



Let Them Eat Weeds

Beneficial insects make major inroads

— By David Granatstein,
coordinator of the Washington
State University Center for
Sustaining Agriculture and Natural
Resources in Wenatchee —

Anyone who farms or gardens knows the damage little insect jaws can do to our tender plants. But just as a weed is a plant in an unwanted place, a hungry plant-eating insect in the right place can be a real friend.

Over the past 15 years, WSU entomologist Dr. Gary Piper has looked far and wide for insect friends to help control ever-present weed problems in the state. Piper has watched the interest in biological control of weeds grow over this period as successful field programs have been implemented, and with increasing concern about the costs and effects of widespread herbicide use.

Attempts to use biological control on weeds in Washington date back to 1948 when researchers established several European beetles to combat the spread of St. Johnswort. Other early targets included tansy ragwort, puncture-vine, gorse, Scotch broom, dalmatian toadflax, and Canada thistle. Over half of the biological control organisms released successfully established in the field.

Piper's work is primarily focused on weeds that invade non-

cropland areas, such as pasture and range, rights-of-way, wetlands, aquatic areas and forests. Washington has extensive acreages of all of these lands in the state, and weeds that establish in these areas can quickly spread into crops.

Biological control by introduced, weed-specific natural enemies is well suited for use on non-cropland weeds where the low economic return per acre makes other control approaches unfeasible. Also, it is easier to establish natural enemies in land that is not in crop production because habitat is less disturbed than in fields planted in annual crops.

Biological control is a slow process that reduces weed populations to tolerable levels, according to Piper. Typically, successful control of a noxious weed takes 5 to 10 years and the introduction of 6 or more "bioagents." Insects (or other organisms such as fungi) control weeds in four ways:

- ✓ killing the plant outright;
- ✓ weakening or stressing the weed so more desirable plants can compete with it;
- ✓ reducing the weed's reproductive capacity by destroying flowers, seeds or other parts; and
- ✓ creating damaged areas

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Water, water everywhere... and now Joe's cattle have more than a drop to drink

— By Stephanie Rittmann,
sustainable agriculture program
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Energy Resources Organization
in Helena, Mont. —

A farmer in semi-arid central Montana has built a 60,000-gallon water storage system that allows him to graze livestock on land formerly unusable as pasture.

Joe DeMars built the water saver with help and financial assistance from the Bureau of Land Management (the BLM paid for almost the whole thing.)

To find out how you can build a water saver like Joe's, see diagrams and the rest of the article on page 5.