

**“First time I see’d the boll
weevil, he was sittin’ on the
square.**

**Next time I see’d the boll
weevil, all his family there.
He’s a lookin’ for a home,
lookin’ for a home.”**

(Southern folk song, “Ballad
of the Boll Weevil,” as sung
by Tex Ritter)

Why 1985 May Be the Year of The Boll Weevil

by Lorraine B. Kingdon

Since cotton became a crop in the Southeast, the boll weevil has been a serious pest. Growers in Arizona were lucky; until recently, the weevil was only a minor problem. For some, it still is.

The boll weevil was reported in the Texas Hill area of Yuma County in August 1981 for the first time in 15 years. Until 1985, the weevil was concentrated mostly in western Arizona, but it may have spread to other prime cotton growing areas of Pima, Pinal and Maricopa counties.

“The weevil has the potential to become a major problem if it continues to expand its range,” according to Don Howell, University of Arizona Extension director in Yuma County. He estimated a 5 percent reduction in the quantity and quality of the 1984 cotton crop in his county alone. If equal losses were spread statewide this year, the weevil could cost growers as much as \$13 million, based on a total 1983 crop value of \$260 million.

However, losses won’t be spread evenly among



growers, even in Western Arizona where the infestation has been most severe.

Jack Currie planted 135 acres of cotton this year, down from 192 in 1984; he farms in Wellton-Mohawk, near the Gila River. Last year he spent a total of \$180 an acre spraying 17 times for the weevil. "Then I gave up and defoliated early. I was fighting a losing battle between the pinkie and the weevil. The only thing that saved me was the reasonable water bills we pay here," Currie said.

On the other hand, Robert Barkley farmed 1,800 acres of cotton near the end of the Yuma Valley. Last year, he had weevil traps out, but he caught only small numbers. He treated the cotton with pesticide at the pinhead square (early flowering) stage . . . "just for cheap insurance," he said. "Maybe we're just lucky so far; it's hard to say what problems we'll have this year."

Farther East, cotton growers near Laveen, Maricopa County, had enough of a problem with weevils last year that they had to spray for control, said Sam Stedman, Extension cotton specialist. Usually weevils don't show up in large numbers in

Pinal and Maricopa counties until later in the season when the crop is mostly made. So, up until this year at least, they have been less of a problem than in more western counties.

Cotton growers in Graham, Greenlee and Cochise counties are even more fortunate, according to Ron Cluff, Graham County Extension director. Although traps are monitored in all three

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areas, growers in Graham and Greenlee have never yet found weevils. A few of the insects were found in the Bowie area of Cochise County, but not in sufficient numbers to need spraying.

Many growers in Yuma and La Paz counties reported spending between \$150 and \$180 per acre to control boll weevils, according to Dr. Leon Moore, UA entomologist. In October 1984, he stated that the weevil infestation has become



PHOTOGRAPHY BY LYNN G. KETCHUM

more intensive and more widespread. "As high as 35 percent of the cotton was infested in uncontrolled plots," Moore said.

While yields in the two counties still averaged around three bales an acre, many growers agreed that losses from weevils had occurred even with intensive spraying. Many also agreed that they can't afford to continue paying out the kind of money for pesticide they paid last year.

The heavy spray schedule leads to another set of problems, according to Dr. Theo Watson, UA entomologist. "The four-day application rate necessary to control weevils often leads to an increase of secondary cotton pests because their natural enemies are destroyed." such pests include the cotton leaf perforator, *Heliothis* spp. and whiteflies.

Currie looked ahead to a different problem. "The public and the regulatory agencies won't put up with spraying pesticides 17, 18 times in a period of 90 days."

Wayne Stuhr, Wellton-Mohawk cotton grower, said he didn't make a three-bale average on every

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acre. "But when it was all done, my lint loss wasn't as bad as it looked in October." His 450-acre field of cotton was "in the hot area last year along the Gila River. That's the source of the little devils."

UA researchers have looked closely at weevil survival during the winter; high humidity along river banks indeed favors overwintering. Watson explains that, after growers shred the remaining cotton plants after harvest, the weevils move out. They spend the winter as adults in plant debris where the humidity is the highest.

This preference for high humidity may be one reason infestations are greater in Yuma and La Paz counties than in central Arizona.

From January to March, adults can feed on wild plants such as the globe mallow. Once cotton seedlings have emerged, adult weevils can feed on them until cotton reaches pinhead square stage.

Past experience with weevil eradication programs in North Carolina proved the key to successful control was hitting the insects with pesticides early in the season, Howell said. Until they can invade the pinhead squares, the weevils

are on a maintenance diet only. They are more vulnerable than they will be at any other time in their life cycle.

Once weevils can attack the square, they can deposit eggs which hatch and start a new generation. Watson said it takes 21 days from "egg to egg." The weevils keep on reproducing — and causing damage — until fall. Each female weevil can produce approximately 84 adults in the next generation.


Weevils overwintered in numbers large enough to trigger early insecticide use in Yuma and La Paz counties. Sprays began as soon as cotton reached pinhead square stage. Although weevils were picked up in traps during the winter in central Arizona, Stedman said that so far this spring "growers haven't found that many."

One pheromone trap for every six acres is set as part of an all-out weevil eradication program managed by the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS). The program area includes Yuma, La Paz and Mohave counties in Arizona; Imperial, Riverside and San Bernardino counties in California; and the

San Luis and Mexicali regions of Mexico.

Eradication methods include carefully managed and monitored aerial and ground applications of the pesticide malathion, according to Larry Antilla, state program coordinator. Cotton growers are required to plant only after a certain date and to plow down crops by a designated date to ensure a longer host-free period during which weevils cannot reproduce.

Weevil counts were taken the last week in March from trap catches in the three Arizona counties in the eradication program. The highest count was in the Parker area with an average of 26 weevils per trap, Antilla said. Counts in Yuma Valley, Gila Valley, Wellton, Dome, and in Aztec-Dateland were lower but still sufficient to trigger chemical treatments.

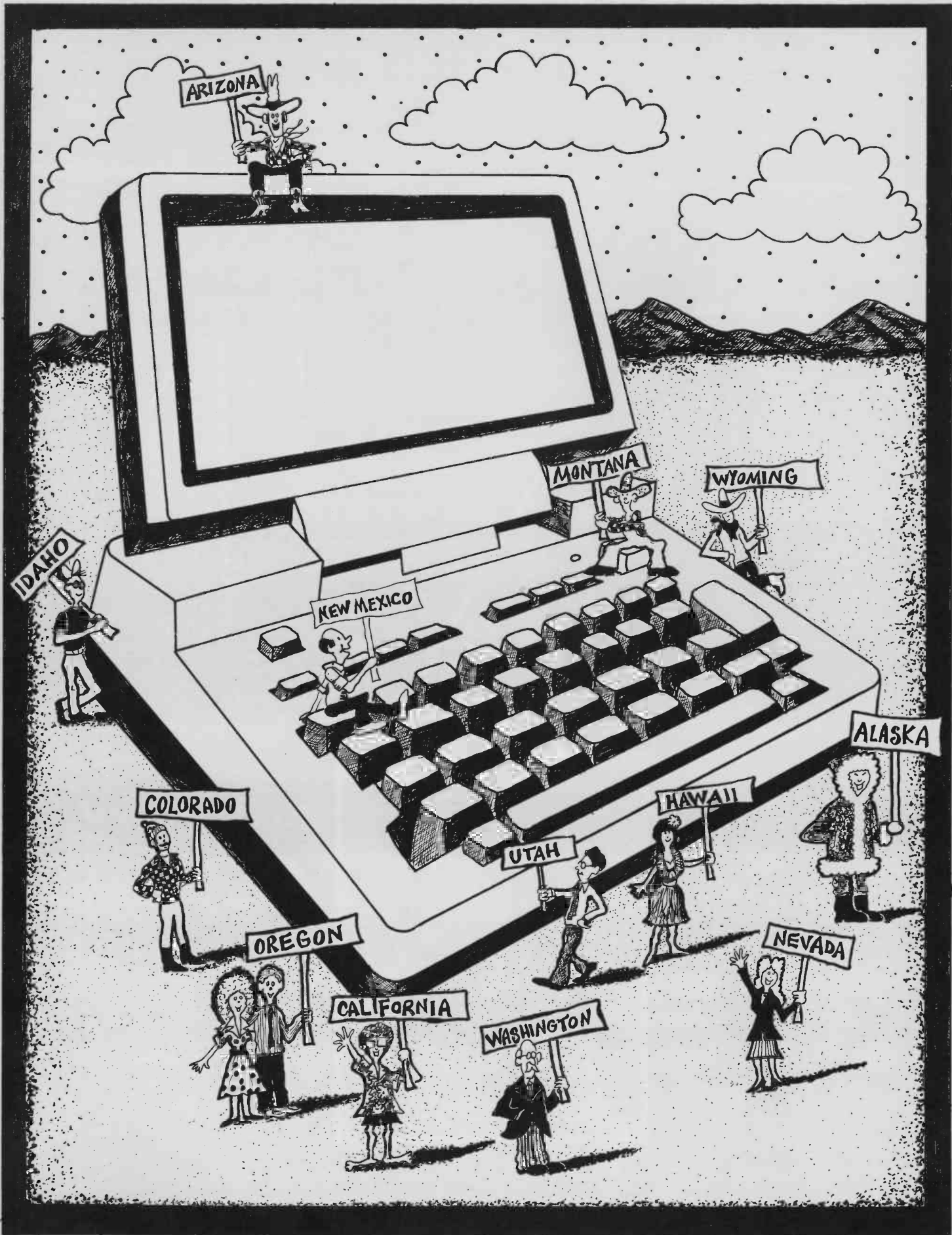
Entomologist Moore said the eradication program holds the best chance to contain the weevil infestation because such an organized effort will prevent fields being missed. Controls will not be left to chance or voluntary efforts. Cotton grower Stuhr put it this way, "1985 is a different ball game." 

**"Merchant got half the cotton —
the boll weevil got the rest.
Didn't leave the farmer's wife
but one old cotton dress —
It's full o' holes,
plumb full o' holes."**

(Right)
**UA researcher Todd Hannan checks
pyramid weevil traps during an
overwintering study in Yuma County.**

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HECTOR GONZALEZ