

1951 Control Recommendations¹ For European Corn Borer

By Wayne J. Colberg² and J. A. Munro³

The 1950 statewide survey indicates that the European corn borer is continuing its spread in North Dakota, in that this pest has been found in four new counties for the first time. They are Bottineau, Renville, Stark and Towner counties. These, together with the number previously reported, brings the total of infested counties in North Dakota to 38.

The surveys were conducted by the Experiment Station and the Extension Service of North Dakota Agricultural College with the help of all county extension agents. Purpose of the surveys is to determine the degree of borer infestation for each county and to obtain a fair estimate of the losses incurred.

The 1949 survey showed that for the counties then reporting corn borers, there was an average of 41 borers per 100 stalks. The resulting loss due to corn borers was conservatively estimated at 325,560 bushels⁴. The 1950 survey showed that the infestation was less severe than the previous year, with only 17 borers per 100 stalks as the state average. The loss from corn borers in 1950 has been estimated at 178,324 bushels. There were other significant differences for the two years: In 1949 the second generation brood caused the greatest damage to corn, whereas in 1950, due to the late cold spring which retarded borer development, there was only one generation to cause damage.

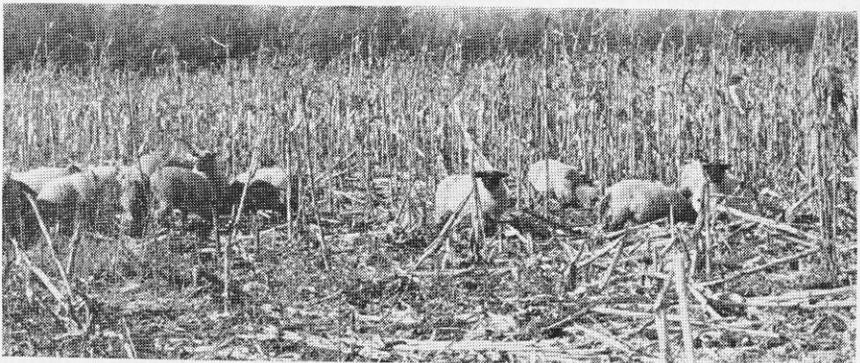


Fig. 1. This field near Barney in Richland county showed well matured larvae present in nearly every stalk when the examination was made in October, 1950.

¹Summarized from Bankhead Jones Offset 98 project, Biology and Control of European Corn Borer

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⁴Munro, J. A. and Colberg, Wayne J., "European Corn Borer Occurrence in North Dakota," *Bimonthly Bulletin* XII (2):50-53.

Another difference is that the borers which went into hibernation in the fall of 1950 were first generation stock and, being mature, are in better condition to survive the winter than were the second generation borers which went into hibernation the previous fall. The small, immature borers then were unable to withstand the winter, and only the mature or full grown larvae survived.

Considering the mature condition of the larvae in the fall of 1950 and the better survival to be expected, it is possible that the smaller number of borers that went into hibernation then may constitute a greater menace in 1951 than was experienced the previous year. A comparison of the number of borer larvae found in corn in 1949 and 1950 is shown in Table 1.

Table 1. EUROPEAN CORN BORER ABUNDANCE IN CORN, FALL OF 1950, COMPARED WITH DATA FOR 1949.
North Dakota

County	Average Number of borers per 100 plants		County	Average Number of borers per 100 plants	
	1949	1950		1949	1950
Barnes	70	20	Pembina	126	22
Benson	5	3	Pierce		4
Bottineau		5	Ramsey	12	3
Burleigh	28	9	Ransom	48	64
Cass	126	36	Richland	117	107
Cavalier	42	5	Renville		trace
Dickey	32	15	Sargent	13	10
Eddy		1	Sheridan		6
Emmons	1	1	Stark		3
Foster	14	4	Steele	20	5
Grand Forks	122	34	Stutsman	19	10
Griggs	28	12	Towner		3
Kidder	8	4	Trail	65	35
Lamoure	49	14	Walsh	80	26
Logan	6	2	Ward	13	
McHenry	3	1	Wells	12	
McIntosh		2			
McLean	4	2			
Mercer	6	2	State average for comparable coun- ties (27)	41	17
Morton	2	2			
Nelson	70	18			
Oliver		2			

Special appreciation is expressed to E. W. Beck of the USDA Bureau of Entomology and Plant Quarantine for assistance in compiling this tabulation.

The control recommendations for 1951 include the observance of field and farmyard sanitation, proper observance of planting dates, the use of strong well adapted hybrids and the use of insecticides.

Sanitation consists of disposing of all corn stalks and refuse in the fields and barnyards by shredding or plowing under before the borers emerge as adults. This is always a part of corn borer control. Some of the heaviest field infestations are found near old corn fields which have been left standing until the borer moths have had a

chance to emerge in the spring. This is especially true in sweet corn patches in towns and villages. Heavy infestations have also been found on many of the farms where large quantities of unshell-

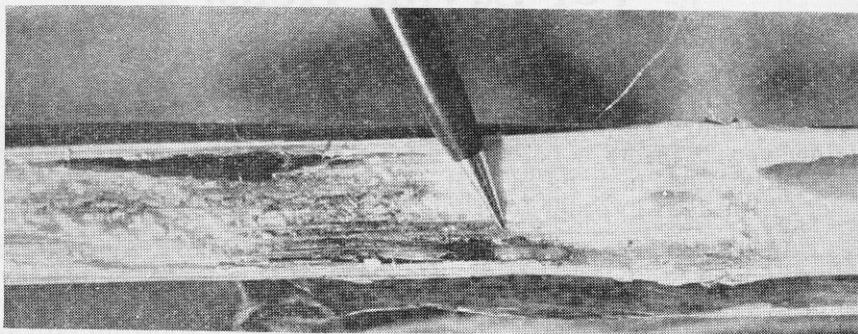


Fig. 2. Pencil points to the portion of the stalk where a borer larva is hibernating.

ed corn have been stored in cribs and the moths allowed to escape to the fields nearby. In general, it has been found that corn planted at the usual corn planting time is not damaged as severely by the borer as either the early or late planted corn. More evidence is needed on this question.

Some hybrids show a definite tolerance to rots and other diseases which gain entrance into the corn plant through the borer tunnels. Other essential characters are sturdy stalks and lack of brittleness or tendency to break towards harvest time.

Corn borer control with chemicals has not been tried extensively in North Dakota, as most farmers have not experienced unduly heavy infestations. Most farmers thus far have been able to produce a good yield by the use of approved farm practices.

Circular No. 22, a recent publication of regional scope entitled, "1951 Recommendations for Insecticidal Control of the European Corn Borer" is available from all county extension agents.

AUSTRIAN WINTER PEAS

Seed production of Austrian winter peas, an annual legume used in the southern states for soil improvement purposes, is an important seed growing enterprise in North Dakota, particularly in the northeastern counties. A September 7, 1950 release from the Office of the Agricultural Statistician, B. A. E., U. S. D. A., estimates the 1950 production at three million pounds of clean seed, and an average yield of 1200 pounds per acre on a total acreage of 2500 acres. Although the acreage is small its production is important. The principal market for the seed is in the southern states.

The Irrigation Experiment Station at Williston has been raising Austrian winter peas for several years using them as a green manure crop. Under irrigation they have usually been plowed under about the last week of July in a normal season. Seed yields under irrigation were obtained in 1942 (19.7 bushels per acre) and in 1945 (28.0 bushels per acre). (H.L.W.)