

Some Items of Interest to Kentucky Nurserymen

For the Year Ended June 30, 1951

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**SOME ITEMS OF INTEREST TO KENTUCKY NURSERYMEN,
FOR THE YEAR ENDED JUNE 30, 1951**

By W. A. Price and Howard G. Tilson

The Kentucky Nursery Inspection Law, since its enactment in 1926, has been revised and is herein reproduced as it appears upon the statute books.

**KENTUCKY REVISED STATUTES-SECTIONS
249.010 to 249.990**

249.010 DEFINITIONS. As used in this chapter, unless the context requires otherwise:

(1) "Commissioner" means the Commissioner of Agriculture, Labor and Statistics.

(2) "Department" means the Department of Agriculture, Labor and Statistics.

(3) "Director" means the Director of the Agricultural Experiment Station.

249.020 (1925a-1; 1925a-10) STATE ENTOMOLOGIST; ASSISTANT. (1) The Entomologist and botanist of the Agricultural Experiment Station shall be the State Entomologist.

(2) The State Entomologist shall serve without pay other than his salary as an officer of the Agricultural Experiment Station. He shall be paid his traveling expenses.

(3) The State Entomologist shall appoint a deputy entomologist and assistants.

249.030 (1925a-1; 1925a-10) ENTOMOLOGIST MAY MAKE RULES AND PUBLISH DATA. (1) The State Entomologist, with the advice and consent of the director and the commissioner, may prescribe, modify and enforce rules, regulations and orders needed to carry out KRS 249.020 to 249.100.

(2) The State Entomologist may publish bulletins, circulars and reports containing information concerning inspections, insects and plant diseases.

(3) The rules and regulations and publications shall be printed from time to time and furnished to interested persons.

249.040 (1925a-1) ESTABLISHMENT OF QUARANTINES. The State Entomologist shall, with the advice and consent of the director

and the commissioner, establish and maintain quarantines against the importation into this state, of any trees, plants and parts of plants, whether nursery-grown or not, from any state or from any county within the state, where such plants or parts of plants are known to be affected with dangerous insect pests or plant diseases. He shall designate in announcements of quarantine the area quarantined, whether it constitutes a part of this state or some other state.

249.050 (1925a-2) INSPECTION OF ARTICLES AND PREMISES: DISEASED PLANTS TO BE DESTROYED. Whenever the State Entomologist or his deputy has reason to believe or is credibly informed that at any place within the state there has been introduced, or offered for sale, trees, plants or parts of plants infected or infested with diseases or destructive pests that are likely to spread, he shall investigate the suspected articles and premises. If they are found so infested or infected, he shall notify the owner or possessor, in writing, of the nature of the infestation, specifying the insects or diseases that have been found, and demand that within a reasonable specified time the affected articles or premises be disinfected, or destroyed by fire, under the direction of the State Entomologist, his deputy or assistant, and at the expense of the owner or possessor.

249.060 (1925a-8) NURSERIES, DEALERS AND AGENTS TO BE LICENSED. (1) Every resident nursery or agency selling nursery stock in this state shall annually file credentials with the State Entomologist. If these credentials are satisfactory to the State Entomologist, the director and the commissioner, the State Entomologist shall, upon payment of a fee of five dollars by the nursery or agency, issue it a license authorizing it to do business in the state.

(2) Every nonresident nursery and every agent, dealer or seller of trees, representing nonresident nurseries or dealers shall annually file credentials with the State Entomologist. These credentials shall include the names of nurseries, nurserymen or other persons represented. If these credentials are satisfactory to the State Entomologist, the director and the commissioner, the State Entomologist shall issue the license.*

(3) Any person soliciting orders for or delivering trees or plants in this state shall carry with him a copy of his license from this state, which he shall show to prospective buyers, purchasers, county officials or agents of the State Entomologist on demand.

* Only resident nurserymen and dealers are required to pay the five dollar license fee.

249.070 (1925a-3; 1925a-4) ENTOMOLOGIST TO INSPECT NURSERIES AND ORDER DESTRUCTION OF PESTS: SHIPMENT OF AFFECTED STOCK PROHIBITED. (1) All nurseries where trees, vines, plants or other nursery stock are grown and offered for sale, shall be inspected by the State Entomologist or by his assistant, once each year. He shall notify the owners of such nurseries, in writing, of the presence of any San Jose scale or other dangerous pests on the stock of these nurseries, and shall also notify, in writing, the owner of any affected nursery stock to take such measures, on or before a certain day, for the destruction of insect or fungus enemies of nursery stock as have been shown to be effectual.

(2) The owner of the affected nursery shall, within the time specified, take such steps for the destruction of injurious insects or fungus enemies present, as will exterminate them.

(3) No person shall ship or deliver any such nursery stock affected with insects or fungus enemies, before treatment.

249.080 (1925a-5) ENTOMOLOGIST TO ISSUE CERTIFICATE FOR STOCK FREE FROM INSECTS AND FUNGUS. When the State Entomologist examines any trees, vines, plants or other nursery stock and finds the stock free from dangerously injurious insects and fungus enemies, he shall make out and deliver to the owner of the stock a certificate stating that he has inspected the stock and that he believes it to be free from dangerously injurious insects and fungus enemies. He shall keep in his office, for the information of anyone interested, copies of all valid certificates issued by him.

249.090 (1925a-6) SHIPMENTS TO BE ACCOMPANIED BY INSPECTION CERTIFICATES. Whenever a resident nurseryman or seller of trees, vines, plants or other nursery stock ships or delivers such goods, he shall send on each package so shipped or delivered a printed copy of the certificate issued to him by the State Entomologist, stating that the stock has been inspected as required by law and is believed to be free from dangerously injurious insect or fungus enemies.

249.100 (1925a-7) NONRESIDENTS TO FILE, AND IMPORTED PLANTS TO BEAR, INSPECTION CERTIFICATES. Every nonresident nurseryman or other person intending to ship into this state trees, plants or parts of plants, whether nursery-grown or not, shall file with the State Entomologist a copy of a valid certificate

from a state or United States Government inspector showing that the trees, plants or their parts have been inspected and that he is authorized to sell and ship or transport them. All packages of trees, plants or parts of plants shall bear a copy of a certificate of inspection from an official inspector. Transportation companies within the state shall notify the State Entomologist at once when any such trees or plants are received by them without a valid certificate. Nursery stock or other trees, plants or parts of plants shipped into this state in violation of a state or United States quarantine may be seized and destroyed or returned to the shipper at the expense of the owner or possessor.

249.200 (42g-1; 42g-2) JAPANESE BEETLE CONTROL. The State Entomologist shall adopt and carry out such measures as he deems advisable to protect crops from the ravages of the Japanese beetle (*Popillia japonica*). He may employ help, purchase materials and enforce such regulations as in his discretion are necessary to accomplish the purpose.

249.990 (42f-4; 200; 1923; 1925a-4; 1925a-9) PENALTIES. (1) Any person who violates any of the provisions of KRS 249.020 to 249.100 or hinders the carrying out of any of the provisions of those sections shall be fined not less than twenty-five dollars nor more than five hundred dollars.

(2) Any fine imposed for a violation of subsection (3) of KRS 249.070 may be recovered in the county in which the nursery is situated or the county to which the nursery stock is shipped.

SUMMARY OF REQUIREMENTS OF KENTUCKY NURSERY INSPECTION LAW

(1) It shall be unlawful to sell or offer for sale uninspected or uncertified nursery stock. A certificate of inspection indicates freedom from certain injurious insects and plant diseases but does not vouch for trueness to variety nor for grade and condition of any nursery stock.

(2) Growers of nursery stock, for sale or shipment, shall apply in writing before June 1st of each year to the State Entomologist, Kentucky Agricultural Experiment Station, Lexington, for inspection services.

(3) Every dealer in nursery stock shall secure a nursery dealer's permit. Before this is issued, however, he must furnish an affidavit that he will buy and sell only stock that is certified and will maintain

with the State Entomologist a correct and complete list of all sources from which he gets his stock. Landscape architects and tree movers who handle nursery stock are classified as dealers.

(4) Every person who solicits orders for nursery stock shall obtain and carry an agent's permit which is secured only upon request of the nurseryman or dealer to be represented.

(5) All packages or bundles of nursery stock shipped by common carrier must have attached a copy of the inspection certificate or permit.

(6) Certificates and permits may be revoked for cause.

(7) Fees shall be paid as follows: Inspection certificate \$5; dealer's permit, \$5. Agents' permits and nonresident nurserymen's certificates are furnished without cost. Fees shall accompany application. Application blanks may be obtained from the State Entomologist.

(8) Nonresident nurserymen shall file copies of their state certificates and secure nonresident permits. Every package of nursery stock coming into Kentucky shall have a valid inspection certificate attached to the package. Nonresident nurserymen, dealers, and agents shall carry their Kentucky permits when soliciting orders or delivering nursery stock in Kentucky.

(9) All certificates and permits automatically expire June 30 following date of issuance.

"NURSERY STOCK" DEFINED

Nursery stock includes all trees, shrubs, vines; roses, strawberry, raspberry, and blackberry plants; herbaceous perennial plants and roots; ornamental bulbs, corms, tubers, and rhizomes; and any part of the above groups of plants capable of disseminating injurious insects and plant diseases. For regulatory purposes the term "Nursery Stock" includes all plants which grow out of doors and live more than one year, whether nursery grown or native.

REQUIREMENTS FOR SHIPMENT OF NURSERY STOCK INTO OTHER STATES

A summary of the major requirements for shipping nursery stock into other states is given on the following page. It will be noted that most states require the out-of-state shipper to file a copy of his nursery inspection certificate with the proper administrative authority

before shipments are made. Only three states require filing fees, except under special conditions, that are noted in a table which follows.

Special shipping tags are required by the following states and will be furnished by them at a nominal cost to the shippers: Arkansas (\$2 per 100 tags); Florida (\$3.24 per 100 tags); Georgia (\$1.00 per 100 tags); and New Mexico (\$1.25 per 100 tags).

A special tag should be secured and attached to each bundle of nursery stock shipped to any of the four states listed.

State	State of origin certificate filed	Nurseryman's filing fee	Agent's fee	Special tag	Posted Bond
Alabama	Yes	Reciprocal	\$1	No	None
Arizona	No	None	None	No	None
Arkansas	Yes	Reciprocal	\$1	Yes	Reciprocal
California	No	None	None	No	None
Canada	Yes	None	None	Yes ¹	None
Colorado	Yes	None	None	No	None
Connecticut	No	None	None	No	None
Delaware	Yes	None	None	No	None
Florida	Yes	None	None	Yes	None
Georgia	Yes	Reciprocal	\$1	Yes	\$1000 ²
Idaho	Yes	\$5 to \$15	\$1	No	\$1000 ²
Illinois	Yes	None	None	No	None
Indiana	Yes	None	\$1	No	None
Iowa	Yes	Reciprocal	None	No	None
Kansas	Yes	Reciprocal	None	No	None
Kentucky	Yes	None	None	No	None
Louisiana	No	None	None	No	None
Maine	Yes	None	None	No	None
Maryland	Yes	Reciprocal	None	No	None
Massachusetts	Yes	None	None	No	None
Michigan	Yes	\$15 or Reciprocal ³	\$1	No	None
Minnesota	Yes	Reciprocal	Reciprocal	No	None
Mississippi	Yes	Reciprocal	None	No	None
Missouri	Yes	None	None	No	None
Montana	Yes	\$5 to \$25	\$25	No	None
Nebraska	Yes	Reciprocal	\$1	No	None
Nevada	No	None	None	No	None
New Hampshire	No	None	None	No	None
New Jersey	Yes	Reciprocal	None	No	None
New Mexico	Yes	\$10	\$25	Yes	None
New York	No	None	None	No	None
North Carolina	Yes	Reciprocal	None	No	\$1000 ⁴
North Dakota	Yes	Reciprocal	None	No	None
Ohio	Yes	Reciprocal	\$1	No	None
Oklahoma	Yes	Reciprocal	\$1	No	None
Oregon	No	None	\$1	No	None
Pennsylvania	Yes	None	None	No	None
Rhode Island	Yes	None	None	No	None
South Carolina	Yes	None	None	No	None
South Dakota	Yes	Reciprocal	\$1	No	None
Tennessee	Yes	Reciprocal	Reciprocal	No	\$5000 ⁴
Texas	Yes	Reciprocal	None	No	None
Utah	Yes	\$10 ³	None	No	None
Vermont	No	None	None	No	None
Virginia	No	Reciprocal	Reciprocal	No	None
Washington	No	Reciprocal	\$1	No	None
West Virginia	Yes	None	\$1	No	None
Wisconsin	Yes	None	None	No	None
Wyoming	Yes	Reciprocal	None	No	None

¹ Secure special permit and instruction from officer in charge before making shipment.

² Only for fruit-stock shippers.

³ For nurserymen who operate through agents.

⁴ For nurserymen who promise maintenance.

PLANT QUARANTINE OFFICIALS OF THE STATES,

TERRITORIES, DISTRICT OF COLUMBIA,

CANADA, AND MEXICO

Alabama.....	B. P. Livingston, Chief, Division of Plant Industry, State Department of Agriculture and Industries, 515 Dexter Avenue, Montgomery 1
Alaska.....	Hon. G. W. Gasser, Commissioner of Agriculture, Fairbanks
Arizona.....	J. L. E. Lauderdale, State Entomologist, P. O. Box 2006, Phoenix
Arkansas.....	Paul H. Millar, Chief Inspector, State Plant Board, Little Rock
California.....	A. P. Messenger, Chief, Bureau of Plant Quarantine, State Department of Agriculture, Sacramento 14
Canada.....	Dr. Robert Glen, Chief, Division of Entomology, Department of Agriculture, Ottawa, Ontario
Colorado.....	F. Herbert Gates, State Entomologist, Bureau of Plant and Insect Control, 20 State Museum, Denver 2
Connecticut.....	Dr. Roger B. Friend, State Entomologist, Agricul- tural Experiment Station, Box 1106, New Haven 4
Delaware.....	W. R. Hickman, Nursery Inspector, State Board of Agriculture, Dover
District of Columbia.....	F. P. Hubert, Bureau of Entomology and Plant Quarant- ine, U. S. Department of Agriculture, Washington 25
Florida.....	Arthur C. Brown, Plant Commissioner, State Plant Board, Gainesville
Georgia.....	C. H. Alden, Director of Entomology, State Capitol, Atlanta 3
Hawaii.....	D. T. Fullaway, Chief Plant Inspector, Board of Commissioners of Agriculture and Forestry, Honolulu
Idaho.....	M. A. Lyman, Director, Bureau of Plant Industry, State Department of Agriculture, Boise
Illinois.....	H. F. Seifert, Horticultural Inspection Supervisor, Room 300, Professional Arts Building, Glen Ellyn
Indiana.....	Frank N. Wallace, State Entomologist, State Depart- ment of Conservation, Indianapolis
Iowa.....	Dr. H. M. Harris, State Entomologist, Ames
Kansas, North....	Dr. Roger C. Smith, State Entomologist, State College of Agriculture and Applied Science, Manhattan
South....	Dr. Charles D. Michener, Entomologist, Entomologi- cal Commission of Kansas, Lawrence
Kentucky.....	Professor Walter A. Price, State Entomologist, College of Agriculture, University of Kentucky, Lexington
Louisiana.....	S. J. McCrory, State Entomologist, State Department of Agriculture and Immigration, Box 4153, Capitol Station, Baton Rouge
Maine.....	E. D. Johnson, Horticulturist, Division of Plant Industry, State Department of Agriculture, Augusta
Maryland.....	Dr. E. N. Cory, State Entomologist, University of Maryland, College Park

- Massachusetts Leo F. Doherty, Director, Division of Plant Pest Control and Fairs, 41 Tremont Street, Boston 8
- Mexico Ing. Dario Arrieta, Director General of Agriculture, San Jacinto, D. G. Mexico
- Michigan C. A. Boyer, Chief, Bureau of Plant Industry, State Department of Agriculture, Lansing 13
- Minnesota T. L. Aamodt, Director, Bureau of Plant Industry, State Department of Agriculture, Dairy and Food, University Farm, St. Paul 8
- Mississippi Dr. Clay Lyle, Entomologist, State Plant Board, State College
- Missouri R. E. Roselle, State Entomologist, State Department of Agriculture, Jefferson City
- Montana R. O. Young, Chief, Division of Horticulture, State Department of Agriculture, Labor, and Industry, Missoula
- Nebraska C. J. Walstrom, Entomologist, Bureau of Plant Industry, State Department of Agriculture and Inspection, Lincoln
- Nevada George G. Schweis, Director, Division of Plant Industry, State Department of Agriculture, P. O. Box 1027, Reno
- New Hampshire Dr. J. G. Conklin, State Entomologist, Insect and Plant Disease Suppression and Control, State Department of Agriculture, Durham
- New Jersey Harry B. Weiss, Chief, Bureau of Plant Industry, State Department of Agriculture, Trenton 8
- New Mexico Professor R. F. Crawford, Deputy Inspector, College of Agriculture and Mechanic Arts, State College
- New York H. B. Little, Director, Bureau of Plant Industry, State Department of Agriculture and Markets, Albany 1
- North Carolina C. H. Brannon, State Entomologist, State Department of Agriculture, Raleigh
- North Dakota Dr. J. A. Munro, Chairman, Department of Entomology, North Dakota Agricultural College, Fargo
- Ohio John Baringer, Chief, Division of Plant Industry, State Department of Agriculture, Columbus 15
- Oklahoma Clyde A. Bower, Director, Division of Entomology and Plant Industry, State Department of Agriculture, Oklahoma City 5
- Oregon Frank McKennon, Chief, Division of Plant Industry, State Department of Agriculture, Agricultural Building, Salem
- Pennsylvania Dr. T. L. Guyton, Director, Bureau of Plant Industry, State Department of Agriculture, Harrisburg
- Puerto Rico Luis A. Catoni, Chief Inspector, Department of Agriculture and Commerce, San Juan
- Rhode Island Alvin J. Lamon, Administrator, Division of Entomology and Plant Industry, State Department of Agriculture and Conservation, State House, Providence 2
- South Carolina J. A. Berly, Entomologist, State Crop Pest Commission, Clemson

- South Dakota Harry M. Lee, Director of Plant Industry, Department of Agriculture, Pierre
- Tennessee..... J. C. Moser, State Entomologist and Plant Pathologist University of Tennessee, Knoxville
- Texas Robert Boyd, Chief, Division of Plant Quarantine, State Department of Agriculture, Austin
- Utah Earl Hutchings, State Entomologist, State Department of Agriculture, Salt Lake City
- Vermont..... Dr. M. B. Cummings, State Nursery Inspector, Agricultural Experiment Station, Burlington
- Virginia G. T. French, State Entomologist, State Department of Agriculture and Immigration, 1112 State Office Building, Richmond 19
- Washington William H. Shaw, Supervisor of Horticulture, State Department of Agriculture, Olympia
- West Virginia F. Waldo Craig, Entomologist, State Department of Agriculture, Charleston 5
- Wisconsin E. L. Chambers, State Entomologist, State Department of Agriculture, State Capitol, Madison 2
- Wyoming George B. Harston, State Entomologist, State Department of Agriculture, Powell

INTERSTATE SHIPMENT
OF
BARBERRY AND MAHONIA RESTRICTED

Federal Quarantine Number 38, on account of Black Stem Rust was amended by the Secretary of Agriculture to become effective February 11, 1950. Among the important changes in regulations are: (1) the elimination of the requirement to place a special permit tag on each package of barberry, mahonia, or mahoberberis shipped interstate; (2) shipments of seeds and fruits of approved species and varieties are required to have special permit tags attached when going into any of the eradication states.

The requirements of Federal Quarantine Number 38 are summarized as follows: (1) The eradication states are: Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, North Dakota, Ohio, Pennsylvania, South Dakota, Virginia, Washington, West Virginia, Wisconsin, and Wyoming; (2) Barberry, mahonia, and mahoberberis, in any variety, can be shipped interstate (to any state) only under certificate issued by the Bureau of Entomology and Plant Quarantine; (3) Application for Federal certificate must be filed in duplicate, not later than May 15 each year, with the Bureau of Entomology and Plant Quarantine Division of Plant Disease Control Washington 25, D. C.; (4) Only species and varieties known to be rust resistant and approved by the Bureau will be acceptable for certification. Species and varieties not known to be resistant to rust cannot be shipped interstate and growers who have such rust susceptible species will be required to destroy them before permits to ship approved varieties are granted; (5) The following species and varieties of barberry, mahonia, and mahoberberis are designated as rust resistant:

<u>Scientific Name</u>	<u>Common Name</u>
<u>Berberis arido-calida</u>	
B. <u>beaniana</u>	Bean's Barberry
B. <u>buxifolia</u>	Magellan Barberry
B. <u>buxifolia nana</u>	Dwarf Magellan Barberry
B. <u>calliantha</u>	-----
B. <u>candidula</u>	Paleleaf Barberry
B. <u>chenaulti</u>	Chenault Barberry
B. <u>circumserrata</u>	Cutleaf Barberry
B. <u>concinna</u>	Dainty Barberry
B. <u>darwinii</u>	Darwin Barberry
B. <u>formosana</u>	-----
B. <u>franchetiana</u>	-----
B. <u>gagnepainii</u>	Black Barberry
B. <u>gilgiana</u>	Wildfire Barberry
B. <u>horvathi</u>	-----
B. <u>hybrido-gagnepainii</u>	False Black Barberry
B. <u>julianae</u>	Wintergreen Barberry
B. <u>koreana</u>	Korean Barberry
B. <u>linearifolia</u> var. Orange King	Jasperbells Barberry
B. <u>mentorensis</u>	Mentor Barberry
B. <u>pallens</u>	Pallid Barberry
B. <u>potanini</u>	Longspine Barberry
B. <u>replicata</u>	Curlleaf Barberry
B. <u>sanguinea</u>	Red-pediceal Barberry
B. <u>sargentiana</u>	Sargent Barberry
B. <u>stenophylla</u>	Rosemary Barberry
B. <u>stenophylla diversifolia</u>	-----
B. <u>stenophylla irwini</u>	Irwin Barberry
B. <u>stenophylla nana compacta</u>	Corallina Barberry
B. <u>telomaica artisepala</u>	-----
B. <u>thunbergii</u> DC	Japanese Barberry
B. <u>thunbergii atropurpurea</u>	Redleaf Japanese Barberry
B. <u>thunbergii atropurpurea nana</u>	-----
B. <u>thunbergii erecta</u>	Truehedge Columnberry
B. <u>thunbergii "globe"</u>	-----
B. <u>thunbergii "golden"</u>	-----
B. <u>thunbergii maximowiczii</u>	Coral Japanese Barberry
B. <u>thunbergii minor</u>	Box Barberry
B. <u>thunbergii pluriflora</u>	Flame Barberry
B. <u>thunbergii "thornless"</u>	-----
B. <u>thunbergii "variegata"</u>	-----
B. <u>triacanthorhophora</u>	Threespine Barberry
B. <u>verruculosa</u>	Warty Barberry
B. <u>virgatorum</u>	-----
<u>Mahonia aquifolium</u>	
M. <u>bealei</u>	Oregongrape Mahonia
M. <u>compacta</u>	Leatherleaf Mahonia
M. <u>dictyota</u>	-----
M. <u>fortunei</u>	Netvein Mahonia
M. <u>nervosa</u>	Chinese Mahonia
M. <u>nervosa</u>	Cascades Mahonia
M. <u>pinnata</u>	Cluster Mahonia
M. <u>repens</u>	-----

PLANT IMPORTATION

Under provisions of Federal Quarantine Number 37 certain limitations are placed upon the importation of plants and seeds from foreign countries. Anyone wishing to import nursery stock, plants, or seeds must first obtain a permit from the Bureau of Entomology and Plant Quarantine, 209 River Street, Hoboken, New Jersey. In applying for a permit to import plant material the following information is required: (a) The name and location of the producer from whom the plants or seeds are to be secured; (b) the name and address of the person or firm to which the plants or seeds are to be shipped; (c) the number and genus of the plants or seeds for which the permit is desired.

All restricted plants imported under the conditions listed above are limited in size and age to the youngest and smallest which can be successfully freed from soil about their roots, transported to the United States, and established in this country with a reasonable degree of success. Certain classes of plants permitted entry under quarantine 37 are required to be grown by the importer under post entry inspection regulations. Such plants are not released to the trade until such time as their freedom from plant diseases and insect pests has been established. The plants are therefore grown for one or more years in a place where the state inspector may have access to them for inspection purposes, for such time as appears necessary. When their freedom from pests and diseases has been established, the plants under quarantine are released.

WHITE-FRINGED BEETLES

There was some natural spread of the white-fringed beetle during 1950, in the established infestations of Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, and South Carolina. Two comparatively small infested areas in Tennessee persist - one near Chattanooga and the other in and around Memphis - in spite of the very earnest cooperative efforts of the state and federal authorities to eradicate the pest from these two places.

The progress made in research for the control of this pest is encouraging. Chlordane and DDT show promise as effective soil treatments, and their application has been simplified by new and improved equipment and methods. The time has not yet come, however, when nurserymen and others in Kentucky can, with safety, purchase and move potted or balled plants indiscriminately from the infected areas into the Commonwealth.

JAPANESE BEETLES

The Japanese beetle infestation in Shively, where seven beetles were captured during the summer of 1949, apparently has been successfully eradicated. Intensive trapping and scouting, together with inspections of all nurseries and many other places where transportation centers would indicate danger points for Japanese beetle infestations, failed to reveal a single beetle in the area during the 1950 flight season.

In 1950 four infested areas, involving one nursery, were discovered in Jefferson county and one area was discovered in Greenup county. Foliage treatment with DDT was applied in and around all infested areas during July and soil treatment of the same areas was applied later in the season.

Plans are being made for a continuation of the trapping program during the flight season of 1951 in order to check the effectiveness of suppressive measures and to locate any possible additional infested areas.

Financial support by Jefferson and Greenup Fiscal Courts and cooperation by county agents Shirley W. Anderson and John Irvine, together with the help of the Bureau of Entomology and Plant Quarantine, made it possible to complete the suppressive work in good season.

OAK WILT

A comparatively new disease, oak wilt (*Chalara quercina* Henry), is threatening all oaks in the midwest. The disease is caused by a fungus organism that can be identified by plant pathologists in one- to two-year old vascular tissue from infected trees.

Varieties of the red and black groups seem to become infected with oak wilt more readily than white and burr oaks, although all species and varieties of oaks are susceptible to the disease.

The first symptoms in the red and black oaks are the appearance of leaves on the upper branches. They show dull light green color and curl upward. Later the leaves may turn yellow to reddish brown before falling. All leaves may fall within a month after first symptoms occur. In white and burr oaks the disease develops more slowly, with one or more branches near the top showing disease symptoms first.

Spread of the disease from diseased to healthy trees within native stands of oaks can occur through natural root grafts or unions. It is not known to plant pathologists how the disease is spread from one locality to another.

Oak wilt is known to occur in Arkansas, Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, Ohio, Pennsylvania, and Wisconsin. It is not known to occur in Kentucky. Nurserymen, foresters, and all others interested in preventing the loss of oaks should be on the alert for this trouble. Samples of twigs from oaks showing symptoms of the disease should be sent to the National Oak Wilt Research Committee, P. O. Box 373, Memphis, Tennessee.

Six twigs or branches about 6 to 8 inches long and 1/2 to 1 inch in diameter are best for laboratory examination. The twigs should be alive or just recently dead but not completely dry. Do not send leaves, dead branches or decayed wood. The twigs should be tied in a bundle, wrapped in paper so as to prevent excessive drying but should not be

wrapped in wet moss or cotton. Labels should be attached in such a manner as to couple the laboratory report with the tree from which the twigs were taken.

LOCAL PESTS

On account of the many questions arising, concerning insects and diseases, and eventually finding their way to the office of the State Entomologist, it is considered advisable to include, in this publication, a short discussion concerning some of the more important of these pests.

Red Spider

Red spider, particularly the two spotted species, is probably the most troublesome pest in Kentucky nurseries at this time. In some seasons it is difficult to keep it under control. For those who wish to employ a dust, sulphur ground finely enough to pass through a 300 mesh sieve, will probably be most advisable. The addition of enough pyrethrum to the sulphur to make a 1 percent dust will make the dust more effective. Since there is no known dust combination of pyrethrum-sulphur on the market at present, it will be necessary to have the mixture made according to specifications.

Of the more recently introduced insecticides a 1 percent parathion dust is quite effective against the two spotted spider mite. Parathion, 25 percent wettable powder, one pound per 100 gallons of water, has given excellent control of red spider on a wide range of host plants. There is little danger of plant injury with this formulation when the usual precautions are followed.

Because parathion is extremely poisonous every precaution should be taken to avoid contact of the material with the body. Also observe all precautions suggested by the manufacturer.

Bag Worm

Bag worm is one of the most common of the chewing insects found on evergreens. These leaf-eating caterpillars live in silken bags covered with bits of leaves. The bags are enlarged as the worms grow. The eggs are deposited by the females in the bags which hang on the plant over winter. The eggs hatch in this area usually in late May and the young worms crawl out, feed, and construct individual bags. There is a single generation per year.

Lead arsenate used at the rate of 2 to 3 pounds per 50 gallons of water plus 2 ounces of soybean flour will give excellent control if applied while the worms are still small. As the worms increase in size they become increasingly difficult to poison, consequently the formula should be increased to 4 pounds of lead arsenate to 50 gallons of water.

All large bags, especially over-wintering bags, should be pulled off plants and burned in order to destroy the over-wintering eggs. Hand picking of larvae on low-growing trees and shrubs is often advisable.

Pine Needle Scale

Pine needle scale is a conspicuous white scale which attacks several species of pine and spruce and may attack hemlock and fir. The most effective control is the application of liquid lime sulphur in early spring, before new growth begins. The material should be mixed at the rate of 1 gallon liquid lime sulphur to 6 to 8 gallons of water. The foliage of the infested plant should be thoroughly covered.

Euonymus Scale

Euonymus scale is very destructive and infests most of the commonly grown varieties of euonymus. The females are dark and shaped somewhat like an oyster shell, while the males are white, slender, and quite conspicuous.

The young are produced under the scale of the female and emerge about the time the plants are showing the first green tips of growth.

Apply a dormant strength oil spray just before growth starts in the spring. Before spraying remove and burn all heavily infested parts that can be spared. When the young are hatching make several applications of nicotine sulphate and soap solution.

Root Knot Nematode

Root knot nematodes are microscopic ell-worms which embed themselves in the roots and tubers of many plants. These parasites suck the sap from root tissue and cause knots ranging in size from that of a pin head to a large pea or larger. These knots interfere with normal growth and production of the plants attacked. There is no effective treatment for infested plants.

In the nursery the plants most commonly infested are althea, buddleia, boxwood, weigela, rose, deutzia, barberry, clematis, forsythia, privet, arbelia, euonymus, and willow. Among the perennials, peony heads the list of susceptible plants. No plants infested with root-knot nematodes should be allowed to reach trade channels.

Infested soil can be fumigated successfully to kill approximately 95 percent of the nematodes present. All plants must be removed from areas being fumigated. The soil fumigation process is expensive and laborious but rids the soil of nematodes so that crops can be economically produced for a period of 3 to 5 years before the infestation builds up again. There is no known method of killing nematodes in the soil while plants are growing in the same area. Soil outside the greenhouse can be sterilized by the use of certain newer fumigants such as methyl bromide in a liquid carrier, DDT mixtures, and chloropicrin. These materials are sold under various trade names. Their use should fol-

low manufacturer's directions and safety precautions should be taken wherever necessary. Heat sterilization of greenhouse soils will very effectively control nematodes.

Grasshoppers

Grasshoppers can become serious pests in nurseries and flower gardens as well as on farms in general. Eggs are deposited in the soil during late summer or early fall and hatch the following year in early summer. Grasshoppers are most easily poisoned while young or in the nymphal stage.

Chlordane or toxaphene have given excellent control of grasshoppers when applied at the rate of 1 1/2 to 2 pounds of actual chemical per acre. The material can be applied either as a dust or spray and applied directly to the vegetation of the infested area. On account of the residue problem treated crops should not be harvested or fed to livestock sooner than 30 days after the application has been made.

INSPECTION REQUIREMENTS FOR CERTAIN CLASSES

OF NURSERY MATERIAL

Gladiolus Corms

Two inspections are required for certification of gladiolus corms. The first inspection is made during the blooming season and the second inspection during storage after the corms have been cleaned.

Sweetpotato Plants

Some state laws establish the requirements that sweetpotato plants should be free from black rot, stem rot, and sweetpotato weevil before they are shipped into the respective states. Only sweetpotatoes which are certified as free from sweetpotato weevil should be bedded. A request for inspection service should be sent to the State Entomologist in advance of bedding time, giving approximate date of bedding and drawing of first plants.

Native or Collected Plants

There seems to be a growing demand for certain native or collected plants. Where it is desired to offer for sale this type of plant material the plants should be collected and "lined out" or "heeled in" and held for inspection. Notice should be forwarded to the State Entomologist giving the date when the plants will be ready for inspection and the location of the plant yard.

For general inspection requirements see "Summary of Requirements of Kentucky Nursery Inspection Law" and "Nursery Stock" defined on previous pages.

Voluntary Certification

Plant certification requirements are not uniform throughout the forty-eight states. Some states require the inspection of greenhouse plants, bulbs, corms, rhizomes, and tubers, annual flowering plants, and garden vegetable plants. Kentucky does not require inspection on any of these plants or materials. Dealers can merchandise this material, under the provisions of the Kentucky Nursery law, without registering or obtaining a state permit. A grower, of any of the above mentioned plants, who wishes to ship to other states or who wishes to have inspection and certification for any other reason can have inspection in the usual manner, by applying to the State Entomologist. As in the case of required inspection, a fee of \$5.00 is charged for voluntary inspection.

Strawberry Plants

Growers wishing to offer strawberry plants for sale should take into account the dual inspection requirements. Notice should be given to the State Entomologist by the middle of April if inspection services are desired. The first inspection of strawberry plants is made during the blooming season and the second inspection during late summer or early fall.

Raspberry Plants

Two inspections are required for certification of raspberry plants. These inspections are made during summer months and must be at least thirty days apart. Raspberry plant growers wishing inspection services should notify the State Entomologist by June first.

KENTUCKY NURSERYMEN WHO RECEIVED CERTIFICATES OF
INSPECTION, 1950-51

Name	Address	Acreage	Kind of Stock
Alford, James W. Arrow-Wood Nursery	Waynesburg	3/4 acre	Strawberries
W. C. O'Conner Arterburn, Paul Nursery	Warsaw	5 acres	Ornamental
Mrs. Paul Arterburn Barnett's Nursery	St. Matthews	5 acres	Ornamental
A. E. Barnett Barr and Leichhardt Nursery	Murray	1 acre	Ornamental
Bowling Green	6 acres	Ornamental	
Bel-Bar Acres Mrs. Belle Kistler	Anchorage	2 acres	Iris
Bellfonte Nursery Orval Lycan	Ashland	10 acres	General
Bluegrass Orchids Harold Wright	Lexington		Orchids
Carter Nursery H. V. Pack	Carter	1/4 acre	Ornamental
Cheatham, Mrs. Tracie Cherry Florist	Danville	1/4 acre	Perennials
Paducah			Greenhouse
Chick's Nursery C. D. Chick	Marion	2 acres	Ornamental
Clay Nursery J. H. & M. D. Threlkeld	Clay	10 acres	General
Clyffty Evergreen Gardens D. L. Parsons	Catlettsburg	2 acres	Ornamental
Crume Nursery and Land- scape Co., T. C. Crume	Florence	15 acres	General
Curry, J. G. Dieterich, C. P. and Bro.	Hawesville		Sweetpotato Plants
Maysville	1/2 acre	Ornamental	
Dixie View Nurseries A. L. Heger	Covington, Box 423	40 acres	General
Donaldson Nursery J. F. Donaldson	Sparta	10 acres	General
Dressman, J. A. Elizabethtown Florist and Nursery	Covington, Box 500		Bulbs
Elizabethtown	1 acre	Ornamental	
England's Nursery A. G. England	Louisville	2 acres	Ornamental
Evans Gardens Fike Nurseries	Lexington	3 acres	Perennials
J. W. Fike Florence Nursery	Hopkinsville	60 acres	General
Dr. F. J. Hammersmith Gardiner, Boone Nurseries	Florence	2 acres	Ornamental
Dan Gardiner	Louisville, R. #6	15 acres	General

Name	Address	Acreage	Kind of Stock
Gordon, Fred L. Nursery	Louisville, 4502 Newcut Road	5 acres	General
Gramse Nursery	Paducah	5 acres	General
Grant Gardens	Louisville, 412 Oread Road	1/4 acre	Iris
Green River Home Nursery			
W. A. Sandefur	Robards	5 acres	General
Haag Nurseries	Jeffersontown	25 acres	General
Hartman, Walter Nursery	Louisville, R. #6	3 acres	Perennials
Harville, A. M. Florist	Princeton	2 acres	Ornamental
Hendrick Nursery	Bowling Green	2 acres	Ornamental
Higdon Nursery	Mayfield	2 acres	Ornamental
Highland Fruit Farm	Waynesburg	1 1/2 acres	Strawberries
Hillenmeyer Nursery	Lexington	250 acres	General
Hill's Nursery			
Wm. Hill	Warsaw	35 acres	General
Humphrey's Landscape Service			
A. G. Humphrey	Mt. Sterling	10 acres	General
Johnstone, Allie	Benton	3 acres	General
Kelley, Asa	Fordsville	1 acre	Fruits
Kentucky Department of Forestry	Dawson Springs	3 acres	Tree Seedlings
Kentucky Department of Forestry	Louisville (State Fair Grounds)	5 acres	Tree Seedlings
Klein Nursery and Floral Co.	Crestwood	50 acres	General
Korfhage Nursery and Florist			
Louis Korfhage	Shively	10 acres	General
Leeming Nursery			
Bruce Leeming	Shively	5 acres	General
Lillard Nursery	Jeffersontown	10 acres	Ornamental
Lindburg's Nursery	Lexington	5 acres	General
Martin's Nursery	Carrollton	25 acres	General
McCutchen's Greenhouse	Paducah, Cairo Road		Greenhouse
Metcalf Wholesale Florist	Hopkinsville		Greenhouse
Mink's Nursery			
Wm. Mink	London	1 acre	Ornamental
Mt. Pleasant Gardens	Ft. Thomas	7 acres	General
Murdock Farms			
L. W. Murdock	Farmington	1/2 acre	Ornamental
Murray Nursery and Florist	Murray	2 acres	Ornamental
Nick's Nursery	Anchorage	25 acres	General
Painter-Shevetto Nursery	Anchorage	5 acres	General
Perennial Farms	Louisville, R. #1	5 acres	Perennials
Peyton's Nursery	Hodgenville	2 acres	Ornamental
Pomona Nurseries	Bowling Green	6 acres	General
Ray, Carl Company	St. Matthews	10 acres	General
Ray, W. E.	Bowling Green		African violets

Name	Address	Acreage	Kind of Stock
Razor, V. C.	Flemingsburg	1/4 acre	Fruits
Reynolds Nursery			
Arthur Reynolds	Bondville	10 acres	General
Sanders Brothers Nursery	Paducah	25 acres	General
Schmaus, Roy	Benton	4 acres	Ornamental
Schneidman Greenhouses			
John Schneidman	Paducah	10 acres	General
Schultz, Jacob Company	Louisville,		
	Bardstown rd.	1 acre	Ornamental
Shupe Nursery	Sedalia	3 acres	Ornamental
Singer Gardens			
J. W. Singer	Stamping Ground	5 acres	Ornamental
Smith, Mrs. H. Curtis	Sunnyside	1/4 acre	Dahlia
Smits Greenhouses	Paris	3 acres	General
Soil Conservation Service	Paducah	5 acres	Ornamental
Spring Hill Nursery			
Roscoe Johnson	Ashland	4 acres	Ornamental
Tichenor, B. F.	Centertown	2 acres	Gladiola
Todd County Nursery			
J. M. Green	Trenton	1 acre	Ornamental
Valentine Nurseries	Keavy	2 acres	Ornamental
Walker, Kingsley Company	Louisville,	2 acres	Ornamental
	Walker Ave.		
Wallitsch Nurseries	Louisville, R. #6	5 acres	Ornamental
Waters, Estil	Smithtown		Strawberries
Watkins, Leroy	Owensboro	3 acres	Ornamental
Wayside Nursery	Robards		Ornamental
Webb, S. T. and Son	Eubank	1 acre	Strawberries
Weber, Boyd M.	Walton	1 acre	Ornamental
Wettstain, H. C.	Lewisport		Sweetpotato Plants
Whittinghill, Lonnie M.	Love	1 acre	Fruits & Ornament
Wilder, R. G. Nursery	Louisville, R. #6	1 acre	Ornamental
Wildwood Nursery			
Ralph Childers	Ashland, 2506 29th St.	1 acre	General
Willadean Nurseries			
A. L. Kidwell	Sparta	60 acres	General
Wittenback, Jake	London	1/2 acre	Ornamental
Wurdeman, John	Ashland	2 acres	Ornamental
Yopp Nursery	Paducah	2 acres	General

NURSERY DEALERS

Alexandria Landscape Service	Campbellsville
Ashby, Sterett	Hawesville
Bacon, J. and Sons, Inc.	Louisville
Bailey, Earl	Lexington
Bezold, Anthony	Newport
Bickers, Arnold	Lexington
Boswell, A. J.	Henderson
Bunton Seed Company	Louisville
Castleton Nursery	Lexington
Chowning, Kelly T.	Lexington
Cole, Julian B.	Henderson
Davis, Paul	Rose Hill, Va.
Deibel, B. C.	Buechel
Ferguson, Mrs. Emogene	Louisa
Fields, R. G.	Lexington
Foster, William P.	Dixon, Ill.
Furnish, Ray	Ft. Thomas
Grant, W. T. Company	Paducah
Grant, W. T. Company	Louisville
Green, H. L. Company	Louisville
Green, Miss Linda	Covington
Hammond Tree Service	Cincinnati, Ohio
Haupt, Fred Florist	Louisville
Hawhee and Rhoades	Owensboro
Hill, Geo. D.	Drayfus
Hillenmeyer, Ernest B., Jr.	Maysville
Howell, Joe N.	Knoxville, Tenn.
James, Edward	Harrodsburg
Karagiozian, N.	Lexington
Karcher, Theodore B.	Louisville
Kesterman, Wm. L.	Covington
Kloosterman, K.	Lexington
Kresge, S. S. Company No. 56	Louisville
Kresge, S. S. Company	Lexington
Kresge, S. S. Company	Paducah
Kresge, S. S. Company	Covington
Kresge, S. S. Company	Newport
Kresge, S. S. Company	Owensboro
Kresge, S. S. Company No. 457	Louisville
Kresge, S. S. Company No. 1178	Louisville
Kress, S. H. and Company	Ashland
Kress, S. H. and Company	Hopkinsville
Kress, S. H. and Company	Winchester
Lester, Vernon Lester	Cincinnati, Ohio
Lose Brothers	Louisville
Lynch, Edward P.	Frankfort
Martin, G. L.	Livermore
McCullough, J. Chas. Seed Company	Cincinnati, Ohio
Michler Florist	Lexington
Miles, H. C.	Louisville

Missouri Nurseries	Louisiana, Mo.
Muschert, G. E.	New York, N. Y.
Neuner, Carl	Louisville
Newberry, J. J. Company	Mayfield
Newberry, J. J. Company	Owensboro
Newberry, J. J. Company	Henderson
Newberry, J. J. Company	Frankfort
Newberry, J. J. Company	Pineville
Newberry, J. J. Company	Richmond
Newberry, J. J. Company	Elizabethtown
Newberry, J. J. Company	Glasgow
Newberry, J. J. Company	Cynthiana
Newberry, J. J. Company	Somerset
Newberry, J. J. Company	Lebanon
Newberry, J. J. Company	Shelbyville
Newberry, J. J. Company	Versailles
Newberry, J. J. Company	Mt. Sterling
Newberry, J. J. Company	Paris
Newberry, J. J. Company	Winchester
Newberry, J. J. Company	Harlan
Newberry, J. J. Company	Hazard
Newberry, J. J. Company	Danville
Newberry, J. J. Company	Bardstown
Newberry, J. J. Company	Corbin
Newberry, J. J. Company	Lawrenceburg
Newberry, J. J. Company	Central City
Ostrander, John O.	Louisville
Purcell's	Lexington
Renfrow, H. E.	Beaver Dam
Rottgering's Nursery	Paducah
Sciential Land Imp. Co., Inc.	Lexington
Schatz, C. F.	McKeesport, Pa.
Scott-Burr Store # 71.....	Harlan
Scott-Burr Store # 125.....	Hazard
Scott-Burr Store # 131.....	Middlesboro
Scott, Riley L.	Owensboro
Sears, Roebuck and Company.....	Covington
Sears, Roebuck and Company.....	Lexington
Sears, Roebuck and Company.....	Louisville
Sims Floral Company.....	Danville
Snyder, Ben	Louisville
Stoke, Louis, Jr.	Louisville
Tyler, J. C.	Danville
Veeley, John D.	Louisville
Walgreen Drug Store.....	Lexington
Walgreen Drug Store, 972 Baxter Avenue	Louisville
Walgreen Drug Store, 790 E. Pkwy.	Louisville
Walgreen Drug Store, 526 S. 4th	Louisville
Walgreen Drug Store, 661 S. 4th	Louisville
Walgreen Drug Store, 401 Jefferson St.	Louisville
Walgreen Drug Store	Owensboro
Walgreen Drug Store	Paducah

Williams, John D.	Jeffersonville
Woolworth, F. W. Company No. 203	Paducah
Woolworth, F. W. Company No. 257	Owensboro
Woolworth, F. W. Company No. 416	Henderson
Woolworth, F. W. Company No. 505	Bowling Green
Woolworth, F. W. Company No. 933	Hopkinsville
Woolworth, F. W. Company No. 996	Mayfield
Woolworth, F. W. Company No. 1825	Madisonville
Woolworth, F. W. Company No. 34	Louisville
Woolworth, F. W. Company No. 152	Lexington
Woolworth, F. W. Company No. 411	Covington
Woolworth, F. W. Company No. 478	Newport
Woolworth, F. W. Company No. 493	Frankfort
Woolworth, F. W. Company No. 674	St. Matthews
Woolworth, F. W. Company No. 706	Louisville
Woolworth, F. W. Company No. 787	Richmond
Woolworth, F. W. Company No. 877	Danville
Woolworth, F. W. Company No. 1121	Ashland
Woolworth, F. W. Company No. 1175	Maysville
Woolworth, F. W. Company No. 1702	Louisville
Woolworth, F. W. Company No. 1988	Louisville

SUMMARY OF NURSERY INSPECTION, 1950-51

Inspections of growing stock.....	91
Inspections of fruit stock only	2
Inspections of bulbs, perennials, etc.	10
Inspections of sweetpotato plants.....	2
Inspections of greenhouses.....	4
Acres of growing stock.....	894
Acres of fruit stock only.....	3/4
Acres of bulbs, perennials, etc.	16.50
Square feet of sweetpotato plant beds	36,000
Kentucky Growers certificates issued.....	92
Non-resident nurserymen's licenses issued	321
Non-resident nursery agent's permits issued.....	56
Nursery stock dealer's permits issued.....	123
Miles traveled by inspector.....	18,061
Number of counties visited	120

7-51-2M