

SOME RECOMMENDED FUNGICIDES FOR PLANT DISEASE
CONTROL IN NORTH CAROLINA
1950

(Compiled for county agent and dealer use by
Howard R. Garriss, Extension Plant Pathologist)
N. C. State College

Note: Some New Terms to Learn: "The subcommittee on Fungicide Nomenclature of the American Phytopathological Society, cooperating with the Interdepartmental Committee on Pest Control, has selected common names for five commercially available fungicidal chemicals which are useful in the control of various destructive plant diseases. Information concerning the names, approval and acceptability of their use as coined common names for these specific chemicals is filed with the Trade-mark 'Division of the United States Patent Office, Department of Commerce' to preempt the use of the names as trade marks." It cannot be predicted at present whether or not these short simple names will be appearing in manufacturers' active ingredient labelings. However, these terms will be appearing in some publications where these materials are being recommended. Where these terms are given in the listing below, please note the percentage of the active ingredients given and refer to this note for identification of the active chemical.

Here they are:

<u>Common Name</u>	<u>Active Chemical</u>	<u>Trade Names</u>
Ferbam -----	ferric dimethyl dithiocarbamate ---	Fermate, Ferradow, Nu Leaf
Ziram -----	zinc dimethyl dithiocarbamate-----	Zerlate, Methosan, Zincate
Nabam -----	disodium ethylene bisdithiocarbamate--	Dithane D-14 (liquid) Parzate (liquid)
Zineb -----	^{Zinc} Zn ethylene bisdithiocarbamate -----	Dithane Z-78, Parzate
Thiram --- ---	tetramethyl thiuram disulfide -----	Arasan, Arasan SF, Tersan

"The foregoing five words (ferbam, ziram, nabam, zineb and thiram) are coined common names for specific chemicals. They should be used as common names. When written, the first letter should not be capitalized except where such capitalization is in keeping with the accepted uses for common names."

This scheme of naming may appear to be confusing for products now existing. However, it is believed that similar naming of new compounds as they are introduced on the market will aid in simplifying some of the confusion which has existed as a result of the introduction of new and different fungicides in the past.

Listing by Crops -- Trade names in Parentheses (). Materials not necessarily listed in order of preference and listing of trade names may not be complete.

COTTON

Seed Treatment:

1. zinc 2,4,5 -- tri-chlorophonate (Dow 9E)
2. 5% ethyl mercury phosphate (New Improved Ceresan)
3. 2% ethyl mercury chloride (2% Ceresan)
4. 7.7% ethyl mercury p- toluene sulfonanilide (Ceresan-M)

Note: Ceresan-M can be used as a dust treatment on both fuzzy and delinted cottonseed. It can be used as a slurry treatment on delinted cottonseed where slurry equipment is available.

TOBACCO

Blue Mold Control:

1. ferbam ---- 76% (Fermate) - Other trade-name products containing ferbam but which have not been tested in this state are (Nu-Leaf) and (Ferradow.)

For spray treatment - The straight material should be used at the rate of 4 lbs. per 100 gals. water (5 level tablespoonfuls per gal.).

Note: (Dimole) is a trade-name product containing 45% ferbam and 15% salicylic acid. It has not been tested in N. C., but has given good results in some areas.

For dust treatment - Mixtures containing not less than 10% ferbam with pyrophyllite or neutral talc as the diluent are prepared by commercial mixers (various trade names).

2. zineb ---- 65% (Dithane Z-78 and Parzate)

For spray treatment - The straight material should be used at the rate of 3 lbs. to 100 gals. of water (2½ level tablespoonfuls per gal.).

For dust treatment - Mixtures containing not less than 6% zineb with pyrophyllite or neutral talc as the diluent are prepared by commercial mixers (various trade names).

Wildfire Control in Burley Plant Beds:

1. Finely granulated or powdered copper sulfate plus fresh hydrated lime (3-4-50 Bordeaux treatment) (various trade names). The grower should be furnished copper sulfate and fresh hydrated lime to be mixed when ready to use the treatment. Prepared commercial Bordeaux mixtures are not effective enough.

Weed and Disease Control in Plant Bed Soils:

1. (Cyanamid) plus (Uramon). Recommendations call for 1 lb. Uramon plus ½ lb. Cyanamid per square yard of bed space.

Note: While this treatment may be instrumental in keeping certain soil-borne diseases at a low level in plant beds, its effectiveness as a disease-control should not receive too much emphasis.

Small Grain - Wheat, Oats, Barley, Rye, Sorghum, Etc.

Seed Treatment:

1. 5% ethyl mercury phosphate (New Improved Ceresan)
2. 7.7% ethyl mercury p- toluene sulfonanilide (Ceresan-M)

Ceresan-M can be used as a dry treatment or it can be used as a slurry treatment by commercial or private operators who have slurry equipment.

PEANUTS

Seed Treatment:

1. thiram ---- 50% (Arasan) ---- Dry treatment only

Note: 75% thiram (Arasan SF) is similar to Arasan chemically, but it is designed for use in slurry treaters only. The slurry treatment has proven unsatisfactory on Spanish type peanuts in Georgia. In some cases the slurry treatment has apparently been used successfully on Virginia type peanuts in North Carolina. However, experimental results are not yet conclusive.

2. 2% ethyl mercury chloride (2% Ceresan)
3. yellow cuprous oxide (Cuprocide)
4. tetrachloro para benzoquinone 98% (Spergon) -- This material has not consistently given as good results as other materials.

Dusting for Leafspot Control:

1. copper-sulfur dust mixtures (various trade names)

The dust mixture should contain 4% metallic copper from either tribasic copper sulfate or cuprous oxide mixed with 325-mesh (of finer) sulfur. (various trade names)

2. 325-mesh (or finer) dusting sulfur (various trade names)

Note: Either copper-sulfur or straight sulfur dusts give significant increases in yields. Greatest returns are realized from the use of the copper-sulfur mixture.

SOYBEANS

Seed Treatment:

1. thiram -- - 50% (Arasan) --- For dust treatment

Note: Thiram ----- 75% (Arasan SF) for slurry treatment where slurry equipment is available. Arasan products gave outstanding increases in stands of soybeans in demonstrations conducted by the Extension Service in 1948.

VEGETABLE CROPS

Seed Treatment:

1. For controlling seed decay and pre-emergence damping-off (to insure better stands)

a. For general use in home gardens or other small plantings either of the following can be used on a number of crops, when used according to the manufacturers' directions: (1) Arasan; (2) Spergon; (3) Semesan.

For specific dust seed treatments by crop refer to Extension Circular No. 272.

Note: Some seedsmen market seed already treated in packages stamped "TREATED". This is a convenient method of furnishing growers with seed that are already treated for the control of seed decay and damping-off so that the grower does not have to treat his own seed. However, such treatments are usually of the dust type and do not offer control of certain important seed-borne diseases.

2. For controlling specific seed-borne diseases:

a. Anthracnose of watermelon, cucumber and cantaloupe -- mercuric chloride (bichloride of mercury), 1-1000 aqueous solution (see Extension Circular No. 272.)

b. Black rot, black leg and other seed-borne diseases of cabbage, turnip, and related crops -- all seed not produced in the Puget Sound area of Washington State should be treated by the hot water method. Soak seed in hot water at 122°F., for 15 minutes, then immerse in cold water and spread in a thin layer to dry. After seed are dry, use dust treatment (See Extension Circular No. 272).

Caution: Exact temperature control is essential to avoid injury to the seed. Obtain hot-water treated seed from seedsmen and dealers where possible.

c. Bacterial spot and other seed-borne diseases of pepper -- mercuric chloride (bichloride of mercury), 1-2000 aqueous solution. (See Extension Circular No. 272).

Cabbage Downy Mildew (mainly in plant beds):

1. tetrachloro para benzoquinone - (Wettable Spergon) for spray or
2. tetrachloro para benzoquinone - (Non-Wettable Spergon) for dust.
To be used according to manufacturer's instructions.

Cucumber Downy Mildew:

1. tri-basic copper sulfate dust containing 5% metallic copper (various trade names)

This material can also be used to control downy mildew of cantaloupe and watermelon, but it does not give a high degree of anthracnose control on these crops and it sometimes injures watermelon vines.

Lettuce Damping-Off:

1. ferbam --- at least 70% (Fermate, Nu Leaf, Ferradow). To be used as a bed drench treatment. May also be suitable for use in other vegetable plant beds.

Sweet Potato Seed and Plant Treatment:

1. 12% hydroxymercurinitrophenol plus 2% hydroxymercurichlorophenol (Semasan Bel)

Sweet Potato Storage House Sterilization:

For fumigation treatments

1. chloropicrin or trichloronitromethane - (Larvacide)
2. sulfur - (various trade names)
3. formaldehyde plus potassium permanganate - (various trade names)
For spray and drench treatment
4. copper sulfate - (various trade names)

Tomato Late Blight:

1. "Fixed" copper compounds such as:
 - a. tri-basic copper sulfate - (various trade names)
 - b. tetra copper calcium oxychloride - (Copper-A)
 - c. yellow cuprous oxide - (Yellow Cuprocide)
 - d. copper oxychloride sulfate - (C.O.C.S.)

Note: "Fixed" copper fungicides tested under severe late blight conditions in the Hendersonville area in 1948 and 1949 gave better blight control either as a dust or spray than did several new organic fungicides tested.

"Fixed" coppers may be used either as a dust or spray. Mixed dusts should contain 7% (not less than 6.5%) metallic copper, and a sticking agent should be added.

Irish Potato - Late and Early Blight:

Spray treatments:

1. Bordeaux mixture (copper sulfate plus fresh hydrated lime - 8-6-100) (Home mix better than commercially prepared)
2. "Fixed" coppers as outlined above for Tomato Late Blight.

Dust Treatments:

1. "Fixed" copper compounds as outlined above for tomato late blight. Mixed dusts should contain 7% metallic copper.

Note: "Fixed" copper compounds of the oxychloride group outlined above gave results superior to new organic fungicides tested at Hendersonville in 1948 in controlling late blight of potato.

Lima Bean -- Stem Anthracnose:

1. zineb ---- 65% (Dithane Z-78; Parzate) to be applied as a spray mixed at rate of $1\frac{1}{2}$ lbs. to 100 gallons water.

APPLES

Spray Materials for Disease Control:

1. calcium polysulfide or lime-sulfur (various trade names)

Recommendations in the regular spray schedule call for 6 quarts lime sulfur to 100 gals. of spray in pre-pink and pink spray applications.

2. flotation type sulfur paste (various trade names)

Recommended in regular spray schedule at 12 lbs. to 100 gals. of spray in petal-fall and first cover applications. Suggested in combination with ferbam as an optional treatment in petal-fall and first cover sprays - (Flotation sulfur, 8 lbs. plus ferbam, 12 oz. per 100 gals. of spray).

Note: Other wettable sulfurs of fine particle size, such as Magnetic 70, may be used as equivalent rates of sulfur.

3. copper sulfate plus fresh spray lime (Bordeaux). Home mix is generally better than commercially prepared Bordeaux.

Recommended in regular schedule in following proportions: 2nd cover, 2-4-100; 3rd cover, 3-6-100; 4th & 5th cover, 4-8-100.

4. ferbam ---- 76% (Fermate, Nu Leaf, Farradow.)

Recommended as optional treatments in combination with flotation sulfur in petal-fall and first cover sprays. (See under "Flotation Sulfur paste: for proportions in combination)

Also recommended as an optional treatment when used alone (2 lbs. to 100 gals. spray) as a substitute for Bordeaux in second and third cover sprays. For convenience in home orchards it may be used in all applications.

PEACHES

Spray Materials for Disease Control:

1. liquid lime-sulfur (various trade names)

Recommended as a dormant spray where leaf curl is a problem or include 6-6-100 Bordeaux mixture in each 100 gals. of dormant oil spray if compatible. Follow manufacturer's directions for mixing. Lime-sulfur or wettable sulfur is recommended in pink spray for blossom blight (brown rot) control.

2. Wettable sulfur (various trade names) 5 to 6 lbs. actual sulfur.

Recommended in subsequent applications for brown rot and scab control.

3. 80-20 sulfur-lime dust (various trade names)

Recommended as an optional treatment in the pre-harvest application.

Note: Certain commercial "one package" combinations of wettable sulfur, zinc sulfate, and lead arsenate have proved satisfactory and are very convenient for use in "home orchards" and back yard plantings.

COOPERATIVE EXTENSION WORK
IN

NORTH CAROLINA STATE COLLEGE OF
AGRICULTURE AND ENGINEERING,
NORTH CAROLINA COUNTIES AND
UNITED STATES DEPARTMENT OF
AGRICULTURE COOPERATING

AGRICULTURE AND HOME ECONOMICS

EXTENSION SERVICE

STATE OF NORTH CAROLINA December 19, 1949

STATE COLLEGE STATION, RALEIGH, N. C.

To: County Agents in Western North Carolina

Re: Apple and Vegetable Pest Control Schools

Dear Co-Workers:

The following pest control schools will be conducted for the benefit of you and your growers during the month of January, 1950:

Tuesday, January 24* - Apple Pests - Waynesville, North Carolina
Wednesday, January 25 - Vegetable Pests - Hendersonville, North Carolina
Thursday, January 26* - Apple Pests - Taylorsville, North Carolina
Friday, January 27 - Vegetable Pests - Boone, North Carolina

All schools will be conducted on approximately the following schedule: Morning sessions 9:30 - 12:00 o'clock; afternoon sessions 1:30 - 4:00 o'clock.

Disease, insect and rodent pests are the problems to be discussed. Specific problems to be taken up will be: What causes diseases, anyway? How do these diseases work? Can you recognize apple insect pests? What are some of the most recent developments in control of apple insects, diseases and orchard rodents? How does apple scab develop and work? Can apple rots be adequately controlled? How can mice and other rodents be controlled in the orchard? What are the best spray materials to use in apple pest control?

Some of the specific topics to be discussed in the vegetable schools are indicated by the following questions: Do you know the insects you are trying to control? What pest troubles are you having with beans and how can they be controlled? Are cabbage black rot and yellows limiting your cabbage production? How can Irish potato ring rot be avoided? Can late blight of potatoes and tomatoes be controlled? What are the best fungicides? What difficulties have you had in controlling bean insects and diseases? Do mice or other rodents cause much damage in your vegetable plantings? Are you applying materials properly for pest control and are you using the proper materials?

The above questions should be useful in aiding you in planning these schools. It is suggested that you mimeograph announcements of these schools and present to the growers, dealers and other interested parties the subjects which will be discussed. We would like for growers to select the school most conveniently located for their attendance. You should contact your District Agent regarding necessary authorization to attend the school or schools of your choice.

On hand to discuss the problems will be Experiment Station workers who are dealing directly with fruit and vegetable problems, workers from the Extension Service and the U. S. Fish and Wildlife Service. We sincerely hope that you and your interested growers can attend one or more of these schools.

Very truly yours,
Howard R. Garriss
Howard R. Garriss
Extension Plant Pathologist
George D. Jones
George D. Jones
Extension Entomologist

* Open "question and answer" forums on apple pest control problems to be held at Hendersonville, Tuesday night, January 24th, and in Wilkes County on Thursday night, January 26th.

PROGRAM

VEGETABLE PEST CONTROL SCHOOL

Court House, Boone, N. C., Jan. 27, 1950

Conducted by N. C. Agricultural Extension Service cooperating with the N. C. Agricultural Experiment Station and U. S. Fish & Wildlife Service

Lake E. Tuckwiller, County Agent, Watauga County, presiding

MORNING SESSION

George D. Jones, Extension Entomologist, Chairman

- 9:30-9:40 Welcome and Introductory Remarks ----- Lake E. Tuckwiller
9:40-10:10 How Insects Work ----- George D. Jones
10:10-10:40 New Insecticides ----- Paul O. Ritches
10:40-10:50 Recess
10:50-11:40 Plant Diseases - Cause and Behavior ----- James H. Jensen
11:40-12:00 Recognizing Some Vegetable Diseases ----- Don E. Ellis
12:00-1:30 Lunch

AFTERNOON SESSION

Howard R. Garriss, Extension Plant Pathologist, Chairman

- 1:30-2:10 BEANS: The Mexican Bean Beetle Problem ----- Paul O. Ritches
Anthraco nose (nailhead), Blights & Root Rot ----- Howard R. Garriss
2:10-2:45 POTATO & TOMATO: Late Blight - Ring Rot of Potato ----- Lowell W. Nielsen
Insects ----- Todor M. Dobrovsky
2:45-3:10 CABBAGE: Yellows and Black Rot ----- Howard R. Garriss
Maggot & Aphid Problems ----- Paul O. Ritches
3:10-3:20 Recess
3:20-3:40 OTHER VEGETABLES: Insect Problems ----- George D. Jones
Disease Problems ----- Don E. Ellis
3:40-4:00 RODENT CONTROL ----- Larry C. Whitehead
4:00 ----- Discussion
Announcements & Adjournment ----- Lake E. Tuckwiller

PROGRAM

VEGETABLE PEST CONTROL SCHOOL

High School Auditorium, Hendersonville, N. C., Jan. 25, 1950

Conducted by N. C. Agricultural Extension Service cooperating with the N. C. Agricultural Experiment Station & U. S. Fish & Wildlife Service

Dwight W. Bennett, County Agent, Henderson County, presiding

MORNING SESSION

Howard R. Garriss, Extension Plant Pathologist, Chairman

9:30-9:40 Welcome and Introductory Remarks ----- Dwight W. Bennett
9:40-10:25 Plant Diseases - Cause & Behavior ----- James H. Jensen
10:25-10:40 Recognizing Some Vegetable Diseases ----- Don E. Ellis
10:40-10:50 Recess
10:50-11:20 How Insects Work ----- George D. Jones
11:20-12:00 New Insecticides ----- Paul O. Ritches
12:00-1:30 Lunch

AFTERNOON SESSION

George D. Jones, Extension Entomologist, Chairman

1:30-2:10 BEANS: The Mexican Bean Beetle Problem ----- Paul O. Ritches
Anthracnose (nailhead), Blights & Root Rot ---
----- Howard R. Garriss
2:10-2:45 TOMATO & POTATO: Late Blight ----- Don E. Ellis
Insects ----- Todor M. Dobrovsky
2:45-3:10 CABBAGE: Yellows and Black Rot ----- Howard R. Garriss
Maggot and Aphid Problems ----- Paul O. Ritches
3:10-3:20 Recess
3:20-3:40 OTHER VEGETABLES: Insect Problems ----- George D. Jones
Disease Problems ----- Don E. Ellis
3:40-4:00 RODENT CONTROL: ----- Larry C. Whitehead
4:00 --- Discussion
Announcements & Adjournment ----- Dwight W. Bennett

Special Notices: There will be a "question & answer" period tonight (Jan 25) in the Court House on vegetable pests, Dwight W. Bennett, presiding. Everybody attend and bring your questions; (2) attend the Horticultural program here tomorrow morning on Vegetable Varieties, Chemical Weed Control in Vegetables and Marketing Vegetables & Consumer Preference.

PROGRAM

APPLE PEST CONTROL SCHOOL

Court House, Waynesville, N. C. Jan. 24, 1950

Conducted by N. C. Agricultural Extension Service cooperating with
the N. C. Agricultural Experiment Station & U. S. Fish & Wildlife Service

Wayne Corpening, County Agent, Haywood County, presiding

9:30-9:40 Welcome and Introductory Remarks --- Wayne Corpening

ENTOMOLOGY SECTION

George D. Jones, Extension Entomologist, Chairman

- 9:40-10:40 Recent Developments in Apple Insect Control --- Clyde F. Smith
10:40-10:50 Recess
10:50-11:30 Use of Oil Sprays in Apple Orchards --- George Turnipseed
11:30-12:00 Rodent Control in Apple Orchards --- Larry C. Whitehead
12:00- 1:30 Lunch

PATHOLOGY SECTION

Howard R. Garriss, Extension Plant Pathologist, Chairman

- 1:30-2:20 Plant Diseases - Cause & Behavior --- James H. Jensen
2:20-2:35 Apple Diseases - How to Recognize Them -- Carlyle N. Clayton
2:35-2:50 Scab - Why Have It? --- Howard R. Garriss
2:50-3:00 Recess
3:00-3:10 Black Rot - Why Is It Hard To Control? --- Carlyle N. Clayton
3:10-3:30 What's New In Apple Fungicides? --- Carlyle N. Clayton
3:30-4:00 Discussion of Spray Recommendations for 1950 --- Clyde F. Smith
& Carlyle N. Clayton
4:00 ---- Announcements & Adjournment --- Wayne Corpening

Special Notices: An open "question & answer" session on apple pests will be held in the court house at Hendersonville, N. C., 7:30 p.m. tonight (Jan. 24), D. W. Bennett, Co. Agent, Henderson Co., presiding. Everyone is invited.

Don't forget the Horticultural program here tomorrow morning (Jan. 25) on Orchard Cover Crops and Soil Conservation, Up-to-the-Minute News in Apple Production and Marketing of Apples & Consumers Preference. Also, there will be a pruning demonstration held in the Haywood County orchard tomorrow afternoon, weather permitting.

PROGRAM

APPLE PEST CONTROL SCHOOL

Court House, Waynesville, N. C. Jan. 24, 1950

Conducted by N. C. Agricultural Extension Service cooperating with
the N. C. Agricultural Experiment Station & U. S. Fish & Wildlife Service

Wayne Corpening, County Agent, Haywood County, presiding

9:30-9:40 Welcome and Introductory Remarks --- Wayne Corpening

ENTOMOLOGY SECTION

George D. Jones, Extension Entomologist, Chairman

- 9:40-10:40 Recent Developments in Apple Insect Control --- Clyde F. Smith
10:40-10:50 Recess
10:50-11:30 Use of Oil Sprays in Apple Orchards --- George Turnipseed
11:30-12:00 Rodent Control in Apple Orchards --- Larry C. Whitehead
12:00- 1:30 Lunch

PATHOLOGY SECTION

Howard R. Garriss, Extension Plant Pathologist, Chairman

- 1:30-2:20 Plant Diseases - Cause & Behavior --- James H. Jensen
2:20-2:35 Apple Diseases - How to Recognize Them -- Carlyle N. Clayton
2:35-2:50 Scab - Why Have It? --- Howard R. Garriss
2:50-3:00 Recess
3:00-3:10 Black Rot - Why Is It Hard To Control? --- Carlyle N. Clayton
3:10-3:30 What's New In Apple Fungicides? --- Carlyle N. Clayton
3:30-4:00 Discussion of Spray Recommendations for 1950 --- Clyde F. Smith
& Carlyle N. Clayton
4:00 ---- Announcements & Adjournment --- Wayne Corpening

Special Notices: An open "question & answer" session on apple pests will be held in the court house at Hendersonville, N. C., 7:30 p.m. tonight (Jan. 24), D. W. Bennett, Co. Agent, Henderson Co., presiding. Everyone is invited.

Don't forget the Horticultural program here tomorrow morning (Jan. 25) on Orchard Cover Crops and Soil Conservation, Up-to-the-Minute News in Apple Production and Marketing of Apples & Consumers Preference. Also, there will be a pruning demonstration held in the Haywood County orchard tomorrow afternoon, weather permitting.

PROGRAM

APPLE PEST CONTROL SCHOOL

Main Theatre, Taylorsville, N. C. Jan. 26, 1950

Conducted by N. C. Agricultural Extension Service cooperating with
The N. C. Agricultural Experiment Station & U.S. Fish & Wildlife Service

Price L. Brawley, County Agent, Alexander County & Carl E. VanDeman,
Assistant County Agent, Wilkes & Alexander Counties, presiding

9:00-9:10 Welcome & Introductory Remarks --- Price L. Brawley

PATHOLOGY SECTION

Howard R. Garriss, Extension Plant Pathologist, Chairman

- 9:10-10:00 Plant Diseases - Cause & Behavior --- James H. Jensen
10:00-10:15 Apple Diseases - How to Recognize Them --- Carlyle N. Clayton
10:15-10:25 Recess
10:25-10:40 Scab - Why Have It? --- Howard R. Garriss
10:40-10:50 Black Rot - Why Is It Hard To Control? --- Carlyle N. Clayton
10:50-11:10 What's New in Apple Fungicides? --- Carlyle N. Clayton
11:10-11:30 Rodent Control in Apple Orchards --- Larry C. Whitehead
11:30-12:30 Lunch (short period necessary because theatre must be
vacated by 3:30 p.m.)

ENTOMOLOGY SECTION

George D. Jones, Extension Entomologist, Chairman

- 12:30- 1:30 Recent Developments in Apple Insect Control --- Clyde F. Smith
1:30- 2:10 Use of Oil Sprays in Apple Orchards --- George Turnipseed
2:10- 2:20 Recess
2:20- 3:00 Discussion of Spray Recommendations for 1950 -- Carlyle N. Clayton
& Clyde F. Smith
3:00 Announcements and Adjournment --- Price L. Brawley

Special Notices: There will be a "question & answer" session on apple pests tonight (Jan. 26) at 7:00 o'clock in the City Hall Auditorium, North Wilkesboro, Carl VanDeman, Presiding. Everyone is invited.

A one-day Vegetable Pest Control School will be conducted in the Court House at Boone, N. C., tomorrow (Jan. 27), 9:30 a.m. - 4:00 p.m. Commercial vegetable growers, home gardeners and dealers are urged to attend.

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF NORTH CAROLINA

EXTENSION SERVICE

NORTH CAROLINA STATE COLLEGE OF
AGRICULTURE AND ENGINEERING,
NORTH CAROLINA COUNTIES AND
UNITED STATES DEPARTMENT OF
AGRICULTURE COOPERATING

Box 5397

December 19, 1953

To: Certain County Agents

Re: Apple Schools

Dear Sir:

Enclosed you will find copy of the program to be presented at the Apple Schools to be conducted at Hendersonville, N. C., January 12 and Taylorsville, N. C., January 14. I wanted to get this copy to you as soon as possible so that you may consider it and start publicity in your county encouraging attendance at these schools. Meantime, I will be sending additional copies under separate cover which you may wish to mail out to dealers, orchardists, agricultural leaders in your county.

It is regrettable that more of the 10 such schools requested could not be conducted so that some more convenient to you could be arranged, however this is the best the Extension Committee on this type school has been able to set up in view of the many conflicts with the regular Extension schools in January and February.

We hope that you will encourage attendance and that you can attend.

Yours very truly,

Howard R. Carriss

Howard R. Carriss, In Charge
Plant Pathology Extension

HRG/vpd
Enc.

corrected copy.

PROGRAM

APPLE SCHOOLS

Schools for 1954 emphasizing disease and insect control arranged through the cooperation of County Agents, Extension and Research Workers and planned to serve orchardists, dealers, agricultural leaders and other interested persons in the apple-producing areas of the Mountain and Upper Piedmont regions.

Choose the location most convenient to you. The program is the same for each location:

Hendersonville, N. C. - January 12, 1954

Taylorsville, N. C. - January 14, 1954

MORNING SESSION

George D. Jones, Presiding

- 9:30-9:40 Introduction & Welcome by Host County Agent
- 9:40-10:10 Apple Insects - Can You Control Them Without Knowing Them?--C. F. Smith
- 10:10-10:45 Latest Experimental Results with Apple Insecticides--G. F. Turnipseed
- 10:45-10:55 Recess
- 10:55-11:25 Apple Diseases - Can You Control Them Without Knowing Them, Too?----- C. N. Clayton
- 11:25-12:00 Latest Experimental Results with Apple Fungicides---- H. C. Fink
- 12:00-1:30 Lunch

AFTERNOON SESSION

H. R. Garriss, Presiding

Detailed analysis and discussion of each application in the apple spray program with questions regarding Why (?), When (?) and What (?). Members of the Entomology and Plant Pathology staffs from State College will be present to take part in the discussion and answer questions.

- 1:30-1:55 Apple Spray Program, BEFORE BLOOM
- 1:55-2:10 Apple Spray Program, IN BLOOM
- 2:10-2:50 Apple Spray Program, AFTER BLOOM
- 2:50-3:00 Recess
- 3:00-3:20 Apple Spray Program, NON-BEARING TREES--G. F. Turnipseed & H. C. Fink
- 3:20-4:00 Question & Answer Period on Cultural & Marketing Problems---
Horticulture and Marketing Specialists participating