

## NEBRASKA COOPERATIVE RANGELAND GRASSHOPPER AND MORMON CRICKET SUPPRESSION & OUTREACH PROGRAMS

April 18, 2014

The United States Department of Agriculture, Animal and Plant Health Inspection Service, Plant Protection and Quarantine (USDA-APHIS-PPQ) 2013 summer rangeland surveys indicated that while overall grasshopper populations were significantly decreased compared to recent years, the potential for economically significant grasshopper populations in some rangeland areas in 2013 may still exist as depicted on the risk potential or hazard map available for download at:

<http://entomology.unl.edu/grasshoppers/> Over a hundred species of grasshoppers are known to occur in Nebraska. A number of these species have caused economic damage to rangeland when environmental conditions have favored grasshopper increases and hindered range recovery. The different species may overwinter as adults or nymphs or eggs. Some hatch in the spring, some in the summer, and still others in the fall.

USDA-APHIS-PPQ offers a cooperative program for grasshopper/Mormon cricket suppression for 2014. As a federal agency, USDA-APHIS-PPQ must consult with the U.S. Fish and Wildlife Service (FWS) to comply with the Endangered Species Act. Among the species that USDA-APHIS-PPQ must protect are the American burying beetle (ABB), blowout penstemon, Colorado butterfly plant, Ute lady's tresses, and western prairie-fringed orchid. In areas where those species are found, or where critical habitat exists, USDA-APHIS-PPQ must follow the protective measures that will be provided to USDA-APHIS-PPQ by FWS in Grand Island. Concurrence from the FWS for the proposed 2014 program document has been received. Based on FWS directives the program **won't be available** due either to the documented presence or the FWS's determination of the possible presence of the endangered ABB in all or parts of the following areas within the grasshopper/Mormon cricket suppression program portion of the state: the entire counties of Blaine, Boyd, Brown, Garfield, Holt, Hooker, Keya Paha, Loup, Rock, and Thomas; and in portions of the counties of Arthur, Cherry, Custer, Dawson, Frontier, Garden, Gosper, Grant, Greeley, Knox, Lincoln, Logan, McPherson, Sheridan, Valley, and Wheeler. As information develops about the grasshopper populations in those areas and a determination is made as to whether or not APHIS grasshopper treatments are requested, APHIS will consult with FWS to obtain information that will allow the specific locations within the requested program area to be defined where treatments can be applied with appropriate mitigation measures to protect the American burying beetle. Interested parties should contact the FWS Ecological Services Field Office in Grand Island, NE for further information. The cautionary zone showing the areas where consultations with the FWS on ABB protection are required prior to grasshopper suppression applications is shown on the 2014 hazard map referenced above.

Additionally, the program **won't be available** in portions of Box Butte, Cherry, Garden, Grant, Hooker, Morrill, and Thomas counties, and potentially in portions of Arthur, Blaine, Brown, Custer, Keith, Lincoln, Logan, McPherson, and Sheridan counties because of blowout penstemon; in portions of Sioux County because of Ute Lady's tresses; in portions of Kimball County because of the Colorado Butterfly Plant; and in portions of Blaine, Boyd, Brown, Buffalo, Cherry, Custer, Dawson, Garfield, Grant, Greeley, Holt, Hooker, Howard, Keya Paha, Knox, Lincoln, Loup, McPherson, Rock, Sheridan, Sherman, Thomas, Valley and Wheeler counties because of the western prairie-fringed orchid. Additional endangered species distribution maps are available at <http://www.fws.gov/nebraskaes/T&E%20Species.html>.

Additional prohibited areas may be added at any time as species distributions are updated.

**USDA-APHIS-PPQ will:**

- (1) conduct field surveys of grasshopper and Mormon cricket populations;
- (2) provide technical assistance upon request to landowners;
- (3) write a site-specific Environmental Assessment on the areas of potential suppression treatment;
- (4) consult with the FWS Nebraska Ecological Services Field Office in Grand Island, NE concerning Threatened and Endangered Species;
- (5) contract the suppression program through the USDA-APHIS Minneapolis Business Office (includes contract for aerial applicator and purchase of pesticide);
- (6) participate in suppression treatments when necessary by surveying the area to establish boundaries of each treatment block and confirm the infestations in the blocks are at treatable levels;
- (7) monitor application of pesticide to make certain that pesticides are applied on target and consistent with the label directions;
- (8) conduct environmental monitoring during and after the program; and
- (9) will provide 100% of program funding on Federal land, 50% on State land and 33% on private land if funding is available.

**University of Nebraska-Lincoln Extension Educators will:**

- (1) provide information on the USDA-APHIS-PPQ rangeland grasshopper suppression program to local ranchers and conduct general educational programs in counties on grasshopper infestation assessment and control/management for ranchers, farmers, and homeowners;
- (2) facilitate the organization of rancher committees and help identify committee leadership to organize blocks of rangeland for consideration by USDA-APHIS-PPQ (USDA-APHIS-PPQ will ultimately decide if the blocks qualify for treatment);
- (3) provide meeting space for rancher organizational meetings and rancher committee work;
- (4) assist rancher committees with recruiting volunteers to receive treatment requests, map rangeland areas where treatment is requested, map cropland areas within treatment blocks, and other required tasks;
- (5) provide advice, counsel, and assistance to the rancher committees;
- (6) utilize Extension offices as needed to serve as a point of contact for information on the grasshopper suppression program and as a central point to receive applications for assistance;
- (7) serve as contact person for USDA-APHIS-PPQ personnel who will be surveying for grasshoppers in the affected counties (assist as time permits, but USDA-APHIS-PPQ is the primary agency responsible for grasshopper survey).

**Local Rancher Committees will:**

- (1) provide organization within potential treatment blocks to solicit rancher participation;
- (2) receive individual landowner/rancher treatment request applications within the treatment blocks (Extension offices can serve as a central point for individuals submitting applications);
- (3) provide for the mapping of the proposed treatment areas as requests are received, including mapping of the cropland areas;

- (4) establish an escrow account to receive landowner/rancher escrow payments to pay for the treatment program (administrative modifications to the way these funds are held are currently being formulated and changes may be in place prior to program initiation).

**University of Nebraska-Lincoln, Extension Service and Entomology Department staff** have information for Extension educators, ranchers, farmers, and aerial applicators in best management practices for grasshoppers including the Reduced Area and Agent Treatments (RAATs) strategy. This method was developed by the University of Wyoming. A modified RAATs strategy allows for additional flexibility in varying rates and treatment areas. For instance, a full rate 50% modified RAATs refers to a treatment approach where the applicator skips every other swath when applying the pesticide at the full labeled rate. This reduces the pesticide rate by 50% per acre, the cost of the program, and protects rangeland ecosystems.

The Entomology Department established the website for grasshoppers referenced above at <http://entomology.unl.edu/grasshoppers/>. This site contains program information, a variety of publications including NebGuides on the subject of grasshopper management, and links to other useful sites offering relevant information.

### **Cooperative Suppression Program Requirements**

- (1) A minimum block of 10,000 acres of rangeland or pastureland is generally required (includes multiple owners).
- (2) The block can contain up to 20% cropland, but the owner of the cropland will bear the full cost if the cropland is treated (the crop and rate involved must be covered on the insecticide label).
- (3) Cooperatively, ranchers must put their money in an escrow account before a program can begin.
- (4) Ranchers must sign up the area to be treated on forms provided at the UNL Extension County Office. The forms provided require the legal description of the area in their block, amount of cropland in that area and a map of the area. Cropland is defined as anything planted with the intention of harvesting.
- (5) An economic infestation must be documented in the block by USDA-APHIS-PPQ surveyors in order for the rancher's area to qualify for the program (economic threshold numbers vary with conditions and species present).
- (6) If grasshopper counts aren't considered by USDA-APHIS-PPQ to be adequate to justify treatment, the rancher money will be refunded.
- (7) A rancher may sign up for the program, have counts considered to be economically justifiable, but be dropped from the program because his land won't line up with the suppression block.
- (8) USDA-APHIS-PPQ doesn't guarantee a specific percentage of control of grasshoppers or Mormon cricket.
- (9) Buffer areas will be established by rivers streams, ponds, and wetlands as those areas won't be treated.
- (10) USDA-APHIS-PPQ won't retreat a block.

The final determination of whether a cooperative suppression treatment on State and private rangeland is warranted will be made by USDA-APHIS-PPQ, following the State's written request and based on the best available information.

## **Cooperative Suppression Program Cost Share**

Subject to available Federal funding, USDA-APHIS-PPQ contributes 1/3 of the program costs for the control of grasshopper/Mormon cricket on private rangeland. If State funds are not allocated for cost share, ranchers must contribute the other 2/3. The State doesn't pay for "School Lands" - these are the responsibility of the lessee. The ranchers group must have their share of the money in an escrow account before a program will begin. **USDA won't pay for treatments already made by a rancher**; the only way to receive a cost share is to be signed up in a program suppression block.

## **Treatment Options for Cooperative Suppression Program**

There are eight treatment options available for the Cooperative Suppression Program as follows: Dimilin 2L, Carbaryl, Malathion, Carbaryl bait, modified RAATs Dimilin 2L, modified RAATs Carbaryl, modified RAATs Malathion, and modified RAATs Carbaryl bait. The rates of chemical application may differ depending on conditions. USDA-APHIS-PPQ will use the modified RAATs option when possible.

The USDA program will not allow for the mixing of different pesticides for treatment. USDA-APHIS-PPQ will have to charge its costs to the program once a suppression block is established. A number of factors affect the final costs per acre such as the pesticide used, formulation, rate, application approach, treatment area size and configuration, fuel price, costs associated with support personnel and logistics, etc. There is also a 16.15% overhead charge on Federal Involvement in treatments on any lands that a cost share is involved. The cost share funds are obligated to add the 16.15% to their involved share of the costs. As an example of possible program costs, there were suppression programs conducted partially on private land (in another state) in 2010 that utilized Dimilin 2L in RAATs aerial applications. The cost/treated acre for those programs ranged from \$2.88 to \$5.88. Actual costs could be substantially higher than this figure if unforeseen circumstances adversely impact one or more significant cost factors (such as fuel costs).

### **For Additional Information Contact:**

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