollar,' and 'Nearest-to-White.' This season's best bet will be 'New Miracle,' from which the 2½-inch pure white may well develop.

If your planting produces a flower that meets the criterion, guard it carefully on the plant until ripe seed is produced. Then, before Dec. 31, 1973, send about 100 seeds to the Burpee office closest to your home. They will be planted in the Burpee trials for 1974, and you just might be that winner. Someone will be very soon.

#### HAWAII COUNTY STAFF CHANGES

##### Norman Bezona

Effective March 19, Norman Bezona joined the CES staff in Hilo as a half-time county agent responsible for programs in vegetable and nursery crops in the Hilo and Puna districts. He also has a half-time faculty appointment at Hilo Community College where he will teach Horticulture.

Norman graduated from the University of Hawaii with a B.S. degree in tropical agriculture. Prior to that he lived in the Pacific Northwest and Okinawa; he was graduated from high school in Portland, Oregon.

He was assistant county agent in Palm Beach County, Florida, until he received his master's degree in 1968, when he returned to Hawaii to work with C. Brewer's citrus, macadamia, diversified crops, and nursery projects as horticulturist.

##### Yoshio Watanabe

Yoshio Watanabe has been granted a year's leave of absence to take a position with the Economic Development Commission of the County of Hawaii.

##### Melvin Wong

Melvin Wong has transferred from the Hilo area to a full-time agent's position in Kona.

##### Tadashi Higaki

Tadashi Higaki, currently on sabbatical leave, studying at Michigan State University, received a fellowship grant of \$2800 from the Farm Foundation. He expects to complete his studies by December.

#### AZALEA GROWTH-RETARDANT TRIAL

For more than 10 years, growth retardants have been known to reduce excessive elongation of shoots and to promote flowerbud initiation on azaleas. Occasionally the effect of the retardant carries over into the forcing schedule by delaying flowering or by reducing the length or number of bypassing shoots.



Hawaii's temperature regime is generally favorable for flowerbud initiation the year round, as azaleas initiate flowers when the night temperatures are 65 F or above. However, the flowering of these buds is erratic because of a lack of cool temperatures (40-45 F for 4 to 6 weeks) required to stimulate uniform flower development and overcome bud dormancy.

Three growth-retarding materials were applied as sprays to field-grown azaleas on August 18, 1971 at the Kula Branch Station on Maui. The object was to try to stimulate more uniform bud set and to observe the effect of the retardants during forcing. Cultivars 'Whitewater' and 'Sky-lark' had been sheared in June and new growth at the time of treatment was about 1½ inches long. These plants were exposed to normal cool nights (45 F) from November until February 3, 1972, when they were lifted, potted, and placed in a greenhouse at 60 F for forcing.

##### Results

Flowering occurred about 6 weeks later, with little difference in time of flowering among the retardant treatments. Measurements of bypassing shoots gave some interesting and difficult-to-explain results (Table 1). The higher retardant concentrations seem to have had a stimulatory effect on the bypassing shoots, and shoots in nearly all retardant treatments were longer than the control shoots.

##### Conclusion

No advantage in more uniform budding or reduced bypassing shoot growth was gained in this trial. The natural environment at the Kula Branch

Station was suitable for bud initiation on azaleas and provided enough natural cool temperatures for controlled uniform forcing.

R. A. Criley, Associate Horticulturist  
P. E. Parvin, Horticulturist

Table 1. Average<sup>1</sup> length (inches) of bypassing shoots on growth-retardant-treated azaleas.

TREATMENT	WHITEWATER	SKYLARK	
Cycocel	4000 ppm	8.0	7.4
	2000 ppm	7.6	6.0
B-nine	2500 ppm	9.0	11.8
	1500 ppm	9.0	7.8
A-rest	1000 ppm	7.0	11.4
	500 ppm	8.5	5.8
Control		6.0	5.7

<sup>1</sup>Fourteen plants of each cultivar constitute a treatment mean.

### NURSERY NOTES

#### Colored Lilies for Easter

If current trends continue, the traditional white Easter lily may be challenged by colored lilies. This year, several thousand colorful lilies in reds, pinks and oranges will find their way to market from growers in California and Oregon. Plant breeders are working on developing plants which grow shorter for use as a pot plant which can be used during the Easter Season as well as throughout the year.

Florist, March 1973

#### Name Change Announced

Allan S. Clarke, Cal-Turf Hawaii, Honolulu, recently announced that the name of the company has been changed to A. S. Clarke Corp. and is no longer affiliated with Cal-Turf, Inc., of California.

#### Nozzles and Discs Wear Out

The holes in spray guns and mist nozzles get larger with use, which increases the discharge and often changes the spray pattern. Brass nozzles may enlarge more than 14 percent in 30 hours of use. Aluminum ones change almost as much, while stainless steel nozzles wear at only half this rate. It is suggested that you check and change your discs and nozzles regularly to avoid waste of pesticides and possible plant injury.

Geiger News, February 1973

#### Oxalis Control in Greenhouse Roses

Nitrofen was found to be a promising herbicide for the control of yellow oxalis (*Oxalis corniculata*) in an established 4-year-old planting of 'Happiness' roses. The herbicide was sprayed over the top of a solid stand of oxalis growing under the plants established in ground beds in the greenhouse in a mix of redwood shavings and sandy loam soil.

Effective oxalis control of both mature plants and germinating seedlings was achieved for 4 months with 9 pounds active ingredient per acre of Nitrofen. At 3 pounds, partial control was achieved for 44 days; however, regrowth and new seedlings had emerged by 4 months. No visible symptoms of damage to mature or new rose canes were observed.

Registration of Nitrofen is pending for use on several ornamental crops and cannot be recommended on greenhouse roses at this time.

California Agriculture, November 1972

#### Terrarium Market Booming

Dr. T. J. Sheehan reported, at the National Tropical Foliage short course in Orlando, Florida, that terrarium sales could hit \$300 million. He cited the recent trend toward apartment living as the cause of this recent interest and sales of terrariums, dish hardens and hanging baskets.

Dr. Sheehan told the audience that "if you grow quality merchandise, there's no limit to how far you can go."

Southern Florist and Nurseryman

February 16, 1973

### TO CONTROL BAMBOO

Some bamboo is so aggressive that it becomes a nuisance by spreading where it is not wanted. A large clump looks more formidable than it really is. Its horizontal rootstocks are close to the surface and not too hard to dig out. To eradicate it completely, remove all shoots and rootstocks; otherwise regrowth will occur.

You can also exhaust the food reserves by cutting off all new shoots when they are 2 feet high. This will have to be done several times over a period of a year or more.

For more immediate results, kill the plants with chemicals. To prevent the chemicals from injuring other plants in the area, irrigate thoroughly before application and do not irrigate for as long as possible after application. Instead of cutting the new shoots, spray the bamboo with Dowpon, using 2-2/3 ounces per gallon of water, or with Amitrol<sup>3</sup>-T, using 5 ounces per gallon of water. Wet the leaves thoroughly and make repeated applications to completely eradicate established plants. These sprays are taken up by the leaves and carried down to kill the roots.

Donald P. Watson

Specialist in Horticulture

### NEW PUBLICATIONS

#### Chemical Weed Control in Anthuriums

Hawaii Agricultural Experiment Station Research Report 212, by Tadashi Higaki, presents results of two experiments which show that ex-

cellent weed control was obtained in anthurium with the use of diuron at 4 lb/acre/200 gallons of water for as much as 20 weeks. Linuron at the same rate also gave comparable weed control results but caused slight veinal chlorosis during the early stages of treatment.

Dichlobenil, emulsifiable weedkiller, petroleum solvent and diquat dibromide caused burning of leaves, while ametryne and atrazine treatments developed slight veinal chlorosis of leaves. Simazine showed no phytotoxic effect but controlled weeds for a relatively short time. MSMA caused no phytotoxic effect but gave poor weed control.

Ametryne, diuron, linuron, atrazine, and check gave best flower production in that order, while emulsifiable weedkiller, dichlobenil, and simazine gave significantly lower production.

#### **Nandina—Heavenly Bamboo**

Instant Information No. 3, Nandina—Heavenly Bamboo, prepared by Fred D. Rauch, assistant specialist in Horticulture, provides information on the characteristics, landscape use and culture of Nandina.

#### **Proceedings 12th Annual Nurserymen's Conference**

The proceedings of the recent Hawaii Association of Nurserymen's annual conference, Misc. Pub. 103, April 1973, prepared by Fred D. Rauch and Richard Yoshida, reports on some of the current information on nursery operations. This is provided by the excellent talks given by George Oki, President Oki Nurseries, Inc., of California. Also featured is a special session on container mixes with some of recent findings from the University of Hawaii Horticulture Department.

#### **Ornamental Hibiscus—Propagation and Culture**

Hawaii Agricultural Experiment Station Research Bulletin 175, Ornamental Hibiscus—Propagation and Culture, by Henry Y. Nakasone and Fred D. Rauch, replaces HAES Circular 37. Major revision was made to the section on insect pests.

The publication presents a brief historical background of the hibiscus in Hawaii and the general characteristics of this popular ornamental plant. The major portion deals with the various methods which can be used to propagate the hibiscus. This is followed by the cultural requirements for the plant.

Copies of the above publications may be ob-

tained from your local County Extension Office or by writing to the College of Tropical Agriculture, Publications and Information Office, Krauss Hall, University of Hawaii, Honolulu, Hawaii 96822.

#### **Plants Are for People**

A new book dealing with growing plants in Hawaiian gardens is available at many garden stores and elsewhere in the State. *Plants Are for People* was written by Donald Watson and published by Hawaiian Service, Inc.

The book presents information on some of the tropical plants found in Hawaii, where to find them, and how they may be used. Special chapters are included on ground covers and vines, orchids, roses and lawn care.

#### **STATICE WEED CONTROL**

A preliminary screening trial was conducted at the Kula Branch Experiment Station on Maui to evaluate several preemergence herbicides for weed control in transplanted statice. These were single, unreplicated plots with each chemical, except diphenamid, applied at two concentrations. Statice plants were planted in rows, 10 plants per plot, and the herbicides were applied the following day to a weed-free, moist soil surface.

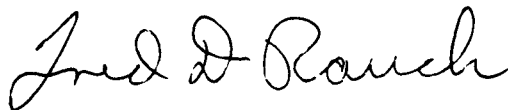
#### **Plant Injury**

Only diphenamid at 6 lb/acre and nitrofen at 5 lb/acre caused any plant injury. This was confined to a slight reddish color along the margins of the older leaves, when evaluated 6 weeks after treatment. When the plots were evaluated in mid-April, approximately 15 weeks after treatment, there was no apparent injury on any of the treatments.

#### **Weed Control**

The primary weed present in these plots was swinecress, *Coronopus didymus* (L.) Smith, a prostrate weed forming a flat rosette upon the ground in its early stages. The best weed control over a 3-month period was obtained with diphenamid, trifluralin and Ronstar (a promising new material). Nitratin gave somewhat less control of swinecress, while Nitrofen gave only slight to moderate control.

Fred D. Rauch  
Assist. Specialist in Horticulture  
Roy K. Nishimoto, Assistant Horticulturist  
Ted M. Hori, County Agent  
Phil E. Parvin, Superintendent



Fred D. Rauch  
Assistant Specialist in Horticulture

**NOTE:** The use of trade names is for the convenience of readers only and does not constitute an endorsement of these products by the University of Hawaii, the College of Tropical Agriculture, the Hawaii Cooperative Extension Service, and their employees.