# Insect Identification Laboratory

**ANNUAL REPORT 1990** 



Eric R. Day F. William Ravlin Susan L. Rutherford

Department of Entomology College of Agriculture and Life Sciences



Publication 444-112 Revised 1991

# TABLE OF CONTENTS

Introduction	iii
Insect Surveys	1
Total Number of Specimens Received	3
Specimens Received by Month and Commodity Group	4
Arthropods Received by Commodity Group :	
Ornamentals and Shade Trees	5
Household	8
General	9
Vegetables, Field Crops, and Forage	10
Fruits and Nuts	10
Lawn and Turf	11
Human	12
Animal	12
Structural	12
Apiculture	13
Stored Products	13
Number of Specimens Received from each County	14

.

This report summarizes the activity of the Insect Identification Laboratory at Virginia Tech for 1990. The laboratory is located in 312 Price Hall. It is managed by Eric Day, Lab Specialist, and F. William Ravlin, Extension Entomologist, Department of Entomology.

Specimens are identified and recorded in the lab, then sent for control recommendations and additional comments to Extension Entomologists who handle particular commodity groups. All specimen data are entered into the Insect I.D. Lab computer data base on the Virginia Tech mainframe computer. The data base greatly facilitates sorting and storage of the information. Sue Rutherford is responsible for all data base management. Some of the records were sent via microcomputer to the Cooperative National Plant Pest Survey and Detection Program (USDA, APHIS, PPQ). We at Virginia Tech acknowledge support provided by this program.

Starting in 1987 the Insect I.D. Lab computer data base became available for access by county agents to check on samples being processed. Access to this program is provided through the Extension network (XNET). The data base was queried approximately 200 times in 1990. Agents wishing to access the data base should first log on to the mainframe computer. Once logged on type **CLINIC** and press the return key. The program then asks a series of questions to select the proper data set for their search and compose the actual search query. This program assists agents in making identifications in their offices based on previous samples and it also is helpful in obtaining usage counts for annual reports. A manual detailing this program was sent to all county offices. Additional copies are available from the Insect Identification Laboratory and in the October 1987 issue of the Plant Protection Newsletter (Vol. 7, No. 10).

To facilitate mailing insects and insect damaged plant specimens to the lab, local offices of Virginia Cooperative Extension are provided with Insect Identification and Diagnosis Request forms (form 444-113), alcohol vials, and mailing tubes. Specimens also may be brought directly to the lab or mailed to:

> Insect Identification Laboratory Extension Entomology 312 Price Hall VPI&SU Blacksburg, VA 24061-0319 (703) 231-4899

Whenever possible insects are identified to the species level. Common names are used where possible because of their wide recognition.

A total of 1,629 requests were received in 1990. Ninety percent were forwarded by Extension Agents; the rest were brought or sent in directly by the general public. Identification requests from homeowners accounted for 69 percent of the total, 31 percent were from commercial growers, urban pest control operators, physicians, university faculty and staff, Virginia Department of Agriculture and Consumer Services (VDACS), and unspecified sources. Control recommendations were requested in 81 percent of the cases.

## Insect Surveys conducted in 1990

Asian Tiger Mosquito, Aedes albopictus: Tire stores and tire dumps were surveyed in the towns of Hillsville, Stuart, Axton, South Hill, Emporia, and Wakefield. Sites were checked for both adult mosquitoes and larvae. No Aedes albopictus were found.

**Western Corn Rootworm**, *Diabrotica virgifera*: Most of the counties east of I-95 and east of US 301 were surveyed as well as a few central portions of the commonwealth. Fields planted to continuous corn as well as volunteer corn in soybean fields were checked for adult beetles. *Diabrotica virgifera* was found in Brunswick, Northumberland and Westmoreland Counties for the first time. *D. virgifera* has already been found in much of the central and western portions of the commonwealth during surveys conducted in past years. See the Plant Protection Newsletter, Vol. 8, No. 8, September 1989 and Vol. 9, No. 7, October 1990.

**Corn Earworm,** *Heliothis zea*: Most of the counties east of I-95 and east of US 301 were surveyed during the week of July 21st. In that region 56 percent of the ears of corn had at least one corn earworm larva present.

**Previous Surveys**: Corn Earworm, *Heliothis zea*, Survey (1974-1990); Western Corn Rootworm, *Diabrotica virgifera* (1985, 1987-90); Asian Tiger Mosquito, *Aedes albopictus* (1988-1990).



Persons providing identifications and/or control recommendations:

Identifications and control recommendations covering most commodities performed by:

Mr. Eric R. Day Manager, Insect Identification Laboratory

Timely and valuable identifications and/or control recommendations were also provided by:

Dr. Donald G. Cochran Professor of Entomology

Dr. Richard D. Fell Assoc. Professor of Entomology

Dr. Ames Herbert Assistant Professor

Dr. Michael Kosztarab Professor of Entomology

Dr. John M. Luna. Assistant Professor

Dr. Douglas G. Pfeiffer Associate Professor

Dr. R. L. Pienkowski Professor of Entomology

Dr. F. William Ravlin Associate Professor of Entomology

Dr. William H Robinson Professor of Entomology

Dr. Peter Schultz Associate Professor

Dr. Paul J. Semtner Associate Professor

Dr. E. C. Turner Professor of Entomology

Dr. John A. Weidhaas, Jr. Associate Professor

Dr. Roger Youngman Assistant Professor

Dr. Geoff Zehnder Assistant Professor Apiculture and Stinging Insects

Soybeans, Small grains, Peanuts, and cotton

Scale Insects

Cockroaches

Alfalfa

Fruit and Nuts

**Stored Grain Pests** 

**Gypsy Moths** 

Household and Structural Wood, Lawn and Turf, Human

Ornamentals

Tobacco

Medically Important Insects

Ornamentals and Vegetables

Corn, Small grains, and Livestock

**Commercial Vegetable Crops** 

The following table lists the magnitude of activities and services provided by the Insect Identification Laboratory (IIL) and the faculty and staff associated with it since 1967.

Year	Identifications for Extension Agents and the Public	Identifications from Exotic Pest Surveys, Numbers of Traps Examined	Identified by U.S. National Museum through The IIL
1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1984 1985 1986 1987 1988 1989	318 984 1104 1245 1276 970 1124 1264 1430 1437 1365 1351 1770 1527 2028 2004 1815 1745 1730 1537 1731 1719 1877	a a a a a a a a a a a a a a a a a a a	a a a 100b 516 184 316 160 223 282 89 120 23 89 120 23 89 120 23 89 120 23 89 100 36 45 20 16 32 15 10 27
TOTAL	34980	396	2413

Number of Specimens Identified

a Service not previously provided. b Estimated

	JAN	FEB	MAR	APR	MAY	JUN	E JUL	Y AUG	SEP	ост	NOV	DEC	TOTAL	% OF TOTAL
Ornamentals, Shade trees	20	28	39	51	90	145	108	130	61	53	19	14	758	46.5%
Household	17	16	16	19	30	35	41	29	23	30	6	8	270	16.6%
General	2	4	3	5	14	6	7	10	9	5	2	3	70	4.3%
Veg./Field crops	1	0	5	8	10	23	20	18	13	3	0	1	102	6.3%
Fruits and nuts	3	3	5	6	10	16	16	13	9	5	2	1	89	5.5%
Lawns and turf	1	1	1	0	8	1	5	10	4	5	0	0	36	2.2%
Human	1	0	2	8	11	16	7	7	15	7	3	2	79	4.8%
Animal	1	1	0	0	1	1	0	1	2	2	1	0	10	0.6%
Structural	9	4	20	26	10	12	3	9	3	3	1	2	102	6.3%
Apicultural	0	1	1	1	0	1	0	1	0	1	0	0	6	0.4%
Stored Products	9	4	18	9	10	4	6	12	7	19	5	4	107	6.6%
				•••	•••		•••			•••				
TOTAL	64	62	110	133	194	260	213	240	146	133	39	35	1629	
% OF TOTAL	3.9%	3.8%	6.8%	8.2%	11.9%	16.0%	13.1%	14.7%	9.0%	8.2%	2.4%	2.1%		

## SPECIMENS RECEIVED BY THE INSECT IDENTIFICATION LABORATORY IN 1990

Ornamental	143	EUI	3 K		1 40	U							
	J	F	M	A	M	J	J	A	s	0	N	D	тот
Spruce Mite	2	1	1	4	4	15	8	10	1	4	2	0	52
No Insects Found	1	1	2	1	7	12	11	7	1	1	0	1	45
Pales Weevil	0	0	1	2	0	2	3	3	1	2	0	0	14
Thrips	0	0	0	1	1	4	2	2	1	1	0	1	13
Twospotted Spider Mite	0	2	0	0	0	6	2	1	2	0	0	0	13
Buck Moth	1	0	0	0	5	4	1	0	0	0	0	0	11
Greenstriped Mapleworm	0	0	0	0	0	2	4	3	1	0	0	0	10
Boxwood Mite	0	1	0	0	0	3	2	0	0	2	1	0	9
Pine Bark Adelgid	0	0	1	0	1	4	0	2	1	0	0	0	9
Fall Webworm	0	0	0	0	0	1	2	3	2	0	0	0	8
Orangestriped Oakworm	0	0	0	0	0	0	0	5	2	1	0	0	8
Spider Mites	0	0	0	0	0	2	0	4	1	1	0	0	8
White Pine Aphid	0	1	0	1	0	1	1	0	1	2	0	1	8
Allegheny Mound Ant	0	0	0	1	1	1	0	2	1	0	1	0	7
Azalea Lace Bug	Ó	1	0	1	0	0	2	0	2	1	0	0	7
Bark Beetles	0	0	1	0	0	2	2	2	0	0	0	0	7
Black Vine Weevil	1	2	0	2	0	0	1	1	0	0	0	0	7
Euonymus Scale	0	1	0	0	1	2	1	2	0	0	0	0	7
Pine Sawyers	0	0	0	0	0	0	1	4	0	2	0	0	. 7
Wheel Bug	0	0	1	0	1	2	1	1	0	0	1	0	7
Aphids	0	0	0	0	1	2	1	1	0	1	0	0	6
Cottony Camellia Scale	0	0	2	1	1	1	1	0	0	0	0	0	6
Leafhoppers	0	0	0	0	0	0	3	2	1	0	0	0	6
Millipedes	1	0	0	0	0	1	1	1	2	0	0	0	6
Not An Insect	0	0	3	0	0	3	0	0	0	0	0	0	6
Poplar Tentmaker	0	0	0	0	0	1	0	0	5	0	0	0	6
Southern Red Mite	0	1	0	0	1	1	1	0	1	1	0	0	6
Boxwood Leafminer	1	1	2	0	0	1	0	0	0	0	0	0	5
Boxwood Webworm	0	1	0	1	0	2	0	0	0	1	0	0	5
Caterpillars	0	0	0	0	2	1	1	0	0	0	1	0	5
Dogwood Twig Borer	0	0	0	0	0	1	1	3	0	0	0	0	.5
Eriophyid Mites	0	0	0	0	1	2	0	1	1	0	0	0	5
Hemlock Woolly Adelgid	1	0	0	0	1	1	1	0	1	0	0	0	5
Magnolia Scale	0	0	0	1	0	1	2	1	0	0	0	0	5
Maple Spindlegall	0	0	0	0	0	2	1	1	1	0	0	0	5
Oystershell Scale	0	0	1	1	1	1	0	0	0	0	1	0	. 5
Pine Needle Scale	0	0	1	1	0	1	0	1	0	1	0	0	5
Planthoppers	1	0	0	0	0	2	1	0	1	0	0	0	<sup>•</sup> 5
Rhododendron Borer	1	0	0	0	1	0	1	1	0	1	0	0	5
Sawflies	0	0	0	0	2	1	0	1	0	1	0	0	5

1

•

	J	F	M	A	M	J	J	A	S	0	N	D	тот
Bagworm	0	1	0	0	0	0	1	1	0	0	0	1	4
Boxwood Psyllid	0	0	1	0	0	1	1	0	0	0	1	0	4
Erineum Galls	0	0	0	0	0	1	0	2	0	0	1	0	4
European Hornet	0	0	1	0	0	0	0	2	1	0	0	0	4
Fletcher Scale	1	0	0	3	0	0	0	0	0	0	0	0	4
Gall Midges	0	0	0	0	0	0	3	1	0	0	0	0	4
Gladiolus Thrips	0	0	0	0	0	2	1	1	0	0	0	0	4
Gregarious Oak Leafminer	0	0	0	0	0	3	0	1	0	0	0	0	4
Hackberry Leafslug	0	0	0	0	0	0	0	3	0	0	1	0	4
Japanese Beetle	0	0	0	0	0	0	3	1	0	0	0	0	4
Nantucket Pine Tip Moth	0	0	1	0	0	0	1	2	0	0	0	0	4
Psocids	0	0	0	0	0	1	0	0	2	1	0	0	4
Seedcorn Maggot	0	0	0	1	3	0	0	0	0	0	0	0	4
Tiger Moths	0	0	0	1	1	0	0	1	0	0	0	1	4
White Pine Weevil	0	0	0	0	0	1	3	0	0	0	0	0	4

## RECEIVED 3 TIMES

Arborvitae Leafminer Azalea Caterpillar Blister Beetles Brown Soft Scale Darkling Beetles Flower Thrips Gypsy Moth Iris Borer Lady Beetles Norway Maple Aphid Pine Webworm Sassafras Weevil Tuliptree Scale Wax Scale

Ornemental

Azalea Bark Scale Azalea Stem Borer Bronze Birch Borer Cottony Maple Scale Eastern Tent Caterpillar Green Fruitworm Hickory Leaf Stem Gall Juniper Bark Beetles Mulberry Whitefly Pesticide Burn Rhododendron Lace Bug Stink Bugs Tussock Moths Yellownecked Caterpillar

### RECEIVED 2 TIMES

Aphidlions Birch Aphid Calico Scale Carpenterworm Cecropia Moth Cottony Maple Leaf Scale Crape Myrtle Aphid Earthworms Elm Leaf Beetle Fall Cankerworm Fungus Gnats Garden Fleahopper Hoplia Beetles Juniper Webworm Larger Elm Leaf Beetle Lilac Borer Mealybugs Notodontid Moths Obscure Scale Pine Spittlebug Polyphemus Moth Roundheaded Borers Shore Flies Snails Sphinx Moths Spiny Elm Caterpillar Termites Vein Pocket Gall Wool Sower Gall Assassin Bugs Boxelder Twig Borer Cambium Miner Catalpa Sphinx Checkered Beetles Could Not Diagnose Dogwood Borer Earwigs European Elm Bark Beetle Fourlined Plant Bug Gall Mites Gloomy Scale Ips Engraver Beetles Lace Bugs Leafrollers Locust Leafminer Mimosa Webworm Oak Skeletonizer Pine Aphids Plant Bugs Praying Mantids Scoliid Wasps Slugs Sooty Mold Spiders Spruce Aphid Variable Oakleaf Caterpillar

Ornamental

RECEIVED 1 TIME

Ambrosia Beetles Ash Midrib Gall Azalea Whitefly Balsam Twig Aphid Bech Leaftier Bird Wites Biting Midges Blackberry Psyllid Bronzed Cutworm Bugs Cabbage Looper Chinese Mantid Coneworm Cooley Spruce Gall Adelgid Cutworms Darkwinged Fungus Gnats Darkwinged Fungus Gnats Eastern Hercules Beetle Eastern Spruce Gall Adelgid Encyrtid Wasps European Birch Aphid Flatheaded Borers Forest Tent Caterpillar Gall Adelgids Garsshoppers Halictid Bees Hemispherical Scale Hickory Horned Devil Honeylocust Plant Bug Horntails Imported Willow Leaf Beetle Insect Eggs Juniper Aphids Lacewings Leafcutting Bees Leaftiers Looper Maple Leafminer Megarhyssa Wasp Milkweed Tiger Moth Nematodes Nematodes Noctuid Moths Oak Aphids Oak Erioccoccin Pale Tussock Moth Periodical Cicada Pine Sawflies Pine Tussock Moth Pinkstriped Oakworm Pitted Ambrosia Beetle Promethea Moth Promethea Moth Redbud Leafroller Redheaded Pine Sawfly Redhumped Oakworm Rose Chafer Sap Beetles Sap Beetles Scentless Plant Bugs Shothole Borer Solitary Midges Spruce Needleminer Sycamore Plant Bug Tanbark Borer Treehoppers Tuliptree Silkmoth Velvet Mites Webworms Woolly Elm Aphid Woolly Pine Scale Yucca Plant Bug

Argid Sawflies Ash Plant Bug Bagworm Moth Bagworm Moth Barberry Webworm Billbugs Birdsnest Fungi Black Turpentine Beetle Boisduval Scale Brown Prionid Bulb Mite Chinch Bug Cicada Killer Confused Eusarca Cottonycushion Scale Cvclamen Mite Cottonycushion Scale Cyclamen Mite Dogwood Sawfly Eastern Pine Looper Elm Spanworm European Earwig Florida Tortoise Beetle Fungus Weevils Gall Wasps Hackberry Button Gall Harvester Hemlock Rust Mite Holly Leafminer Horned Oak Gall Ichneumon Wasps Indianmeal Moth Jume Beetles Juniper Scale Juniper Scale Leaf Beetles Leafminers Leatminers Longlegged Flies Maple Aphids March Flies Midge Galls Moth Flies Nephoptrix Leafroller Nymphalid Butterfly Oak Button Galls Oak Spider Mite Paria Leaf Beetles Pine Gall Weevil Pine Tortoise Scale Pinhole Borers Pitch Pine Midge Privet Thrips Pyralid Moths Redheaded Ash Borer Redhumped Caterpillar Rhinoceros Beetle Rottenwood Caterpillars Scarab Beetles Nymphalid Butterfly Scarab Beetles Sharpshooter Soldier Flies Sowbugs SowDugs Stalk Borer Syrphid Flies Thyatirid Moth Tufted White Pine Caterpillar Velleda Lappet Moth Walnut Caterpillar Weevils Woolly Oak Gall Woollybears Zale Caterpillar

-----

J	F	M	A	M	J	J	A	S	0	N	D	TOT
1	3	0	2	0	4	7	4	1	1	0	0	23
1	0	1	4	3	2	0	0	1	1	0	1	14
1	0	2	1	0	0	1	0	0	1	3	1	10
0	0	0	0	1	4	2	0	2	0	0	0	9
0	0	0	0	0	0	0	0	2	6	0	0	8
1	1	1	0	1	0	3	1	0	0	0	0	ຮ່
1	2	0	0	1	0	1	0	0	3	0	0	8
0	0	0	1	2	3	1	0	0	1	0	0	8
1	0	0	1	2	0	0	1	1	1	0	0	7
0	0	0	0	1	2	2	0	0	0	0	0	5
0	0	0	0	0	0	0	3	2	0	0	0	5
1	0	0	0	1	0	1	1	0	1	0	0	5
0	0	0	0	0	1	2	1	0	0	0	0	4
0	0	1	1	0	2	0	0	0	0	0	0	4
0	0	3	0	0	0	0	0	0	0	0	1	4
0	0	0	0	0	0	0	4	0	0	0	0	4
0	1	0	2	0	0	1	0	0	0	0	0	4
1	0	0	1	0	1	0	1	0	0	0	0	4
0	0	0	0	0	1	1	0	1	0	0	1	4
0	0	0	0	0	2	0	0	1	1	0	0	4
	J 1 1 0 1 1 0 1 0 0 1 0 0 0 0 0 0 0 1 0	1       3         1       0         1       0         0       0         0       0         1       1         0       0         1       1         2       0         1       1         0       0         1       0         0       0	1       3       0         1       0       1         1       0       2         0       0       0         0       0       0         1       1       1         1       2       0         0       0       0         1       1       1         1       2       0         0       0       0         1       0       0         0       0       0         0       0       0         0       0       1         0       0       3         0       1       0         1       0       0         0       1       0         0       0       0         0       0       0         0       0       0         1       0       0         0       0       0         0       0       0         0       0       0         0       0       0	J         F         M         A           1         3         0         2           1         0         1         4           1         0         2         1           0         0         0         0           0         0         0         0           1         1         1         0           1         2         0         0           1         1         1         0           1         2         0         0           1         0         0         1           0         0         0         0           1         0         0         0           0         0         0         0           0         0         1         1           0         0         3         0           0         0         0         1           0         0         0         1           0         0         0         1           0         0         0         1           0         0         0         1           0         0	J         F         M         A         M           1         3         0         2         0           1         0         1         4         3           1         0         2         1         0           0         0         0         0         1           0         0         0         0         1           0         0         0         0         1           1         1         1         0         1           1         2         0         0         1           0         0         0         1         2           0         0         0         1         2           0         0         0         1         2           0         0         0         0         1         2           0         0         0         0         1         1         0           1         0         0         0         0         0         0         0           1         0         0         0         0         0         0         0           0         0	I         3         0         2         0         4           1         0         1         4         3         2           1         0         1         4         3         2           1         0         2         1         0         0           0         0         0         0         1         4           0         0         0         0         1         4           0         0         0         0         1         4           0         0         0         0         1         4           0         0         0         0         1         4           0         0         0         0         1         1         0           1         1         1         0         1         2         0           0         0         0         1         2         0         0         1           0         0         0         0         1         1         0         2           0         0         0         0         0         0         0         1           0	1         3         0         2         0         4         7           1         0         1         4         3         2         0           1         0         1         4         3         2         0           1         0         1         0         1         4         3         2         0           1         0         2         1         0         0         1         2           0         0         0         0         1         4         2           0         0         0         0         1         4         2           0         0         0         1         2         3         1           1         1         1         0         1         2         3         1           0         0         0         1         2         3         1         1         2         2           0         0         0         1         2         0         0         1         1         2         2         1         1         1         2         2         1         1         1         2	1         3         0         2         0         4         7         4           1         0         1         4         3         2         0         0           1         0         1         4         3         2         0         0           1         0         2         1         0         0         1         0           0         0         0         1         4         2         0         0           0         0         0         1         4         2         0         0           0         0         0         1         4         2         0         0           1         1         0         1         0         1         0         1         0           1         1         0         1         2         3         1         0           1         0         0         1         2         0         0         1         0         1         0         1         0         1         0         1         0         1         0         1         1         0         1         1         0	1         3         0         2         0         4         7         4         1           1         0         1         4         3         2         0         0         1           1         0         1         4         3         2         0         0         1           1         0         2         1         0         0         1         0         1           1         0         2         1         0         0         1         0         2           0         0         0         0         1         4         2         0         2           0         0         0         1         1         0         3         1         0           1         1         1         0         1         0         3         1         0           1         1         0         1         2         3         1         0         0           1         0         0         1         2         3         1         0         0           1         0         0         1         2         3         1	1         3         0         2         0         4         7         4         1         1           1         0         1         4         3         2         0         0         1         1           1         0         1         4         3         2         0         0         1         1           1         0         2         1         0         0         1         0         1         1         1           0         0         0         1         4         2         0         2         0           0         0         0         1         4         2         0         2         0           0         0         0         1         4         2         0         2         6           1         1         0         1         0         3         1         0         0         1           2         0         0         1         2         3         1         0         0         1         1         1         1         1         1         1         1         1         1         1         1	1         3         0         2         0         4         7         4         1         1         0           1         0         1         4         3         2         0         0         1         1         0           1         0         1         4         3         2         0         0         1         1         0           1         0         2         1         0         0         1         0         0         1         3         0         1         1         0           0         0         0         1         4         2         0         2         0         0         0           0         0         0         1         4         2         0         2         6         0           1         1         0         1         0         3         1         0         0         0           1         1         0         1         2         3         1         0         0         0         0         0         0         0         0         0         0         0         0         0         0	1         3         0         2         0         4         7         4         1         1         0         0           1         3         0         2         0         4         7         4         1         1         0         0           1         0         1         4         3         2         0         0         1         1         0         1           1         0         2         1         0         0         1         4         2         0         0         1         3         1           0         0         0         1         4         2         0         2         6         0         0           0         0         0         1         4         2         0         2         6         0         0           1         1         0         1         0         3         1         0

## RECEIVED 3 TIMES

Blow Flies Earwigs Humpbacked Flies Oriental Cockroach Tiger Moths

Household

Cluster Fly European Earwig Larger Yellow Ant Rove Beetles Yellowjackets

## RECEIVED 2 TIMES

Argentine Ant Booklouse Cat Flea Indianmeal Moth Locust Borer Parasitic Wasps Pyralid Moths Stink Bugs Velvet Ants Bark Beetles Carolina Wolf Spider Horsehair Worms Ivorymarked Beetle Mosquitoes Pharaoh Ant Spiders Threadwaisted Wasps

.

## RECEIVED 1 TIME

American Cockroach Aphids Bird Mites Black Vine Weevil Brownbanded Cockroach Camel Crickets Cecropia Moth Click Beetles Cornfield Ant Crematogaster Ants Darkwinged Fungus Gnats Elm Leaf Beetle Formica Ants Anthomyiid Flies Banded Hickory Borer Black Flies Branch And Twig Borers Butternut Woollyworm Carpet Beetles Cicada Killer Combclawed Spiders Crane Flies Dark Mealworm Dragonflies European Hornet Fungus Gnats

Household

Gall Midges Glowworms Green Bottle Fly Horntails House Pseudoscorpion Jumping Bristletail Leaffooted Bugs Longjawed Orbweavers Minute Brown Scavenger Beetles Moths Not An Insect Plasterer Bees Silverfish Small Winter Stoneflies Soldier Flies Sphecid Wasps Stoneflies Tapinoma Ant Window Flies Geometrid Moths Grass Carrier Wasp Hister Beetles House Centipede Japanese Beetle Leaf Beetles Lightningbugs Mayflies Mud-Dauber Wasps Plaster Bagworm Sap Beetles Slugs Sod Webworms Solitary Bees Spider Wasps Tanbark Borer Thrips Wolf Spiders

#### INSECTS RECEIVED

## General JFMAMJJASOND TOT

No Insects Found

1 0 0 3 0 0 0 0 0 0

4

#### RECEIVED 3 TIMES

**Carrion Beetles** 

#### RECEIVED 2 TIMES

Aphids Ground Beetles Wolf Spiders Eyed Click Beetle Ivorymarked Beetle Woollybears

#### RECEIVED 1 TIME

Arrowshaped Micrathena Baldfaced Hornet Blister Beetles Casebearers Chalcid Wasps Cicada Killer Geometrid Moths Hickory Horned Devil Imperial Moth Leafcutting Bees Leafhoppers Luna Moth Milkweed Moth Mydas Flies Parasitic Wasps Polyphemus Moth Psocids Regal Moth Small Winter Stoneflies Soldier Flies Sphinx Moths Swallowtail Butterflies Tiger Beetles Tussock Moths Winter Stoneflies Asiatic Garden Beetle Bigheaded Ant Carpet Beetles Caterpillars Checkered Beetles Combclawed Spiders Giant Water Bug Horsehair Worms Jumping Spiders Leaffooted Bugs Longhorned Beetles March Flies Mole Crickets Not An Insect Plasterer Bees Praying Mantids Redheaded Ash Borer Ribbonworm Soldier Beetles Sphecid Wasps Striped Ground Cricket Syrphid Flies Tanbark Borer Tiger Moths Walkingsticks

J	F	M	A	M	J	J	A	S	0	N	D	тот
0	0	0	0	0	3	2	4	1	0	0	0	10
0	0	0	0	0	0	0	4	3	0	0	0	7
0	0	0	0	1	0	4	0	0	0	0	0	5
0	0	0	0	2	2	1	0	0	0	0	0	5
0	0	0	0	0	2	1	0	0	1	0	0	4
0	0	0	0	0	3	0	0	1	0	0	0	4
	0 0 0 0 0 0 0	J F 0 0 0 0 0 0 0 0 0 0 0 0 0 0	J F M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	J F M A 0 0 0 0 0 0 0 0	J F M A M 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0	J F M A M J 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 2 2 0 0 0 0 0 0 2 0 0 0 0 0 3	J F M A M J J O O O O O O 3 2 O O O O O O 0 0 0 O O O O O 1 O 4 O O O O 0 2 2 1 O O O O O 0 2 1 O O O O O 0 3 0	J F M A M J J A 0 0 0 0 0 0 3 2 4 0 0 0 0 0 0 0 0 4 0 0 0 0 0 1 0 4 0 0 0 0 0 0 2 1 0 0 0 0 0 0 0 3 0 0	J F M A M J J A S 0 0 0 0 0 0 3 2 4 1 0 0 0 0 0 0 0 0 4 3 0 0 0 0 0 1 0 4 0 0 0 0 0 0 2 2 1 0 0 0 0 0 0 0 2 1 0 0 0 0 0 0 0 3 0 1	J       F       M       A       M       J       J       A       S       O         0       0       0       0       3       2       4       1       0         0       0       0       0       0       3       2       4       1       0         0       0       0       0       0       0       0       4       3       0         0       0       0       0       1       0       4       0       0       0         0       0       0       0       2       1       0       0       0         0       0       0       0       2       1       0       0       1         0       0       0       0       3       0       1       0	J       F       M       A       M       J       J       A       S       O       N         0       0       0       0       3       2       4       1       0       0         0       0       0       0       3       2       4       1       0       0         0       0       0       0       0       0       4       3       0         0       0       0       1       0       4       0       0       0         0       0       0       2       2       1       0       0       0         0       0       0       2       2       1       0       0       0         0       0       0       0       2       1       0       1       0         0       0       0       0       3       0       1       0       0	J F M A M J J A S O N D         0 0 0 0 0 3 2 4 1 0 0 0         0 0 0 0 0 0 0 4 3 0 0         0 0 0 0 1 0 4 0 0 0 0         0 0 0 0 0 2 2 1 0 0 1 0         0 0 0 0 0 3 2 4 1 0 0 0

#### RECEIVED 3 TIMES

Alfalfa Weevil Potato Aphid Striped Cucumber Beetle Aphids Potato Leafhopper Tortoise Beetles

## RECEIVED 2 TIMES

Blister Beetles Harlequin Bug Millipedes Cereal Leaf Beetle Mexican Bean Beetle Western Corn Rootworm

#### RECEIVED 1 TIME

- Armyworm Carrot Rust Fly Chinch Bug Colorado Potato Beetle Corn Flea Beetle Corn Rootworms Darkling Beetles Fall Armyworm Ground Beetles Imported Cabbageworm Leaffooted Bugs Meadow Spittlebug Not An Insect Saddleback Caterpillar Southern Green Stink Bug Spotted Cucumber Beetle Squash Vine Borer Threecornered Alfalfa Hopper Vinegar Flies
- Bulb Mite Caterpillars Cicada Killer Corn Earworm Corn Leaf Aphid Cyclamen Mite Earthworms Flea Beetles Housefly Mite Lady Beetles Leafhoppers Mealybugs Pesticide Burn Soldier Beetles Soubugs Squash Bug Stalk Borer Tomato Hornworm

## INSECTS RECEIVED

Fruits and nuts	INJELIJ RELEIVED														
	J	F	M	A	M			A	S	0	N	D	TOT		
No Insects Found	1	0	2	0	0	0	0	1	2	1	0	0	. 7		
Oriental Fruit Moth	0	0	3	1	0	0	0	0	0	0	0	0	4		
Thrips	0	0	0	0	3	1	0	0	0	0	0	0	4		
Walnut Caterpillar	0	0	0	0	0	0	3	1	0	0	0	0	4		

#### RECEIVED 3 TIMES

Apple Maggot San Jose Scale Fall Webworm Spider Mites -

Fruits and nuts

#### RECEIVED 2 TIMES

Butternut Woollyworm Japanese Beetle Rednecked Cane Borer White Peach Scale Eastern Tent Caterpillar Raspberry Crown Borer Viceroy

#### RECEIVED 1 TIME

Antlike Flower Beetles Azalea Stem Borer Carolina Mantid Cutworms Flower Thrips Grape Blistergall Grape Sawfly Lady Beetles Leafrollers Locust Leafminer Orangestriped Oakworm Pearleaf Blister Mite Plum Curculio Raspberry Cane Borer Rose Scale Sawflies Shothole Borer Stink Bugs Strawberry Root Weevil Twobanded Japanese Weevil Weevils Aphids Blackberry Aphid Chestnut Weevils European Red Mite Fungus Gnats Grape Phylloxera June Beetles Leafminers Lightningbugs Moths Pear Psylla Pecan Catocala Polyphemus Moth Redberry Mite Rosy Apple Aphid Seed Bugs Soldier Beetles Strawberry Crownminer Strawberry Rootworm Twospotted Spider Mite Wheel Bug Yellownecked Caterpillar

#### INSECTS RECEIVED

Lawns and turf													
	J	F	M	A	M	J	J	A	S	0	N	D	TOT
Scoliid Wasps	0	0	0	0	0	0	0	5	2	0	0	0	7
	REC	EIV	ED	31	IME	S							

Green June Beetle

#### RECEIVED 2 TIMES

Billbugs Ground Beetles Moths

فی

Fungus Gnats Masked Chafer Tiphiid Wasps

Millipedes

### RECEIVED 1 TIME

Broadnecked Root Borer Housefly Mite Plasterer Bees Ribbonworm Seedcorn Maggot Wolf Spiders Carpenter Ants May Beetles Prenolepis Ants Rove Beetles Soldier Beetles

Human													
	J	F	M	A	M	J	J	A	S	0	N	D	TOT
	•••	•••	•••		•••		•••		•••		•••		
Lone Star Tick	0	0	0	5	7	7	0	1	6	2	0	0	28
Bird Mites	0	0	0	0	2	2	3	0	0	0	0	0	7
Head Louse	0	0	1	2	0	0	0	0	0	0	1	1	5
Puss Caterpillar	0	0	0	0	0	0	0	0	3	1	0	0	4

RECEIVED 3 TIMES

American Dog Tick

#### **RECEIVED 2 TIMES**

Bat Bugs

Saddleback Caterpillar

RECEIVED 1 TIME

Assassin Bugs Buck Moth Carpenter Bee Click Beetles Ground Beetles Horse Flies Mites No Insects Found Pseudoscorpions Slug Caterpillar Spider Wasps Tropical Rat Mite Velvet Ants Winter Tick Black Flies Carolina Wolf Spider Cat Flea Crab Louse Hackberry Leafslug Ixodes Tick Mosquitoes Potter Wasps Sawtoothed Grain Beetle Sphecid Wasps Squirrel Flea Tussock Moths Vinegar Flies Wolf Spiders

•••••••

٩!

## INSECTS RECEIVED

Animal

#### **RECEIVED 1 TIME**

Bird Mites Cat Flea Fowl Tick Lone Star Tick Rodent Bot Flies

Brown Cockroach Fleas Ixodes Tick Louse Flies Tapeworm

 INSECTS RECEIVED

 Structural

 J
 F
 M
 A
 M
 J
 J
 A
 S
 O
 N
 D
 TOT

 Eastern Subterranean Termite
 0
 2
 11
 19
 3
 4
 1
 0
 1
 1
 0
 0
 42

 Carpenter Ants
 5
 1
 6
 5
 2
 5
 1
 4
 0
 0
 0
 1
 30

 Old House Borer
 1
 0
 1
 1
 2
 0
 1
 2
 0
 1
 1
 10

## RECEIVED 3 TIMES

**Powder Post Beetles** 

#### RECEIVED 2 TIMES

Drywood Termites Red Carpenter Ant Flatheaded Borers

Anobiid Beetles Black Carpenter Ant Could Not Diagnose No Insects Found Potter Wasps Springtails

Apple Twig Borer Branch And Twig Borers False Darkling Beetle Pheidole Ants Rove Beetles

#### INSECTS RECEIVED

Apicultural

ł

and the second

-----

### RECEIVED 3 TIMES

Honey Bee Tracheal Mite

## RECEIVED 1 TIME

Bee Lice Solitary Bees

Soldier Flies

INSECTS RECEIVED

Stored Products													
	J	F	M	A	M	J	J	A	<u>s</u>	0	N	D	TOT
Indianmeal Moth	1	1	3	3	1	0	1	4	1	4	1	1	21
Carpet Beetles	5	0	2	0	2	0	0	0	1	2	2	0	14
Black Carpet Beetle	1	0	4	1	3	0	1	1	1	1	0	0	13
Drugstore Beetle	0	0	3	1	0	0	0	3	0	2	0	0	9
Cigarette Beetle	0	0	0	1	0	0	1	0	2	2	0	0	6
Sawtoothed Grain Beetle	0	1	1	0	0	1	0	1	0	1	1	0	6
Varied Carpet Beetle	0	0	3	2	0	0	0	0	0	0	0	0	5
Clothes Moths	1	2	0	0	0	1	0	0	0	0	0	0	4

### RECEIVED 3 TIMES

**Casemaking Clothes Moth** 

Grain Mite

Bean Weevil Spider Beetles

Confused Flour Beetle

### RECEIVED 1 TIME

**RECEIVED 2 TIMES** 

Almond Moth Cheese Mite Foreign Grain Beetle Humpbacked Flies Lesser Mealworm Murkymeal Moth Parasitic Wasps Psocids Rice Weevil

Angoumois Grain Moth Flat Bark Beetles Hairy Fungus Beetle Larder Beetle Larger Beetle Mediterranean Flour Moth No Insects Found Plaster Bagworm Redlegged Ham Beetle

## COUNTY SUMMARY

COUNTY	SPECIMENS
Accomack	0
Albemarle	53
Alexandria(IC)	8
Alleghany	21
Amelia	7
Appomattox	13
Arlington	25
Augusta	6 <u>0</u>
Bath	
Bland	13
Botetourt	10
Brunswick	5
Buchanan	10
Buckingham	3
Campbell	1
Caroline	27
Charles City	12
Charlotte	1
Chesapeake(IC)	1 <b>Ö</b>
Chesterfield	30
Clarke	8
Craig	.5
Culpeper	14
Lumbertand Denville(IC)	27
Dickenson	21 7
Dinwiddie	7
Essex	4
Fairfax	11
Fauquier	24
Floyd	12
Franklin	16
Frederick	18
Giles	10
Gloucester	9
Goochland	.2
Grayson	15
Greene	0
Holifor	5
Hampton(IC)	20
Hanover	38
Kenrico	7
Henry	· 4 <u>0</u>
Highland	17
Isle of Wight	15
James LICY King and Outpan	17
King George	2
King William	4
Lancaster	18
Lee	5
Loudoun	11

## COUNTY SUMMARY CONTINUED

5

41

COUNTY	SPECIMENS
Louisa	3
Lunenberg	15
Lynchburg(IC)	66
Madison	19
Matnews	35
Mecklenberg	e e e e e e e e e e e e e e e e e e e
Nontgomery	177
Nelson	1.55
New Kent	4
Newport News(IC)	21
Norfolk(IC)	5
Northampton	0
Northumberland	88
Nottoway	22
Orange	11
Page	30
Patrick Detensiver(IC)	8
Petersburg(IL)	l l
Pittsytvania	7
Prince Edward	10
Prince George	21
Prince William	69
Pulaski	6
Rappahannock	29
Richmond	4
Richmond(IC)	0
Roanoke	10
Roanoke(IC)	87
Rockorioge	2 70
Russell	16
Scott	10
Shenandoah	15
Smyth	1
Southampton	10
Spotsylvania	6
Stafford	6
Suffolk(IC)	7
Surry	2
Sussex	7
lazewell Vizzinia Rosch(10)	18
Virginia Beach(IL)	12
Warren Vashington	25
Vestmoreland	18
Vise	10
Wythe	.8
York	18
Total	1470
IULAL	1027

Virginia Cooperative Extension programs, activities, and employment opportunities are available to all people regardless of race, color, religion, sex, age, national origin, handicap, or political affiliation. An equal opportunity/affirmative action employer.

M

2

Sand La

Issued in furtherance of Cooperative Extension work. Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. James F. Johnson, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; Clinton V. Turner, Administrator, I890 Extension Program, Virginia State, Petersburg.