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SUGGESTIONS FOR THE CONTROL OF THE PEA WEEVIL IN 1938

FOREWORD

The third annual pea weevil conference of Federal, State and County workers interested in the pea weevil problem in the Pacific Northwest was held at Spokane, Washington, on January 24, 1938, under the auspices of the Pacific Northwest Cooperative Pea Weevil Control Project Committee. A total of 21 persons attended this conference which was conducted under the chairmanship of Dr. Don C. Mote.

After the workers present had discussed, and illustrated with lantern slides and motion pictures, the procedure followed and the results obtained in control operations against the pea weevil in the various areas of the Pacific Northwest during 1937, the Committee prepared suggestions for the control of this pest during 1938. This committee consisted of the following:

Don C. Mote (Chairman), Oregon Agricultural Experiment Station.
R. L. Webster, Washington Agricultural Experiment Station.
Harry F. Cline, County Agent, Umatilla County, Oregon.
K. W. Gray, Oregon Agricultural Experiment Station.
Claude Wakeland, Idaho Agricultural Experiment Station.
F. G. Hinman, Bureau of Entomology and Plant Quarantine.
T. A. Brindley, Bureau of Entomology and Plant Quarantine.
R. A. Fisher, Bureau of Entomology and Plant Quarantine.
J. C. Chamberlin (Secretary), Bureau of Entomology and Plant Quarantine.

The "Suggestions for the Control of the Pea Weevil, 1938", which incorporate the consensus of opinion of the men actively engaged in pea weevil control operations, or who were directly associated with these workers, have been mimeographed and a copy is enclosed.

SUGGESTIONS FOR THE CONTROL OF THE PEA WEEVIL, 1938

Prepared by the Pacific Northwest Cooperative
Pea Weevil Control Project Committee

January 24, 1938

I. WEEVIL CONTROL IMPORTANT

Control of the pea weevil is essential to the continued welfare of both the canning and dry pea industry. Weevily peas are not desirable for consumption as human food while the presence of weevil in seed peas seriously affects germination

and also results in large losses both to grower and to seed dealers, because of the necessity of separating the weevily from the sound peas before sale.

II. CONTROL RECOMMENDATIONS

Experiments and extensive tests on a commercial scale conducted in Oregon, Washington and Idaho in 1936 and 1937 have demonstrated that the pea weevil can be controlled in canning and garden peas by the application of rotenone-containing dusts. For detailed information and guidance concerning the use of rotenone dusts, consult your local authority such as Entomologist or County Extension Agent. The following recommendations will require distinct modification in many specific cases:

1. Dusting for Control of the pea weevil:

Not less than three-quarters of one percent rotenone in talc or some similar inert carrier applied at the rate of 20 to 25 pounds per acre by an efficient dusting machine is recommended for weevil control. Where infestation is particularly heavy, as in some border strip plantings, a 1% dust should give greater assurance of successful control.

2. Number of Applications.

From one to three dust applications to the infested portions of the field have been found necessary for control.

3. Time of Application.

The first application of dust should in all cases be made within a few days after the peas start to bloom and before any pods have set. At this time the weevils are still largely concentrated near the field edges. Peas blooming early in the season and before all weevils are out of hibernation may receive additional weevil populations after the first application. In these cases one to two additional applications may be necessary, the length of the interval depending upon weevil populations.

4. Dusting equipment.

The proper timing of dust applications is essential to a successful dusting campaign and requires the closest of skilled supervision at all times. One of the most important factors in this connection is proper equipment. It is recommended that no dust applications with ordinary dusters be made in winds in excess of 1 to 2 miles per hour (practically "still" conditions), or with hooded dusters where the wind is higher than 10 miles per hour.

5. Area to be dusted.

Since the pea weevil, in migrating from hibernation quarters to the pea fields, tends to first infest the field edges, it is possible to secure adequate control in most cases by merely dusting a marginal strip of varying width. Where fields are ten acres or less, it is advisable to dust the entire field for satisfactory results. For large scale control campaigns, each field should be mapped and the actually infested areas indicated, to serve as a guide in making dust applications.

III. BORDER TRAP CROPS AND THEIR CARE

From experiments conducted in Eastern Oregon and Washington and Northern Idaho, the use of a border trap crop, which comes into bloom a week to ten days before the main planting, has proved of value in reducing weevil damage. It is necessary that the weevils in these borders be destroyed by dusting before the main crop comes into bloom. The peas in these borders will often be heavily infested and should be destroyed by ploughing under before they ripen. For information concerning the use of a border trap crop, consult your local authority such as Entomologist or County Extension Agent.

IV. IMPORTANCE OF SUPERVISION IN WEEVIL CONTROL CAMPAIGNS

The proper planning of a large scale dusting program for weevil control is a complex and specialized task calling for the utmost in competence, experience and industry if satisfactory results are to be obtained.

It is strongly recommended that any extensive operations along the line of these recommendations be under the direction of a competently trained man with an intimate knowledge of the weevil and its habits, and the ability to plan and execute a sound program. Such a man should be given full authority to see that all operations are fully and thoroughly carried out in the light of a detailed knowledge of the territory and all the conditions under which the work must be done.

V. SANITARY MEASURES AS A MEANS OF REDUCING WEEVIL INJURY

1. Value of cultural, agronomic and sanitary practices.

Of coordinate value with dusting are various cultural agronomic, and purely sanitation practices which should be followed as a means of reducing weevil populations from year to year. The most important of these are as follows:

(a) Weevil free seed

Never plant seed containing living weevils. Large numbers of weevils are able to escape from seed and infest the growing crop.

(b) Care of field refuse

Plow deeply using jointers immediately following harvest. An attempt to salvage weevil-infested canning peas as seed only breeds more weevil for succeeding crops. Peas grown as a soil conserving crop should be thoroughly plowed under shortly after blossoming. Otherwise, they may constitute a distinct source of weevil infestation for all the peas in that area.

Burning is no longer recommended as a means of checking the weevil, since it is a serious question as to whether the resulting progressive decrease in soil fertility does not outweigh the immediate benefits of partial weevil control.

2. Separate districts desirable for the growing of dry and cannery peas.

Experience has shown that dry peas grown in canning pea areas are the primary sources of pea weevil infestation. Where possible it is, therefore, desirable that canning peas and seed peas be grown in different areas.

3. Home gardens.

Peas that are allowed to ripen in small gardens are a source of weevil infestation. Garden plantings should be periodically dusted and as soon as the peas get beyond the edible stage, the vines should be destroyed.

4. Community wide cooperation essential.

Active participation in the accomplishment of the aforementioned control practices by the cannery, pea growers and the entire agricultural and urban community is necessary.

VI. WEEVIL CONTROL IN PEAS GROWN FOR SEED.

1. Dusting for the control of the pea weevil.

The use of rotenone dusts for weevil control in seed peas is as yet in the experimental stage. In general it is believed that the use of rotenone dusts will give a significant measure of control. If dusting of seed peas is contemplated, it is suggested that your local entomologist be consulted for more detailed suggestions. It is probable that at least two dust applications will be required. The same sanitation methods recommended in connection with the canning peas should, of course, be followed as far as possible.

2. Care of harvested seed.

Harvest as soon as peas are ripe in order to minimize shattering.

Place harvested peas in tight bags to prevent any weevils present from escaping.

Fumigate all seed peas of canning varieties before bags are opened, or otherwise treat peas to prevent the escape of weevils.

Austrian winter field peas should be fumigated immediately after harvest to kill any weevil larvae present before they develop sufficiently to affect germination.

Spokane, Washington,
January 24, 1938.
