

M/2010 3/68

AGRICULTURAL EXTENSION SERVICE (2)
UNIVERSITY OF MINNESOTA - U.S. DEPARTMENT OF AGRICULTURE
INSTITUTE OF AGRICULTURE ST. PAUL, MINNESOTA 55101

MINNESOTA FRUIT GROWERS NEWSLETTER (3)

March, 1968



Horticulture Research Center

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The Horticulture Fruit Breeding Farm originated in 1907, when the Minnesota legislature voted \$16,000 to the University to purchase approximately 78 acres of land near Excelsior for fruit breeding. This original area has grown to its present size of approximately 230 acres.

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The fruit research program at the Research Center is varied and designed to meet the extremes of our Minnesota climate. Breeding, selecting, and testing new fruit varieties have a high priority. However, the cultural aspects of fruit production will also receive significant emphasis. In addition, research will continue on ornamentals and vegetable crops.

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Commercial Tree Fruit Growers Short Course

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This archival publication may not reflect current scientific knowledge or recommendations.
Current information available from University of Minnesota Extension: <http://www.extension.umn.edu>

PROGRAM

Tuesday Morning - March 12

Student Union, St. Paul Campus

Presiding, O. C. Turnquist

a.m.

- 9:30 Film
- 10:00 Welcome L. C. Snyder, Head, Dept. of Horticulture*
- 10:10 Should we thin? L. B. Hertz, Dept. of Horticulture*
- 10:30 Breeding objectives and selection techniques for disease
resistance C. Stushnoff, Dept. of Horticulture*
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- 11:30 New approaches in fruit insect
control L. K. Cutkomp, Dept. of Entomology*
- 12:00 Lunch

Presiding, H. M. Pellett

p.m.

- 1:15 The mite, its development and
control R. J. Spyhalski, Manager, Technical
Service, Niagara Chemical Division
Middleport, New York
- 2:00 Are nematodes affecting Minnesota
fruit production? D. H. MacDonald, Dept. of Plant
Pathology*
- 2:30 Discussion period
- 3:00 Coffee and adjournment.

* University of Minnesota

Arrangements have been made to have lunch in the cafeteria at the Student Union. The short course registration fee of \$3.00 does not include the cost of lunch.

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Mutation Breeding For Compact Tree Types

One of the most dramatic developments in apple growing in the last decade has been a shift from the large size apple tree to the dwarf and semi-dwarf types. This trend is occurring in most areas where deciduous tree fruits are grown.

Size controlling rootstocks have been used most frequently to reduce tree growth. In recent years, however, natural mutants of reduced tree size have been found. These mutants, better known as spur types or compacts, have shorter internodes in their terminal shoots and fewer lateral branches than standard trees. The trees are thus small, compact and contain more spurs per unit of branch length. They also bear earlier and heavier than standard trees of the same variety.

One of the main advantages of compact or spur types is that they can be grown on seedling rootstocks when a moderate degree of dwarfing is desired. Since seedling rootstocks are more winter hardy and generally thrive better than the clonal rootstocks, this system may have much merit for apple growing in Minnesota. The limitation to general adoption of spur types is their unavailability in certain varieties.

About ten years ago several research workers attempted to induce mutations in apples with ionizing radiation. More recently K. Lapins of the Summerland Research Station in British Columbia, Canada, developed several promising compact sweet cherry and apple mutants. Natural compact mutants occur very infrequently; however, Lapins was able to induce approximately 10 percent total vegetative mutation and approximately half of these, or 5 percent, were of the compact or spur types. Most of these produced fruit which was mishappen or which did not closely resemble the true variety. But, Lapins was able to select some which retained the original fruit type and which were also compact. These are presently being tested.

In the spring of 1965 Dr. Emil Anderson initiated a similar project with several Minnesota varieties. He used Lapins' technique. About 800 treated trees will be planted at the Horticulture Research Center this spring and will subsequently be observed for development of compact types. The varieties Red Haralson, Haralson, Connell Red, Beacon, Fireside, and Regent are included in this study.

Use of irradiation in fruit variety improvement is a relatively new way to develop desirable fruit characteristics. Although only a few new varieties have been developed by this method, it does hold some promise for developing specific characteristics such as compact, spur type apples. --- Cecil Stushnoff, Fruit Breeder, Dept. of Horticulture.

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 Route 1
 Red Wing, 55066

Vice President G. P. Yates
 Box 933
 LaCrescent, 55947

Executive Secretary L. B. Hertz
 Horticulture Department
 University of Minnesota
 St. Paul, 55101

Directors

	Address	Term Expires
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L. R. Fischer.....	Rt. 1, Red Wing, 55066	1969
A. W. Jacobson.....	White Bear Lake, 55110	1969
L. R. Lautz.....	LaCrosse, Wis.	1969
V. L. Leidel.....	.615 Oak, LaCrescent, 55947	1968
M. A. Morse.....	Dakota, Minn. 55925	1968
B. Nelson.....	Box 296, LaCrescent, 55947	1968
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J. Gosi.....	Preston, 55965	1970
W. E. Lundquist.....	Rt. 4, Stillwater, 55082	1968
G. Yates.....	Box 933, LaCrescent, 55947	1970

Executive Committee

G. Harmes, G. Yates, A. W. Jacobson.
 B. Nelson (alternate).

Committees

1968 Orchard Tour - B. Nelson (Chairman), V. Leidel, G. Yates, L. B. Hertz.

1969 Annual Meeting - A. Ulrich (Chairman), G. Harmes, L. B. Hertz, P. Kelly,
 G. Yates.

Apple Promotion and Publicity - T. T. Aamodt (Chairman), L. R. Lautz,
 J. Gosi, W. Brown.

Research - W. E. Lundquist (Chairman), D. Fritz, G. Yates, L. B. Hertz.

Crop Insurance - T. T. Aamodt (Chairman), L. R. Fischer, M. Morse, G. Harms, G. Yates.

Tax Reduction - T. T. Aamodt (Chairman), V. Leidel, A. Jacobson.

1968 Fruit Tree Survey

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These fruit surveys give the grower, Extension Service, and the entire fruit industry up-to-date information on the trends in planting and potential production for the next few years.

Each grower is encouraged to report as accurately as possible. In many instances it will be necessary to look for "old records" to answer the questions accurately. Remember, much of what a grower will be harvesting in the late 1970's will depend upon what trees he plants in the 1960's.

Wisconsin Reports on Apple Varieties

At a recent meeting of Wisconsin apple growers, F. A. Gilbert, University Experiment Station, Sturgeon Bay, Wisconsin, summarized a four year apple variety trial.

Gilbert noted:

1. McIntosh, Delicious, and Northwest Greening were the highest producing varieties.
2. Beacon produced approximately 1,500 bushels per acre less than the highest yielding variety.
3. Idared was very low yielding and highly susceptible to fireblight.

Gilbert also noted that neither Golden nor Red Delicious were compatible on EM VII dwarfing rootstocks. On the other hand, Beacon was very productive on both EM VII and MM 106.

Gilbert reported that several apple varieties recommended in Minnesota have not proven satisfactory in Wisconsin. These included Minjon, Fireside, Haralson, Prairie Spry, Wealthy, Lakeland, and Redwell. These results were obtained at Wisconsin's Peninsula Experiment Station.

Herbicides Needed For Optimum Weed Control

The use of herbicides in both tree and small fruits is becoming increasingly necessary not only for optimum weed control but also for increased net return to the grower.

The 1968 recommendations, which will soon be available in Special Report 6, are summarized in this newsletter.

The status of certain herbicides registered with the USDA, however, is uncertain for the 1968 season. Growers should check the current status of the herbicide before using and read the label carefully.

Chemical weed control can often save you considerable labor in the culture of fruit crops. Chemicals are effective only within a limited range of application rates; too low rates result in insufficient weed control, while too high rates may injure plants.

Weed control in apple orchards

<u>Herbicide</u>	<u>Pounds active per acre</u>	<u>Time of application</u>	<u>Remarks</u>
Simazine	4	Spring	Use only on trees that have been established 1 or more years.
Amitrole plus	1 1/3	Spring	Avoid contact with foliage or branches, good control of emerged weeds.
Dalapon	10	Spring, when grasses are 4-6 inches tall	Use only on trees 4 or more years old.
Casaron	4-6	Late fall	<u>For trial use only.</u>
Sinbar	3 1/4	Spring	<u>For trial use only.</u>

Weed control in raspberries

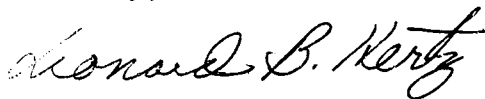
Simazine	2	Fall or early spring	Do not apply after bud break of raspberry canes.
Diuron	2	Early spring	Treat before raspberries leaf out.
CIPC	4-6	Early spring	During dormancy of crop or at time of planting.

Weed control in strawberries

Herbicide	Pounds active per acre	Time of application	Remarks
<u>New Plantings</u>			
Dacthal	9	After planting but before weeds emerge.	Annual grasses and broadleaved weeds.
Sesone	3	After planting but before weeds emerge.	Don't apply when first runner plants are forming.
2,4-D(amine)	.5-1	When broadleaf weeds are a problem.	<u>Use only in an emergency.</u>
<u>Fruiting Plantings</u>			
Sesone	3	Spring	Germinating weeds.
Dacthal	9	Immediately after renovation.	Germinating weeds.
2,4-D(amine)	.5-1	Immediately after renovation or just before mulching.	Do not apply after new runners develop.
DNBP(amine)	6	Just before mulching	

As indicated earlier these recommendations have been briefly summarized for this newsletter. Additional information is available in Special Report 6 which will be available from your County Extension Agent or at the Horticulture Department on the St. Paul Campus. When any herbicide is used, read and follow the directions for use carefully.

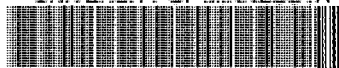
Sincerely,



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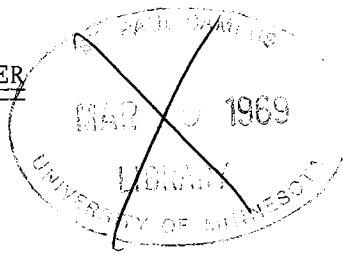
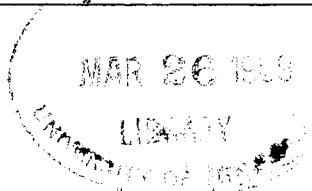


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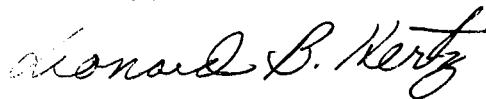
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