

UA Scientists Watching Boll Weevil Damage In Northern Sonora Fields

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For the past two years the boll weevil (*Anthonomus grandis* Boheman) has caused serious economic damage to cotton in an area in Mexico, the northern limits of which extend within 30 to 35 miles of Nogales, Arizona.

A survey made on October 1, 1962, showed that every cotton field between the towns of Nogales and Caborca, Mexico, was infested with the boll weevil. The infestation nearest to Arizona was about 30 miles. Losses in these fields were estimated to be as great as one to one and one-fourth bales of cotton per acre.

The weevils causing this damage in northern Sonora cannot yet be distinguished from those that cause three-fourths of all insect damage to cotton in the southeastern United States. The weevils in Sonora deposit eggs in both squares and bolls, just as the weevils in the southeastern United States do.

Southwest States Fortunate

Fortunately, Arizona, New Mexico, and California, as well as parts of western Texas, have escaped the establishment of the boll weevil that causes serious economic damage to cultivated cotton in the southeastern United States. Instead, at least in Arizona, the thurberia weevil (*Anthonomus grandis thurberiae* Pierce) is found. However, this weevil has never maintained itself successfully in Arizona cultivated cotton, although it breeds in wild cotton (*Gossypium thurberi*).

Thurberia weevils were reported to be infesting domestic cotton in southern Arizona as early as 1913. Since then this weevil has been found and reported in the Santa Cruz Valley nearly every year. In 1931, weevils were found as far north as Eloy, and in 1959 specimens were recovered from cultivated cotton in Maricopa, Yuma, Pinal, Pima, and Cochise counties.

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Detected In September

That the weevils in Arizona have usually not been observed in cultivated cotton until about the first of September, and then only in small numbers, indicates that such infestations result from their over-wintering in the small bolls of *G. thurberi* plants. These weevils are not released from their cells until the bolls and cells are softened by moisture from the summer rains. Their late appearance and small numbers usually preclude any serious damage.

The occurrence of thurberia weevil infestations in central Arizona in 1959 and the unusually heavy infestations in the Santa Cruz Valley in 1961, together with the recent movement of the damaging boll weevil into West Texas, have been of interest to persons involved in cotton-insect research. These infestations have alerted entomologists, concerned with protecting cotton from insects, to the potential menace of the boll weevil which ravages domestic cotton as far north as it is grown in northern Sonora and which, as was previously pointed out, infests cotton crops situated so close to the Arizona border.

Which Weevil Is It?

To protect Arizona and California

growers from the serious boll weevil losses now occurring annually only a few miles away, we must determine whether these weevils are inherently different in their habits. Is the weevil in Sonora the same as the boll weevil infesting the crops in the southeastern United States? Or is it simply the thurberia weevil which has adapted itself to domestic cotton under Mexican farm practices?

To answer these questions, University of Arizona and USDA scientists have initiated ecological studies of these weevils and will continue them until sufficient information is accumulated to insure protection of western cotton from the menace of the weevils in Mexico.

Results of cage tests at the Entomology Research Division's cotton insect laboratory at Tucson show that the thurberia weevil behaves as follows: (1) Oviposits on domestic cotton just as readily as on the wild cotton, *Gossypium thurberi*; (2) completes its development in domestic cotton squares as well as bolls, just as the boll weevil does in the southeastern United States; (3) begins ovipositing within seven days after release from cells whether it be in January in a greenhouse or in July in a greenhouse or in the field; (4) does *not* overwinter in ground trash as does the boll weevil in the southeastern United States.

Found Early In August

In northern Sonora, biweekly weevil counts beginning in midsummer revealed that all stages of weevils were present in cotton by August 1. About 20 per cent of the squares were punctured by weevils of the second generation. On August 30, infestations of new squares had reached 100 per cent in many fields with 20 to 30 per cent losses in yield indicated. By October 1 losses in some fields ranged from one-fourth to one and one-fourth bales of cotton per acre.

Reid New Head Of UA Poultry Department

Dr. Bobby L. Reid of Tucson has been approved as the new head of the Poultry Science Department at The University of Arizona by the state Board of Regents.

Reid has been an associate professor of poultry science and associate poultry scientist at the university since Feb. 1, 1960, doing both research work and teaching. He replaces Dr. Al Kurnick, who has gone into commercial work in California.

A native of South Texas, Reid received his bachelor's, master's and doctorate degrees at Texas A & M College. His Ph.D. degree was in biochemistry and nutrition.

After teaching two and one-half years in Texas A & M's poultry department, Reid went to Pillsbury Co., Clinton, Iowa, as products research manager of the feed division. He came to Arizona after a year there.

The new department head did two nutrition studies abroad — one in Turkey and another in Haiti. In 1957 he served as a biochemist for three months on a nutrition survey team for the Turkish armed forces. Next year, he helped with a similar nutrition survey of the population of Haiti for the Research Corp., a part of the Williams-Watterman Foundation, New York.

Reid has had 35 formal research papers published in scientific journals.