

soil at the base of each plant. The application was made promptly after the maggots were first observed—before the plants began to “go down”.

Within four days after the application of the DDT, it was apparent that the damage to the treated plants had been arrested; the plants in the untreated portion of the plot, however, showed rapid deterioration. A final examination made three weeks following the application of the DDT suspension showed 90 per cent survival of the onions in the treated portion of plot as contrasted with a 12 per cent survival in the untreated portion. It was also noted for the surviving plants, that the treated plants showed a marked increase in growth over the untreated survivors. At the examination made three weeks following the treatment, a measurement of the surviving plants showed the treated plants to average 16 inches high, while the untreated survivors averaged 11¼ inches. It was apparent that the more vigorous growth and greater survival of the treated plants was due to the DDT destroying the maggots. The results, while of a preliminary nature, point the way to more effective control of a pest which has at times caused serious loss to growers.

The NDAC Insect Collection

By

R. L. Post¹ and J. A. Munro².

THE value of a state collection of insects has been emphasized in an article by Dr. H. S. Telford in the November, 1940 issue of the Bimonthly Bulletin. A collection serves the entomologist in the identification of insects in somewhat the same manner a dictionary does in the definition of words.

According to Z. P. Metcalf³ 1,500,000 species of insects have been described from 1758 to date. No one person can ever know but a small portion of this multitude. A reference collection of authentically determined insects is essential for the entomologist of an Agricultural College so that he may identify the many insects being constantly sent to him for determination. A few examples of the need for a reference collection follow:

1. In Plant Regulatory and Nursery Inspection Work a lack of knowledge may permit entry of insect pests into new territory, or inspectors may condemn a shipment which contains only harmless insects.
2. Certain insects transmit diseases of man; others are only annoying. A reference collection helps in settling the question.
3. Much money may be spent in an attempt to control harmless insects which may superficially resemble injurious species.

¹ Associate Entomologist, N. D. Agr. Exp. Station and State Seed Department.

² Entomologist, N. D. Agr. Exp. Station and Professor of Agricultural Entomology, School of Agriculture, N. D. Agr. College.

³ Entomological News Vol. 51: 219-222. 1940.

4. With the introduction of the highly specialized new insecticides it is becoming increasingly important to have the species determined.

5. Many times during the year specimens are received with the statement that they are causing injury. Sometimes they are beneficial and actually preying upon the injurious species. A reference collection is an important safeguard against mistaken identification.

An actual count of the specimens in the Department of Agricultural Entomology of the NDAC Experiment Station totals 29,628 and is as follows:

PINNED INSECTS	
(Taxonomic Reference Collection)	
Arthropoda (Near Relatives)	15
Thysanura	2
Anoplura	17
Orthoptera	2,442
Plecoptera	7
Ephemeraida	38
Odonata	62
Neuroptera	47
Hemiptera	1,326
Homoptera	907
Mecoptera	1
Trichoptera	3
Lepidoptera	848
Coleoptera	7,919
Diptera	5,824
Hymenoptera	3,778
Student Reference Collection	2,855

Total pinned insects: 26,091

MICROSCOPE SLIDES	
Thysanura	16
Collembola	52
Corrodentia	1
Mallophaga	66
Anoplura	80
Orthoptera	344
Thysanoptera	31
Hemiptera	142
Homoptera	116
Lepidoptera	25
Coleoptera	28
Diptera	394
Siphonaptera	63
Hymenoptera	140
Histological	67
Total:	1,565

PRESERVED INSECTS IN VIALS OF ALCOHOL	
Arachnida (Near Relatives)	136
Mallophaga	78
Anoplura	230
Ephemeraida	15
Plecoptera	23
Odonata	7
Neuroptera	11
Hemiptera	59
Homoptera	167
Trichoptera	6
Lepidoptera	223
Coleoptera	328
Diptera	252
Siphonaptera	8
Hymenoptera	51
Thysanoptera	3
Student Material	153
Total:	1,972

DISPLAY MOUNTS
227 Glass-topped Riker Display Mounts showing the life histories and injurious work of economic insects.

VALUE OF INSECTS IN COLLECTION	
23,236 in Reference Collection @ .15	3,485.40
2,855 in Student Collection @ .05	142.75
1,972 Preserved Insects @ .07	138.04
1,565 Microscope Slides @ .50	782.50
227 Riker Display Mounts @ 1.50	340.50
Total Value:	\$4,889.19

Many specimens, especially the Coleoptera and Lepidoptera, have been placed in fifty-five Cornell-type glass-topped drawers. These insects have been systematically arranged in the order of current check lists and catalogs so that they are readily accessible to the worker. The Cornell drawers are housed in a wooden cabinet with hinged doors. The top of the cabinet is provided with a glass top which holds five drawers in which displays of current interest or lecture material may be shown. This valuable collection is housed in Francis Hall, one of the older structures on the campus and a structure which is far from fire-proof.