January 15, 2014

To: McKenzie Ranger District
    Medora Ranger District
    Dakota Prairie National Grasslands Office
    McKenzie County Grazing Association
    Medora Grazing Association
    Little Missouri Grazing Association
    ND Department of Agriculture
    Extension Agents: McKenzie, Billings, Slope, Bowman, Morton, Grant, Sioux Counties
    NDSU Extension Entomologist

Subject: North Dakota Rangeland Grasshopper Assessment

Dear Sirs:

I would like to offer you an assessment of rangeland grasshopper populations in western North Dakota. Enclosed are maps containing results of the adult rangeland grasshopper survey conducted by APHIS PPQ last summer to help forecast where infestations may occur in 2014. The grasshopper counts were concentrated in traditional rangeland areas of the state including the Badlands, the sand hills of McHenry County, and the Heart River and Cannonball River Valleys of Morton, Grant, and Sioux Counties.

On North Dakota rangeland, our survey indicates that general outbreak conditions do not exist at this time. But localized hotspots do occur that may require management. The frequency of hotspots continues to be highest in McKenzie County as it has been the past few years. Many ranchers that I have spoken with from McKenzie County have noticed increasing numbers of hotspots and voiced this concern to me.

Also attached is a map of an aerial spray treatment block APHIS conducted just north of Sather Lake in 2012 which was re-evaluated in 2013. Please note the map shows only the block perimeter boundaries and does not indicate exclusion areas such as required for water. The treatment choice was a RAATS technique where the rate of active ingredient was reduced and intentional skips were placed between sprayed swaths. The technique takes advantage of the mobility of grasshoppers to move into sprayed swaths and consume the active ingredient. Survey crews conducted detailed reviews of the area multiple times in 2013 and I had the opportunity to review the area myself. In general, grasshopper counts one year after treatment within the treatment block were the lowest recorded in many years. Prior to treatment, there were many locations where extreme densities were recorded. The same areas had very low post-treatment counts in 2014. The review indicates a successful and hopefully long lasting treatment. Myself and others were very concerned about the lateness of the treatment date. Because of this concern, prior to treatment I conducted a special survey to dissect female grasshoppers of all species. The dissections found an absence of developed egg pods and showed the main egg laying event had not yet begun. Control prior to egg laying increases multiple year benefits of a treatment, so I made the decision to proceed. This late season treatment was only possible due to a very late hatch. I don’t anticipate the opportunity for later season treatment programs such as this will occur very often as this was a very unique situation.
I believe the low densities found in the block the following year were the result of the treatment as hotspot areas just to the west, south, and the east of the treatment block continued unabated.

Also in 2012, APHIS researchers conducted various experimental treatments on six sections of land directly west of Sather Lake. Subsequent survey of that area also confirmed low grasshopper densities indicating successful control. In my opinion, many problem areas that were known to occur in western McKenzie County were successfully controlled by the treatments. Hopefully the 2012 treatments along with any future small scale treatments will help alleviate the need for large control blocks in the county.

Regarding the 2014 grasshopper program: My work unit continues to absorb funding cuts and our seasonal survey staff has again been reduced. We will continue to conduct grasshopper survey and technical assistance but the level of detail and response time will be impacted moving forward. Responding to particular complaints may cause survey of other areas to be put on hold. Additionally, funds for conducting treatments are limited and will be approved by the APHIS Regional Hub on a case by case basis. However, the ATV hotspot ground treatment project managed through the grazing associations will be available again in 2014.

Research is being conducted on new treatment alternatives and techniques but the principle insecticides used against grasshoppers by APHIS remain unchanged at this time. They are Sevin XLR Plus, Dimilin 2L, and malathion ULV. These three insecticides are relatively harmless to humans, livestock, and wildlife.

This information will be provided to registered bee keepers in North Dakota as part of best management practices for pollinator protection.

Please contact me at any time if you have any questions with this report.
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Sincerely,

David C. Hirsch
State Plant Health Director, North Dakota

CC: Bruce Shambaugh
    Charles Brown
    Larry Jech
2013 Rangeland Grasshopper Adult Survey (South West)

Legend
2013 Adult Survey
GH Counts
- 6-5
- 6-19
- 20-60
- Interstate
- State Highway
- Federal Grassland Misc.
- National Park
- Wildlife Management Area
- State Trust Land