PROGRESS OF THE
COOPERATIVE ECONOMIC INSECT SURVEY PROGRAM

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Many of you are aware of the Cooperative Economic Insect Survey program and we trust that you have actively participated in this cooperative undertaking during the past few years. It is a program for all entomologists and perhaps an explanation of the developmental background, the objectives, accomplishments and an expression of our hopes for the future will better inform those of you who have been cooperating of the value of your contribution. We also hope that others will be encouraged to assist with the program by submitting regularly, current insect notes.

The Insect Pest Survey, initiated by the late J. A. Hyslop in 1921, was active for many years and demonstrated what a group of entomologists working together might accomplish by providing insect condition information. During the early years information was submitted by a number of appointed collaborators (serving without pay) and released once each month. The information obtained was important and made possible the accumulation of many valuable records. A reduction in funds and personnel had restricted the program to such an extent that by World War II much of its original effectiveness was lost.

Following World War II the many aspects of Biological Warfare created national interest in the dangers from the possible intentional introduction of insects and diseases affecting humans, animals and plants.

Prompted by this outlook, the Federal Civil Defense Administration in 1950, requested the Department of Agriculture to utilize its facilities to carry out certain functions in the National Program of Civil Defense—particularly with respect to the measures necessary to protect this country against the intentional introduction and spread of diseases and pests of livestock, crops and forests. The Department of Agriculture assumed a large measure of the responsibility for this assignment through modification and strengthening of the peacetime procedures. To

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1 Presented at the 38th annual meeting of the Florida Entomological Society, September 1-2, 1955.
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facilitate the program, the Secretary of Agriculture directed the Administrator of the Agricultural Research Service to assume the major responsibility insofar as the Department was concerned. Within the research service the Bureau of Entomology and Plant Quarantine was the qualified Bureau to assume the phase of the program dealing with insects.

Realizing the need for current information on economic insect pests in normal times, as well as in times of emergency, Dr. Avery S. Hoyt, Chief of the Bureau of Entomology and Plant Quarantine, in April, 1951, sent letters to the Directors of Extension, Directors of Experiment Stations, and the Commissioners, Directors and Secretaries of Agriculture of each State requesting suggestions for strengthening insect pest surveys through cooperation of all entomological agencies. In the original correspondence, it was suggested that the various entomological agencies in each State not so organized might give consideration to the possibility of establishing a central point or a clearing house for screening insect specimens and reports on insect occurrence or abundance within the respective States. It was also suggested that such information be transmitted to the Bureau in Washington for permanent record and for incorporation into a national report. This report would be issued at frequent intervals for the mutual information and benefit of all entomologists, agricultural workers and the pesticide and related industries throughout the country. The response to Dr. Hoyt’s letter was excellent and it is with pleasure I tell you that almost immediately Mr. Arthur C. Brown, Plant Commissioner at that time, Mr. W. M. Fifield, Director of Experiment Stations and Mr. H. G. Clayton, Director of Extension, met and discussed the suggested cooperative work in Florida. At that meeting the office of Mr. Brown was selected to act as coordinator and clearing house for insect information from Florida.

By the end of 1951, 35 States had established central clearing houses and others indicated that steps were underway to organize. In addition to the cooperative plans with the States, the territories of Alaska, Hawaii and Puerto Rico similarly organized and a cooperative arrangement with Canada was effected.

To further determine the desire of entomologists of this country for such an undertaking a special session on surveys was held at the 1951 Cincinnati Meeting of the American Association of Economic Entomologists. It was apparent at that session that such a program was necessary and acceptable to the entomolo-
gists of this country. The Association, in order to assist in such an undertaking, appointed an interim survey advisory committee consisting of six members. It included one representative each from the Experiment Stations, State regulatory agencies, Extension Entomology, Industry, the Bureau of Entomology and Plant Quarantine with the head of the Federal survey program as ex-officio. Incidentally, at the 1954 meetings of the Entomological Society of America, in Houston this Committee was designated as a permanent committee and enlarged to 10 members with the addition of Public Health, Forest Entomology and the Entomology Research Branch and as an ex-officio member the head of the Federal Insect Identification and Parasite Introduction Section.

The evident interest of the States and entomological workers made it apparent to the Bureau that such a cooperative program was acceptable and needed and would be supported. With this assurance, the Bureau on January 18, 1952, announced the formation of an Economic Insect Advisory Service for the purpose of developing such a program. The Section headquarters are maintained in Washington where the weekly Cooperative Economic Insect Report is compiled and released and where the permanent records are maintained. At the outset, five regional men were assigned to the field to coordinate the program within the regions and work with entomologists to stimulate participation in the program. Mr. F. S. Chamberlin was originally assigned the southeastern region but has since returned to tobacco insect research. The areas were enlarged this year and the supervisors reduced to four with Mr. J. I. Cowger being assigned Mr. Chamberlin's territory in addition to some of the southwestern states formerly worked.

The original thinking behind the program was for a completely voluntary undertaking. The voluntary cooperation has been outstanding with more than 400 entomologists contributing information in 1952. This number was over 600 in 1954. From the outset, the states have been encouraged to make timely releases of insect condition information within the state to permit the timely and orderly use of the information. Please don't misunderstand me—weekly releases on insect conditions were being issued by some of the states long before this program was conceived. It is felt, however, that either directly or indirectly the cooperative survey program has been responsible for the inauguration of several weekly reports. Presently about three-fourths
or more of the States issue some type of information release on current insect conditions. It would be an important milestone in economic entomology if each State would report on current insect conditions periodically.

It was mentioned previously that in the beginning this cooperative undertaking was entirely upon a voluntary basis. A majority of the reports still come from voluntary contributors but in some States the Plant Pest Control Branch has entered into a cooperative survey agreement which provides for joint State-Federal financing of the cost of one entomologist on the survey program. This agreement may include one or more state agricultural agencies. This aspect of the program has been made possible by the reassignment of funds formerly allocated to specific surveys, such as the European corn borer, cotton insects and a limited number of others.

During and since World War II these federally-financed survey programs were known as Service Surveys and the purpose for their origin was to insure the most effective distribution of the limited supplies of insecticides, and to enable farmers to protect their crops through the aid of timely information.

All of the Service Surveys were under the supervision of Entomology Research Divisions and their operation utilized time needed for other work; therefore, the administrative responsibility for the survey activities (exclusive of control project surveys) was gradually transferred to the Economic Insect Survey Section. It was recognized that the specific emergencies dealing with the establishment of such surveys no longer existed and the question was frequently asked why these funds were not used to service a wider range of crops and cover other economic insects in additional States.

Predicated on this philosophy, attention was focused on a new phase of the survey program in the spring of 1953. The plans, of necessity, required the development of a much broader program that could be operated for approximately the same amount of money. This problem was presented to the Advisory Committee of the Entomological Society of America for consideration and recommendations. The Committee proposed that the Service Surveys be replaced by a program in which survey personnel would be jointly financed by the State and Federal Governments and conduct surveys designed to cover the more important crops and economic insects. This type of program was concurred in by the Bureau and the Section as well as by the States with which
it was discussed. The program involves sharing the over-all cost of one survey man on approximately a 50-50 basis between the State and the Plant Pest Control Branch for the active insect survey season. The survey entomologist, as a State employee, operates under a work plan acceptable to the cooperating agencies and in addition to making routine and special surveys, works to improve the voluntary aspects of the program. Weekly reports are submitted through the State Clearing House to insure compliance with the agreement. By mutual consent the cooperators may be the Extension Service, the Experiment Station or the State Department of Agriculture or any combination of the three. This program is accomplished through a cooperative agreement, or contract which is renewable annually or may be revoked by either cooperator on 60 day’s notice. It is again with pleasure that I can say that Florida was one of the first states to sign a cooperative survey agreement. As you know, Mr. H. A. Denmark is the cooperative survey entomologist and has been doing a very creditable job. The agreement is with the State Plant Board and the entire state financing is from that source. To illustrate the cooperative spirit that entered into the Florida agreement, Mr. Ed L. Ayers, discussed the program with both the Experiment Station and Extension Service prior to signing. In developing the work plan representatives of the three agencies met with a representative from the Plant Pest Control Branch and discussed the work plan to be followed for the program. Twenty-two states have entered into cooperative agreements and at the present time active negotiations are in progress in four others.

You are probably asking, what has been accomplished? First, I might say that each state has a better knowledge of its insect problem and most States are doing a better job of keeping their agricultural interests informed. The Cooperative Economic Insect Report, issued weekly, is sent to over 2600 entomologists, agricultural workers and industry representatives in each of the states in addition to several foreign countries. Too, on a national level a permanent insect file is maintained for use of the public which consists of more than 500,000 notes on 11,500 domestic genera which includes more than 24,000 species and on 8,000 foreign genera including 20,000 species. Over 2,000 host plant species references are maintained.

Our cooperators have consistently increased and improved their notes and the coverage of insect conditions within the
States. In 1954 we received 1,297 clearing house reports (exclusive of reports from PPC Branch, Entomology Research Branch, Forest Service and Agricultural Marketing Service) from more than 600 contributors; State summaries from 36 States; a list of the ten most important insects from 23 States. We have prepared and published special reports or summaries on such insects as armyworm, yellow clover aphid, grasshoppers and Mormon crickets, chinch bugs, European corn borer (abundance and loss estimates), forest insects, etc.

One very graphic illustration can illustrate the monetary value of the work that is being done. The advance reports received by the State of Pennsylvania during the armyworm outbreak in 1953 is credited by entomologists with saving the farmers over $1,000,000 in losses. Of course other states have received similar if not as marked benefits.

The Section has cooperated with the States and other agencies in several specialized detection surveys including the European chafer in the mid-western and northeastern States and the cotton stem moth and Matsucoccus scale in the Eastern and Northeastern States. The European corn borer and the khapra beetle surveys in the Western States were conducted at the request of the Western Plant Board. Program or project surveys such as grasshopper, pink bollworm of cotton, Japanese beetle and others are made by the projects concerned, but the information obtained is also made available through the Cooperative Economic Insect Report. There will be numerous occasions, some of an emergent nature, when other special surveys will be necessary.

What of the future? One of the most pressing questions is that which pertains to the prediction of insect situations. On several insects it is possible to give an indication of what to expect, but such information is needed on many others. What about insect loss figures? We need more information on the losses caused by insects and by other pests. True, on some insects we have some figures and in some cases we are not afraid of them but in the majority of cases we shake our head and just hope no one asks us for justification. Improved survey methods are badly needed. We are fortunate that economic and research entomologists have developed so many methods but still more are needed which can be applied on a universal basis. Tests of course are under way. Perhaps the largest scale test program under way at the present time is the study in relation to light
traps. In cooperation with the Farm Electrification Section of the Agricultural Engineering Research Branch, traps are being tested in several Southern and Southeastern States. Florida was one of the first to enter this program and Mr. Denmark is to give us a discussion on the program in this State. I would also like to compliment Mr. Denmark and others on the fine work they are doing in developing a card system for recording insect data. The use of IBM or some type of card system is receiving more and more attention throughout the country. The coding system is the important phase as the mechanical system is only a means of fast utilization of the records. In this connection it might be well to mention that considerable interest is developing in the adoption of a uniform coding system for use by entomologists and other scientific workers.

You can see that this program has many ramifications. It needs the cooperation of all entomologists. Before closing I would like to read the objectives which were outlined when the work was first started and it is believed that the same objectives still apply to this cooperative program.

1. To assist farmers and other agricultural workers to more adequately protect their crops from insect attack by supplying current information on insect activity.

2. To aid manufacturers and suppliers of insecticides and control equipment to determine areas of urgent need for supplies and equipment.

3. To aid and assure more prompt detection of newly-introduced insect pests.

4. To develop a workable insect pest forecasting service.

5. To develop nationwide uniformity in reporting insect conditions.

6. To determine the losses caused by insects.

7. To maintain records on the occurrence of domestic and foreign economic insects.

8. In case of necessity, provide a nation-wide basic structure for biological warfare defense.