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1934

GRASSHOPPER CONTROL CAMPAIGN REPORT

by

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Cases of Arsenical Poisoning

In every large grasshopper campaign there have always been cases of accidental poisoning of poultry and livestock due to carelessness. Considering the size of the 1934 campaign, the number of such cases was comparatively few. All sacks of government bait were plainly marked and empty sacks were required to be destroyed. All State leaders issued warnings concerning the dangers of carelessness in handling the bait. A record of all poisoning cases was kept by each State leader and can be found in the State reports. There was not a single authentic case of either poultry or livestock poisoning in fields where bait had been properly scattered.

There were many instances of skin irritation to persons handling bait both in the field and at the mills. This subject has been treated by S. S. Easter in the report by E. M. Gaddis.

Value of Crops Saved

Throughout north central Montana, which suffered extensive crop losses from grasshoppers in 1933 and which was the most heavily infested area in the Great Plains region in the spring of 1934, weather conditions were favorable and the best grain crop in years was produced with only slight injury by grasshoppers. It is quite generally agreed by farmers in this area that it would have been entirely devastated by grasshoppers if control measures had not been employed. Good crops were also grown in the Red River Valley in North Dakota and Minnesota where lack of control measures would have resulted in total destruction of crops on hundreds of farms. Thousands of acres of crops in western states saved from the drought by irrigation were also protected from

After the 1934 campaign was closed, a check was made through all State leaders to determine the quantity of bait actually used in each State including bait supplied by the government and with local funds. It was found that in the 8 States mentioned above 68,137 tons had been used and in the 10 other States approximately 6,500 tons. The estimate for the 8 States was, therefore, within 1.4 per cent of being correct and within 18.7 per cent for the miscellaneous group of States. The total amount of bait estimated as needed for all States was 75,175 tons and 74,637 tons were actually used, a difference of only 538 tons which is less than 1 per cent.

The accuracy of the estimates illustrates the value of the grasshopper survey technique and methods of making estimates which have been worked out by the Bureau of Entomology and Plant Quarantine Laboratory at Bozeman, Montana. Without a survey and fairly accurate estimates on cost of control, there would have been no reliable basis for determining the amount of the Congressional appropriation needed nor could as much of the work been conducted in advance of the hatching period. It is believed that surveys of this nature deserve a permanent place in grasshopper control.

Bait Stored For Use In 1935

Due to drought conditions which caused poisoning to be discontinued earlier than would otherwise been the case and in some instances to incorrect estimates, all counties did not use all of the grasshopper bait received. (Bait left over is being stored at county

expense with the understanding that it will be left in the county in which it is stored until June 15, 1935. If, by that time, it is apparent that it will not be needed in that county in 1935, it will be transferred to a county needing bait. Based on reports from State leaders, the following quantities, which, in some cases, include bait bought with State relief funds, are now in storage:

North Dakota	6,236	tons
Montana	2,702	"
South Dakota	2,286	"
Wyoming	2,096	"
Minnesota	800	"
Nebraska	440	"
Colorado	434	"
Idaho	366	"
Wisconsin	275	"
California	192	"
Nevada	133	"
New Mexico	80	"
Oregon	70	"
Utah	50	"
Arizona	15	"
Total	16,177	tons

Adult Grasshopper Survey

Intensive poisoning operations were completed in most States by the last week in July. Assistant State leaders on the Federal payroll were then directed to make an adult grasshopper survey. Its purpose was to check on the effectiveness of the control campaign, to determine the species which were dominant in the various States and to locate areas where grasshoppers were still abundant and where eggs should be looked for most intensively in the fall egg survey.

Surveys of this nature were conducted in Michigan, Wisconsin, Minnesota, North Dakota, South Dakota, Montana, Wyoming and Idaho. Assistant State leaders were instructed in survey methods in the field