



BEETLE - MANIA

BIOLOGICAL CONTROL OF SALT CEDAR IN TEXAS

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FALL - WINTER, 2009 - 2010

Leaf Beetles Attack Saltcedar Across Five-County Area in 2009

The saltcedar leaf beetle feeds only on saltcedar and relatives in the genus *Tamarix*.

If saltcedar trees are not present, the larvae starve.

Saltcedar beetles were first established in Texas in 2004 at Big Spring, TX. Since then, there have been no reports of beetles or larvae feeding on any other plant.

2009 was an excellent year for saltcedar leaf beetles in west Texas!

Populations greatly increased not only at the original release site near Big Spring, but also at new release sites in adjacent counties. Beetles on the Pecos River also did well again, defoliating saltcedar trees along about 3 river miles.

Saltcedar leaf beetle populations at Big Spring, TX exploded in 2009. By late summer, Jack DeLoach reported that beetles had defoliated the dense saltcedar stands along 25-30 miles of Beals Creek and Mustang Draw extending south and west of Big Spring. This expansion was a result of beetles flying to new saltcedar. Drivers along I-20 could see the long brown line of defoliated saltcedars along these creeks and draws. Some thought the saltcedar trees had been sprayed by herbicide, but it was the result of millions of beetle larvae which ate all of the leaves from these trees. By late summer, beetles were found throughout Howard County and parts of adjacent Glasscock and Martin Counties.

This was the sixth year saltcedar beetles were in the field at Big Spring.

Beetles also defoliated trees at release sites on Sulphur Draw in Martin County, in southern Borden County, near Colorado City and at Lake Thomas. Beetles had been released for 2-3 years earlier at these sites but finally in 2009 they increased to numbers sufficient to defoliate large numbers of trees.

The Texas AgriLife Implementation program collected about 270,000 beetles from the Big Spring area and released them at five new sites

along the Colorado River in Mitchell and Borden Counties in 2009. Beetles increased and defoliated large areas of trees at all five sites by late September. These beetles are expected to overwinter and continue to increase in 2010. At the close of 2009, large numbers of saltcedar beetles had defoliated acres of saltcedar in Howard, Martin, Glasscock, Mitchell and Borden Counties. It is expected beetles will disperse throughout these counties next year.

No saltcedar will be spared.



Beetles Thrive in Mitchell County

Once the leaf beetle larva completes feeding, it crawls to the ground and transforms into the pupal stage. The pupa is inactive and can not defend itself or escape from hungry ants. Large numbers of ants, especially fire ants, can prevent beetles from establishing at a site.

Biological control is a lesson in patience and perseverance. Saltcedar leaf beetles were first released by Texas AgriLife Extension for the biological control of saltcedar on Cherry Creek in Mitchell County in 2006. However, no beetles could be found later in 2006. In 2007, about 2,000 beetles were released and by early summer, numbers appeared to be increasing. However, no beetles could be found later in the year. Again, disappointment. In 2008, no beetles were found in the spring and about 2,000

beetles were again released in the summer. A very small population of beetles was found defoliating 2-3 trees in late fall, a hopeful sign.

Research in 2008 began to show that the pupal stage of the beetle, which occurs on the ground, could be attacked by ants. Ants feeding on pupae could be reducing beetle numbers so low that they were dying out.

In the spring of 2009, the release area on Cherry Creek was treated with ant bait. A few beetles over-

wintered at the site and numbers increased in June and then exploded. By early August, several hundred saltcedar trees were defoliated. By late September, 15-20 acres of saltcedar were entirely defoliated by beetles at this site. Beetles are now well established at this site and are expected to spread throughout Mitchell County during the next 2-3 years.

In this case, persistence and patience (and a little ant bait) paid off.



Left to right. Steve Shrode, NRCS District Conservationist, John Senter, Mitchell County AgriLife Extension Agent, James Gillespie, landowner and Allen Knutson, Entomologist, Texas AgriLife Extension, examine saltcedar trees defoliated by beetles on Mr. Gillespie's Ranch near Colorado City. Sept. 30. 2009. Photo courtesy of the Colorado Record newspaper.

Saltcedar: On the Texas List of Noxious and Invasive Plants

Its official. Saltcedar is listed by the State of Texas as a noxious and invasive plant. Rules relating to noxious and invasive plants are found in the Texas Administrative Code under Texas Department of Agriculture, Quarantines and Noxious and Invasive Plants. Rule 19.300 states, in part, that unless permitted by the Texas Department

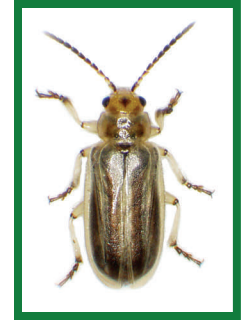
of Parks or Texas Department of Agriculture, a person commits an offense under the Texas Agriculture Code §71.152, if the person sells, distributes or imports into the state plants listed in this subsection in any live form.

An invasive species is defined as a non-native (or alien) species whose introduction causes or is likely to cause economic or environmental harm

or harm to human health.

There are 26 noxious plant species on the Texas list. Four species, saltcedar, tropical soda apple, Chinese tallow tree and kudzu, are both noxious and invasive.

To learn more invasive species in Texas, go to <http://www.texasinvasives.org/>



Above. Saltcedar beetles spend the winter as adults (shown above).

They shelter under fallen leaves, in soil cracks and in clump grass.

NRCS and Texas AgriLife Extension Partner

Partnership Expands Biological Control Program.

Texas AgriLife Extension Service and the Natural Resources and Conservation Service (NRCS) are working together to establish saltcedar beetles at new sites in several areas of Texas. NRCS is the federal agency that helps America's private land owners and managers conserve their soil, water, and other natural resources. Riley Kitchens, Coordinator for the Big Country Resource Conservation and Development Area, and Allen Knutson, Extension Entomologist with Texas AgriLife Extension Service, are working with NRCS personnel and local Soil and Water Conservation Districts (SWCD) to establish beetles in Borden, Fisher, Garza, Jones, Kent, Nolan and Scurry Counties. NRCS personnel in Motley County, King County and Mark Donet, RC+D Coordinator in Alpine are also involved. Texas AgriLife Extension provides technical assistance and

beetles to NRCS personnel. NRCS personnel help identify local cooperators, release and monitor beetles at new sites and also inform landowners

about biological control of saltcedar. This partnership helps speed the spread of saltcedar beetles and their impact on saltcedar across west Texas.



NRCS and SWCD personnel collecting Saltcedar Beetles along Beals Creek near Big Spring, TX. L-R. Jada Bilano (Upper Colorado SWCD – Snyder) , Justin Corzine (NRCS – Sweetwater), Buddy Watson (NRCS – Jayton), Josh Watson (NRCS – Post), Riley Kitchens (NRCS- Sweetwater),and Jordan Lawrence (Nolan Co. SWCD – Sweetwater). June, 2009.



BEETLE-MANIA is a newsletter on biological control of saltcedar in Texas, and is written and produced by Allen Knutson, Texas AgriLife Extension. To be included on the mailing list, please contact Allen Knutson.

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