

newsletter



UNIVERSITY OF MINNESOTA
Institute of Agriculture
• Agricultural Extension Service
• Horticulture Department

In Cooperation with

- Minnesota Nurserymen's Association
- Minnesota State Horticultural Society

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100 Years of Nursery Business in Minnesota

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Lake City Nurseries
Lake City, Minnesota

Humbly I will attempt to tell you about the past century in the nursery industry in Minnesota. With so many events occurring over this period and insufficient records, a complete and fully accurate account becomes exceedingly difficult if not impossible.

For a more orderly presentation, I will divide this discussion into three parts: a chronology of nurseries in Minnesota, an evolution in materials and a revolution in distribution.

Part I.
A Chronology of Minnesota Nurseries

1851 - L. M. Ford started a nursery near St. Paul.

1854-1856 - The next Minnesota nursery was established between St. Paul and St. Anthony. It was called the Groveland Garden and Nursery.

1867 - Brand Nursery was established near Faribault by Oliver F. Brand. It was reported that Mr. Brand purchased a nursery founded by a Mr. Brown in 1865. This was the first nursery of any consequence in Minnesota which gained national prominence for peony and lilac propagation. Archie Brand succeeded his father and upon his death, Mr. R. W. Tischler became the owner.

1868 - Dr. Jewell purchased 10 acres of land at Lake City and established the Jewell Nursery. The buildings are standing on the original ground. The nursery is now managed by William Lindmeier.

1869 - Mr. J. W. Harkness established a nursery at Faribault. Later in 1871 it was taken over by John D. Andrews. His three sons, Jack, Howard, and Rufus Andrews, succeeded him. The nursery at the present time is managed by sons of Jack Andrews, Kim and Dick. It is probably not unfair to say that the Andrews Nursery has had more influence on nursery business in Minnesota than any other nursery. Andrews Nursery has changed their mode of distribution and are presently successfully conducting a garden center business.

1900 - Hoyt Nursery, by Terrel Hoyt. 1924 Jack Juehl and 1953 Chuck Engel.

1874 - Rose Hill Nursery by Chas. Hawkins, grandfather of the present manager.

1876 - In 1876 Wedge Nursery was established by Clarence Wedge and is now managed by Robert Wedge. The first name of the Wedge Nursery was Echo Farm Nursery, also Northwest Nursery, later changed to Wedge Nursery.

1878 - Fruit Breeding Farm, Excelsior, Minn.

1887 - In 1887 Mr. E. J. Cutts at Howard Lake started the Howard Lake & Victor Nursery, later continued by W. H. Eddy and now conducted by William Eddy, Jr.

1895 - In 1895 Mitchell Nursery, Owatonna, was established by Delbert Mitchell on two city lots. Leslie Mitchell is the present manager.

1895 - In 1895 Holm & Olson was established. Mr. E. W. Reid was the first manager and the nursery is now managed by a grandson, Ed Reid. This nursery was probably an outgrowth of the L. L. May Nursery. This nursery is the first landscape nursery established in Minnesota.

1898 - Clinton Falls Nursery was established in 1898 by Thomas E. Cashman. Later his brother Mike Cashman joined him. Later the name was changed to Cashman Nursery. It is now managed by Terry Cashman, son of Thomas E. Cashman.

1901 - Cutting Nursery-Fred Cutting began the nursery.

1907 - J. V. Bailey Nursery was established by J. V. Bailey, now managed by his sons, Gordon and Vince Bailey.

1909 - Louis Wesely organized the Owatonna Nursery Company, which is now managed by Otto Nietschke.

1911 - The Fillmore County Nursery was established by George S. Snyder. It is now managed by his four sons.

1915 - Swedberg Nursery, Battle Lake, Minn.

1918 - Killmer Nursery Co.

1920 - In 1920 the first exclusive wholesale nursery was established by Frank Seifert.

1922 - In 1922 The Lake City Nurseries, Inc., by Bj. Loss, now managed by Harry Francis.

1923 - Elmore Nursery established by Mr. William Coupanger. He was only 18 years old when he started the nursery.

1926 - Peters Nursery at Sherburn established. Founder and manager, Paul Peters.

There are, of course, many other nurseries in Minnesota. As an indication of the growth of nurseries in the State of Minnesota, the nursery inspection office told me that in 1903 there were 26 nurseries, in 1957 there were 71. Space did not permit me to list all of the nurseries as you obviously can understand, so I have tried to confine this meager information just to the larger nurseries. Many interesting stories of the men who were responsible for the establishing of the various nurseries could be told, too. It would make a very interesting book, and I hope that some day someone will fill this void.

I cannot, however, conclude this portion without mentioning such men as Thomas E. Cashman, J. V. Bailey, Clarence Wedge, J. M. Underwood, Jack and Howard Andrews, and if you will pardon me for going a little out of my subject, E. C. Hilborn of Valley City, who contributed so much to the ethical education, the friendly cooperation and idealism that has made the nursery industry in Minnesota what it is today. We should be thankful for these men.

(To Be Continued)

PLANT PROPAGATORS MEETING

Albert G. Johnson, Instructor
University of Minnesota

This year's meeting of the Plant Propagators Society held December 3 through 6 at Cleveland, Ohio, was the largest meeting. Next year the meeting is to be held in Philadelphia, Pa., the first outside of the Cleveland area.

The meeting began with a session on plant propagation and breeding of firethorn, Oregon hollygrape and barberries. Successful rooting of Rhus cotinus was reported by John Sjulín, Inter-State Nurseries, Hamburg, Iowa.

The Thursday afternoon session was devoted to problem of greenhouse management in a broad sense. E. Stroombeck, Warner Nursery, Willoughby, Ohio, described the operation of a fog house for propagation purposes and created considerable interest in suggesting a more extensive use of fog systems. Henry Weller, Newark, N. Y., outlined ways of deciding whether particular plant materials were profitable and suggested methods for converting those which lost money into profitable items. Henry Gray, Huntington, N. Y., discussed the role of light in the rooting of cuttings. He pointed out that intensities of less than 500 foot candles, as might occur in some closed propagating frames, seriously impaired rootability of leafy cuttings. John Hill, Dundee, Ill., emphasized the extreme importance of greenhouse sanitation in the control of disease and the production of high quality nursery stock.

Two papers on chemical weed control in nursery practice were presented. Robert Ticknor, Waltham Field Station, Waltham, Mass., discussed chemical controls of weeds in plant beds. The paper of L. C. Chadwick was read in his absence and was concerned with recent experiments in weed control in field-grown nursery stock. Later in the meeting, Dr. Chadwick was able to amplify on some aspects of his report in person.

Friday's session commenced with reports on prob-

lems related to the production of Prunus. The manifold problems in the production of virus free stock was reported by Richard Hampton, Irrigation Experiment Station, Prosser, Washington. The methods that may be employed in propagation of forms of Prunus were discussed by W. A. Cumming. One point of particular interest was his emphasis on the importance of protecting Prunus seed from complete drying at any time prior to planting. Dried seed has given consistently poorer germination and ultimate stands, even following adequate pretreatment than seed which had never dried out. The successful propagation of ornamental forms of Prunus, especially flowering cherries, was reported on by David Paterson, Longwood Gardens and by Peter Carosello, Mentor, Ohio. Many of these apparently can be propagated as well from softwood cuttings as by budding.

Growing of nursery stock from fall field-planted hardwood cuttings of many common ornamentals was reported as a commercially feasible practice by Phillip Worth, Kankakee Nursery Co., Kankakee, Ill. The spreading of the workload into the fall season resulted in considerable reduction in total labor costs. Hans Nienstaedt, Lake States Forest Experiment Station, U. S. Forest Service, reported on development of grafting techniques for spruce.

Friday afternoon the session was presided over by A. R. Buckley, Dominion Arboretum, Ottawa, Ont., Canada. Dr. Buckley showed slides of plant materials especially well suited to Canadian conditions. Walter Hodge told of the program in which Longwood Gardens is cooperating to explore parts of southern Australia for new plant materials. Selection for cold resistance within species is one of the objectives of the project.

Friday evening was devoted to a lively question period conducted by Sidney Wasmap, University of Connecticut, Storrs, Conn.

Saturday morning began with a talk on plant breeding at the Arnold Arboretum by Dr. Karl Sax of the Arnold Arboretum, Jamaica Plain, Mass. Of special note is his work on the use of apomictic apples for understocks. These apples produce seeds without true fertilization and the seedlings are, therefore, virtually identical to the mother plant and hence produce understocks as uniform in performance as those propagated by more laborious means. By using seedlings of this type much of the virus problem associated with vegetatively-produced understocks can be avoided. Dr. Lela Barton, Boyce Thompson Institute, Yonkers, N. Y., next related some of the problems associated with germination of Viburnum seed. L. L. Baumgartner reported on problems associated with water use and its management for maximum benefit to the nurseryman. John C. Brown, Agricultural Research Service, Beltsville, Md., reported on a series of studies on iron chlorosis and the importance of choice of resistant varieties of rootstocks for fruit plants in problem areas.

Saturday afternoon F. L. S. O'Rourke, East Lansing, Mich., gave an account of observations he made at the East Malling Research Station in England. This was followed by a series of demonstration papers. Sylvester March, National Arboretum, Washington, D. C., showed Eucalyptus selected for cold resistance. J. Mahlstedt, Ames, Iowa, gave a demonstration of graftage failures. The use of plastic and fungicides as

an aid in budding was reported by J. C. McDaniel, Urbana, Ill. The benefits of liquid fertilizer to cuttings was demonstrated by Richard Zimmerman, Rutgers University. The variation in ultimated form achieved by cuttings taken from different parts of a axus plant was shown in a series of specimens displayed by Frank Turner, Springfield, Ohio. A successful method for rooting of Tsuga canadensis was demonstrated by Harvey Gray, Huntington, N. Y. Martin Van Hof, Rhode Island Nurseries, Newport, R. I., reported on his extensive use of polyethylene-covered cases for propagation and Robert Eshlerman, Jr., showed how Eshlerman's Nursery, Bloomburg, Pa., was using plastic in field planting.

Dr. Seymour Shapiro, Brookhaven National Laboratory, Upton, L. I., N. Y., presented the banquet speech which concerned the use of radio-active materials in the studies of basic problems related to bud regeneration and root growth.

Once again we extend our thanks to the Minnesota Nurserymen's Association for making it possible for a member of our staff to attend this meeting.

MINNESOTA DUTCH ELM DISEASE CONFERENCE

Walter P. Trampe, Supervisor
Nursery Inspection

Recently, a meeting was held at the St. Paul Campus, University of Minnesota to discuss the impending threat of Dutch Elm disease in Minnesota. Mr. J. R. Sandve of the Department of Agriculture acted as chairman of the session. Present were staff members of the University of Minnesota Departments Horticulture, Entomology, Plant Pathology and the Agricultural Extension Service. Also represented were the Lake States Forest Experiment Station, Minnesota Department of Conservation, Division of Forestry and the Minnesota Department of Agriculture, Division of Plant Industry.

The purpose of the conference was to consider the various aspects which could influence the introduction of Dutch Elm disease and its vectors as well as the subsequent spread and distribution of the disease after it becomes established within the state. The following items were discussed:

Quarantine

Initial discussion concerned the establishment of a quarantine by the Department of Agriculture. This quarantine would restrict the movement of elm logs and similar host material which might move in from adjacent states in which the disease is known to exist. Personnel of the Division of Forestry agreed to obtain information in regard to the movement of logs to saw-mills located in southeastern Minnesota.

The Distribution of Vectors

The native elm bark beetle (Hylurgopinus rufipes) is known to be present in Minnesota but the more important vector, the smaller European elm bark beetle (Scolytus multistriatus), has not been found in the state.

Diagnostic Laboratory

The need for establishing a diagnostic laboratory to process suspect Dutch elm disease material was considered. The location and means of operation of such a laboratory was discussed.

The Use of Elm Trees

Consensus of opinion at the conference was that the use of elm stock for shade and windbreak trees should be discouraged. Nurserymen were to be informed of this attitude and it was agreed that this opinion was to be transmitted to individuals responsible for large-scale plantings such as contractors who might establish new housing developments, municipal authorities and governmental agencies which should be concerned with planting quantities of trees.

Minnesota Dutch Elm Disease Advisory Committee

The final action of the group was to form an advisory committee. Dr. David French was named chairman and each of the departments represented at the meeting was given a seat on the committee. The principal function of this group will be to work with the Department of Agriculture, the regulating agency, in promulgating a quarantine and organizing control efforts to combat the disease and its vectors when it appears advisable to do so. An additional responsibility of this committee will be to publish information relative to the status of Dutch elm disease from time to time. A bulletin will probably be printed in the near future.

An Apology from the Section of Nursery Inspection

We deeply regret the omission of Gus Wermter's Pequot Nursery of Brainerd from the General Grower's Nursery List and also the error in listing Mrs. Lambert Wenner's new seedling strawberry as Wild Flower instead of Wild Flavor in the Strawberry Plant Grower's List.

CHEMICAL WEED CONTROL AT BAILEYS

Gordon John Bailey
Bailey Nurseries
St. Paul 6, Minn.

Some chemical weed control tests were conducted this past summer with R. J. Stadtherr of the University of Minnesota. The results of some of these preliminary studies are included in this report.

Post Planting Treatments

Weedazol (50% active material was used) at 4 lb/A gave good control on relatively small broad-leaf and grassy weeds. A single application at this rate inhibited quackgrass severely but did not kill it. Newly transplanted spruce showed no visible symptoms of injury at this rate however Western red cedar, Lombardy poplars and Niobe willow were seriously injured. Blue Mist spirea was killed. Weedazol sprays were directed away from the crop plants so that the spray would not touch their leaves. The other herbicides used did come in contact with the crop plants.

Diuron (80% active) at 1¼ and 2½ lbs/A gave good weed control with only slight injury to lythrum at the lower rate and severe injury at the higher rate. At the higher rate the plants were considerably smaller. These plants had only a few flowers whereas the check plants were covered with blooms.

Simazin (50% active) at 2 and 4 lbs/A gave excellent weed control with no damage to Blue Mist spirea. The heavier rate was used on 3-year-old Colorado Blue Spruce in seedbeds with no apparent injury. Spruce seedlings which had just emerged and which would have been very susceptible to damping-off were treated with the heavier rate with no apparent injury to the seedlings. Weed control in the beds was excellent. Seedling highbush cranberrybush were killed at this rate. Even four months after these applications were made weed control was very good.

Grandular CIPC (8% active) at 240 lbs/A gave good weed control with no apparent injury to Frosty Morn Mockorange and Zabel Honeysuckle, but there was about a 60% loss of newly transplanted Colorado Spruce seedlings.

Preplant Treatments

We have used Vapam in our seed beds for several years with good results, if it is applied correctly. Its relatively high cost makes it justifiable to use it only on high-value crops which normally have considerable expense for hand weeding and where damping-off might be serious. The soil should be well-worked, fairly moist and at a high temperature to get best results with Vapam in controlling weeds, soil-borne insects and disease organisms.

Several methods of application have been used (a) 4-inch injection with a John Blue fertilizer injector (b) surface application with the same machine and (c) surface application with an orchard sprayer. The last method is very disagreeable because of the objectionable fumes which affect the eyes and respiratory system. Best results have been had with the shallow injection method (a). A water seal should be applied just after the Vapam has been applied to get the best results.

Vapam at 100 gallons per acre has given excellent weed control with practically no damping-off losses in spruce. In non-treated check areas, there was almost a complete loss of seedling plants due to this disease.

In August, 1958, Vapam was used at 50 gallons per acre; however some of the grassy weeds appeared later on.

Editors Comments **R. J. Stadtherr**

1958 CONVENTION NOTES

The trend for an increased attendance at each successive annual Minnesota State Nurserymen's Convention continued with 162 total registrants. Ten new active and three new associate members were added this year.

Lawrence Bachman was elected president. Don Wedge, became vice-president. Remaining as secretary-treasurer is Ed Reid. Leo Snyder, Terry Cashman and Keith Law were elected to the executive board. Kenneth Law was selected to serve on the Minnesota Nurserymen's Research Corp. Russell Zakariasen is a holdover delegate to the annual convention of the American Nurserymen's Association while Lawrence Bachman was chosen as the second delegate.

A highlight of the business session was the adoption of a new set of bylaws to replace the old set which were written 35 years ago. Active membership will be limited to those firms or persons who are actively engaged in the growing, landscape planting and/or landscaping designing or merchandising of nursery stock. They must be currently pursuing that work and deriving the major portion of their livelihood from it.

Larry Bachman presented a report on highway beautification in Minnesota. A resolution was adopted urging the state highway department to adopt a policy of requesting separate bids for the execution of this work at a time when construction of these routes has been nearly completed. At the present time bids are received as a part of the original construction contract. Bids for plant materials and labor was almost \$46,600 which Larry considered just a beginning of the beautification project. Present plans call for an expenditure of almost 48 million dollars in an interstate highway system in Minnesota. During the next 13 to 15 years, a total of 888 miles of new Minnesota interstate highways will be added.

Highlighting the educational part of the program were the following talks: "Design for Outdoor Living" by C. Mason Whitney, president of the California Association of Landscaping; "100 years of Minnesota Nursery Work" by Bj Loss, Lake City Nurseries; "Consumer Motivation-Key to Increased Profits" and "Public Relations and the Nurseryman" by Prof. R. L. Smith, Syracuse University, Syracuse, N. Y.; "How to use Newspapers in Advertising" by Robert Witte, Minneapolis Star and "Washington Report" by Dick White.

Japanese beetles, the gypsy moth and Dutch elm disease are gradually moving closer to Minnesota stated W. M. Anderson, acting director State Department of Agriculture bureau of plant industry, in an interesting review of potential insects and diseases in Minnesota. He discussed control measures to prevent these insects and this disease from entering Minnesota. K. L. Blanchard discussed chemical weed control in the nursery and W. P. Trampe, the proposed new plant pest law for Minnesota to complete the report from the Bureau of Plant Industry.

Dr. Leon Snyder opened the report from the Horticulture Department of the University of Minnesota by listing the new plant introductions: Earlimore, a June-bearing strawberry and Prairie Moon and Tonka, two early chrysanthemum varieties. Emil Anderson discussed dwarf fruit trees and your editor, crabgrass control experiments.

The convention closed with a showing of the A. / N. movie "Basic Technique for Home Landscaping."

Earlmore Strawberry

This new extra-early, high-producing, June-bearing strawberry was developed by the department of horticulture. The medium-large, bright red, firm but juicy berries have a pleasant aromatic flavor. Total crop yields are high and fruit size holds up well throughout the season. Growers report that its brightness of color, even after shipping, has real sales appeal. The fruit is excellent for fresh dessert use and fair to good for freezing.

The plants are vigorous and appear to be highly resistant to leafspot and scorch. Survival of plants over winter has been consistently high.

For more information on this new early, productive variety, write for Miscellaneous Report 34. Address your requests to the University of Minnesota, Bulletin Room, St. Paul 1, Minnesota.

Minnesota growers who have propagated Earlmore are:

Johnson's Nursery, Becker, Minnesota

Newland Nursery, Lake City, Minnesota

Wade Zieske, New Ulm, Minnesota

Frank J. Romkowski, St. Paul 13, Minnesota

James V. Rougier, Osseo, Minnesota

Melvin Tyrrell, Dunnell, Minnesota

Prairie Moon and Tonka
New Chrysanthemums

Introduction of two new 'mums named Tonka and Prairie Moon brings to 39 the number of garden chrysanthemums developed by the University of Minnesota. Although these varieties have been developed primarily for our Minnesota growing conditions, nevertheless, these new varieties should do well over a wide area as attested by reports from other states in which they were tested.

Tonka (Minn. No. 54-44-2) is a large-flowered (3½ inch), fully-double, deep yellow variety. The flowers and clean, rich green foliage are borne on stiff stems. Tonka has fully-double flowers that appear from early September to hard frost. The plant grows to a height of 20 inches with a spread of about 30 inches.

Prairie Moon (Minn. No. 54-128-81) is a creamy-white, double-flowered variety with large 4-inch blossoms. When the flowers are fully-open, a gold center is usually visible. The willowy plant with rich green foliage produces many flowers. This tall (24 to 30 inches) variety with a spread of 18 to 24 inches should be used in the rear of the flower border. Flowers appear from early September to frost.

These new varieties will be available through nurseries this spring. Since the list is quite extensive will not appear here; however, if anyone would like this list they may obtain it by writing to the Horticulture

Department.

For a more complete description of these two new varieties as well as a listing of the most popular Minnesota varieties obtain Miscellaneous Report 33. Free copies are available from the Bulletin Room, University of Minnesota, St. Paul 1, Minnesota.

Radiant and Centennial Apples

These two new apple varieties which were introduced last year will be available from most wholesale nurseries this spring. We have had many favorable comments on both of these varieties.

NEWS ABOUT MINNESOTA NURSERYMEN

Vincent Bailey, AAN director for region 4 presented a summary of the activities of the national association at the Nebraska Nurserymen's annual convention at Lincoln on December 8 and 9.

Russell Zakariasin-president of the National Landscape Nurserymen's Association-attended the winter meetings of the association in Chicago on January 11. Lawrence Bachman presented an address entitled, "People's Increasing Pleasure-Source of Landscape Prosperity" at these meetings.

Coming Conventions

The winter meeting of the midwestern chapter of the National Shade Tree Conference will be held February 18 to 20 at the Hotel La Salle, Chicago.

Rose Breeder Dies

Mrs. Walter D. Brownell, Little Compton, R. I., co-developer of many varieties of the sub-zero roses with her husband, died November 23, 1958. The sub-zero varieties were especially developed for the colder regions.

SALES PROMOTION FOR NURSERYMEN

William H. Faver Jr.
Clemson Agricultural College A. E. 158 Sept. 1958

Adapting sales promotions techniques and principles to marketing nursery products is covered thoroughly and clearly in this publication.

The three important factors of sales promotion are the product, market and organization. A careful analysis of each one of these factors is essential before attempting to increase or promote nursery product sales.

There are two types of selling, external selling, which induces customers to come to your store, and internal selling, which gets him to buy and return.

External selling is achieved by advertising through newspapers, signs, etc. Sales to sell specific items and good public relations indirectly lead to more business. A good advertising display should have (1) eye-catching appeal (2) reader's advantage or benefits (3) facts proving claims or recommendations (4) persuasion so reader will take advantage and (5) plea to

buy (except the public relation type of advertisement). Generally an ad should be simple and contain only one message. The important considerations are repetition, brevity, simplicity, shapes, readability, and position.

Daily local newspapers are the best media and usually the most economical. Periodicals, outdoor signs, direct mail, radio and television are other types of media.

Direct approach to customers can be achieved through public speaking to garden, business and other clubs. In public speaking, here are a few rules to remember: (1) never attempt to ad lib, (2) never read unless highly technical data, (3) outline your talk stressing high points, (4) be informative, (5) record your talk if possible, (6) never talk over 20 minutes, (7) look pleasant and have a good appearance, and (8) have advance copies available for newspaper reporters.

Internal selling gets customers to buy once he is in your establishment. Once he sees your operation clean, orderly, attractive - with the quality and materials for which he is looking, he will buy and return again to buy. Your honesty and integrity will help in achieving this goal.

The displays must be well-planned. They should be: (1) new, interesting and changed frequently; (2) professional looking; (3) coherent and have a focal point; (4) cleaned and well-lighted and (5) instructive, carrying a sales message. Displays of leading plants, rare and unusual plants, garden scenes, sideline items, awards won by your nursery and customer aids will help promote sales. Contests and the giving of premiums are other means of stimulating internal selling.

To conduct a successful promotional effort a carefully planned program is a must.

R. J. Stadtherr

Editor's Comment: Copies of this worthwhile publication might be obtained by writing to the Clemson Agricultural College, South Carolina Agricultural Experiment Station, Clemson, South Carolina. Ask for A E 158, Sales Promotion for Nurserymen by W. H. Faver Jr.

WEED CONTROL FOR PEONIES*

Arthur Bing
Ornamentals Laboratory
Farmingdale, Long Island

Weeds are a serious pest in a peony field. Tests this past season have shown that most weeds can be controlled by applying suitable herbicides to the ground during late autumn or early winter. The beds were weed free at the time of flower cutting and in several cases until late summer.

In late fall the tops were cut down and removed. The beds were rototilled and fairly well cleaned of weeds. On December 22, treatments with chemicals were made. Treatments that gave weed-free peonies at cutting time were Karmex DW, 2 lbs. of 80% ma-

* Taken from N. Y. State Flower Growers Bulletin 154:6 October 1958.

terial per 100 gallons of water per acre, Diuron (same chemical as Karmex DW) at 100 lbs. of 2% granular per acre, Simazin at 5 lbs. of actual material (10 lbs. of 50% wettable powder) in 100 gallons of water per acre, and Neburon at 8 lbs. per 100 gallons of water per acre.

Heavier applications of the herbicides gave essentially weed-free beds until late summer and there were no indications of plant injury. Actually, peony plants in the more successfully treated area looked better because of less competition from weeds for a limited nitrogen supply. The heavier rates were Karmex DW at 4 lbs. per acre, Diuron at 200 lbs. of 2% granular per acre, and Simazin at 10 lbs. actual per acre. The photograph (figure 1) shows the effectiveness of the treatments.

Suggested treatments

Apply Karmex DW at 2-4 lbs. of 80% material or Simazin at 10-20 lbs. of 50% wettable powder in 50-100 gallons of water per acre during the dormant season in cleaned-up peony beds. Do not cultivate after application. Peony growers should try this on a limited scale. Results may be very worthwhile economically.

ROSE PATENTS UPHELD

Damages totaling \$3,000 were assessed in five rose patent infringement cases tried in the Federal District Court in Tyler, Texas, recently. The patents involved included those on the roses Charlotte Armstrong, Mirandy, Forty-Niner, Roundelay, Peace, New Yorker, Pinocchio and Goldilocks. All the patents were proved to be valid. In addition to the assessment of damages, injunctions were issued restraining the defendants from growing these patented roses. The defendants did not contest the suit.

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