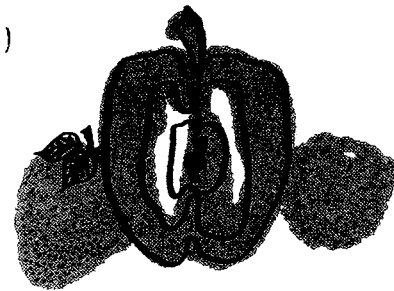


FRUIT GROWERS' LETTER



By Leonard B. Hertz, Extension Horticulturist

May 1970

CONCENTRATE VERSUS DILUTE SPRAYING

Concentrate spraying is a method of applying spray materials with less water than used by conventional dilute spraying. It can be accomplished with any sprayer that has adequate air velocity and volume.

By definition, concentrate sprays in an orchard use less than 100 gallons per acre as contrasted with dilute sprayings of 200 to 300 gallons of spray per acre. Most airblast sprayers when used for concentrate spraying can easily apply 50 to 100 gallons of spray per acre and mixtures up to 10 times concentration. However, several things must be considered when a high-gallonage sprayer is adapted to apply concentrate sprays:

1. Tank and fittings must be clean and without rust or scale.
2. Nozzles must be of the hollow-cone type with strainers.
3. Air discharge should be 15,000 cubic feet per minute of air or more. Air velocity should be at least 110 miles per hour.

Concentrate spraying is accomplished by adding 2, 3, 6, or 10 times the amount of pesticide used in dilute application to the water in the spray tank. And, a correspondingly smaller amount of spray is applied per tree or per acre (1/2, 1/3, 1/6, or 1/10, depending upon the concentration). Thus a tree requiring 6 to 8 gallons of dilute concentration for complete coverage will require only 2 gallons of 6 X concentration. It should be remembered, however, that when using concentrated mixtures, the wind must be under 10 miles per hour.

Some of the advantages of concentrate spraying are:

1. Lower labor costs.
2. Lower chemical cost.
3. Reduced maintenance cost.
4. Less time spent on refills.

Concentrate spraying is not a new idea and it does work. The following table summarizes work done by E. R. Krestewsen and Castillo Graham, University of Maryland.

Table 1. Percentage of damaged and clean fruit at harvest

Concentration	Apple Scab Damage	Codling Moth Damage Percent	Clean
Untreated	85	21	0
3 X	3	1	95
10 X	2	0	97

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

If you have questions concerning concentrate spraying, please contact Leonard Hertz, Horticulture Department, University of Minnesota. Be sure before you start

* * * * *

NEW APPLE VARIETY SCAB-RESISTANT

A recent report from Purdue University, Lafayette, Indiana, announced release of the first scab-resistant commercial apple by the experiment stations of Purdue, Rutgers, and Illinois. Named Prima, the fruit is 60 percent medium to dark red with good to very good quality. It matures three weeks ahead of Jonathan and is mildly sub-acid.

We do not know if Prima is adapted to the Minnesota environment. Several trees are currently growing at the Horticulture Research Center, but they have not fruited, yet. At present, Prima is not recommended in Minnesota and it should be planted on a trial basis only.

* * * * *

MECHANICAL DAMAGE OF APPLE FRUITS

Increased resistance to mechanical damage of Delicious apple fruits has been observed from a June application of the growth regulator Alar at 1,000 ppm. Under controlled testing treated apples showed a greater resistance to bruising and rupture forces than fruits developing on non-treated trees. Greater resistance to bruising appeared to develop earlier in the growth of the Delicious apple than did resistance to rupture, according to research reported in a thesis at Pennsylvania State University by J. J. Camba. Further, fruit growth on both Alar treated and non-treated trees was identical; Alar did not inhibit size development of Delicious apples. (From Penn State Horticultural Reviews, January 1970.)

* * * * *

SUSPENDED REGISTRATION OF 2, 4, 5-T

The following communication was recently received from the USDA in Washington, D. C.:

"Registration of liquid formulations of 2, 4, 5-T for use around the home, and on lakes, ponds and ditch banks, suspended. Non-liquid formulations for use around the home and on all food crops intended for human consumption, will also be cancelled. The registered use of 2, 4, 5-T for control of weeds and brush on range, pasture, and forests or rights-of-way and other non-agricultural uses, not affected at this time."

* * * * *

RECOMMENDED FRUIT CROP VARIETIES

Two varieties of apples and one strawberry variety have been added to the University of Minnesota's list of recommended fruit crops for 1970.

The two varieties of apple include Red Baron and Honeygold. Red Baron was developed at the University of Minnesota Horticultural Research Center. The fruit is an attractive cherry red and matures in Wealthy season. It keeps well in common storage until late December and rates consistently well as a pie and sauce apple.

Honeygold was introduced to provide a Golden Delicious type of apple for Minnesota and other northern areas where Golden Delicious is marginally adapted. Honeygold ripens during Harolson season. It has rated high in storage and pie evaluations. The flavor resembles Golden Delicious and both flavor and quality persist well in common storage until the end of January.

A June bearing variety of strawberry, Badgerbelle, has been added to the list of recommended varieties for 1970. Badgerbelle was developed in Wisconsin. It is a late season variety. The fruit is very large and moderately firm and productive.

If additional information is needed, write the Bulletin Room, 3 Coffey Hall, University of Minnesota, St. Paul, Minnesota 55101 and ask for Horticulture Fact Sheet 3, Fruits for Minnesota, 1970.

* * * * *

RECENT BULLETIN RELEASES

Several new or revised Extension bulletins and pamphlets are available. These include:

1. Insecticides and Their Uses in Minnesota--1970, Extension Bulletin 263.
2. Weed, Insect, and Disease Control Guide for Commercial Fruit Growers, Special Report 6.
3. Dwarf Apple Trees, Horticulture Fact Sheet 21.
4. Fruits for Minnesota, 1970, Horticulture Fact Sheet 3.

Copies may be obtained by writing to the:

Bulletin Room
3 Coffey Hall
University of Minnesota
St. Paul, Minnesota 55101

In addition, copies of the following publications are available for general distribution:

1. Weed Control on Fruit Crops, 1969.
2. Strawberry Variety Trial, 1969.



For copies, please write to:

Leonard B. Hertz
Extension Horticulturist
Horticulture Department
University of Minnesota
St. Paul, Minnesota 55101

* * * * *

CONSOLIDATION OF INTERNATIONAL APPLE ASSOCIATION
AND NATIONAL APPLE INSTITUTE

Barring unanticipated hitches in procedures, the International Apple Association and the National Apple Institute will become the International Apple Institute on June 23, 1970, when both organizations convene at Niagara Falls, Ontario, Canada, at the time of NAI's 35th and final annual meeting.

At a special joint meeting of the International Apple Association Board of Directors and the National Apple Institute Board of Trustees on April 15 in Washington, D. C., final drafts of the by-laws for the new consolidated organization and a final merger agreement were approved by the respective boards of the two associations.

Adoption of changes in the IAA Articles of Incorporation and change of name and adoption of the new International Apple Institute by-laws by the membership of International Apple Association, are the major steps remaining to complete the consolidation. A special membership meeting of the IAA has been called for June 23 at Niagara Falls, Canada, at the time of the final NAI annual meeting, at which time these final steps will be taken.

A first annual business meeting of consolidated association, International Apple Institute, will convene on June 24 at Niagara Falls to finalize the election of Officers and Board of Trustees of the new association.

* * * * *

Issued in furtherance of cooperative extension work in agriculture and home economics, acts of May 8 and June 30, 1914, in cooperation with the U. S. Department of Agriculture. Roland H. Abraham, Director of Agricultural Extension Service, University of Minnesota, St. Paul, Minnesota 55101.