



CONSERVATION ENHANCEMENT ACTIVITY

E595E

CONSERVATION
STEWARDSHIP
PROGRAM

Eliminate the use of chemical treatments to control pests and to increase the presence of dung beetles

Conservation Practice: Integrated Pest Management - 595

APPLICABLE LAND USE: Pasture; Range

RESOURCE CONCERN: Animals

ENHANCEMENT LIFE SPAN: 1 Year

Enhancement Description

Pests and parasites can have a significant impact on the economic viability of livestock operations by affecting the performance and health of animals. The use of broad-spectrum insecticides, pour-ons and avermectins have been shown to have a detrimental effect on dung beetle populations. Having a healthy population of dung beetles facilitates the recycling of nutrients and promotes soil and grassland health. By eliminating the application of broad-spectrum insecticides, pour-ons, and avermectins, including injectable avermectins, for pest control in and on livestock along with rotational grazing and higher stock densities has shown to increase the dung beetle population. Use of natural or alternative methods of pest control over multiple years is encouraged.

Criteria

- Determine the chemical treatments that are harmful to the dung beetle population and eliminate use. Rotational grazing management and the use of natural treatments for pest control will be implemented. Follow all land grant university recommendations and methods of evaluations.
- A written grazing plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.

E595E – Eliminate the use of chemical treatments to control pests and to increase the presence of dung beetles	August 2019	Page 1
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- Maintain diversity of pastureland and rangeland plants to optimize delivery of nutrients to the animals by incorporating the intensity, frequency, timing and duration of grazing and/or browsing needed as determined by a planning process that includes:
 - A resource inventory with ecological site description or reference sheet and structural improvements and existing resource conditions,
 - Grazing plan that provides for 45 days or more recovery period between grazing events
 - All potential contingency plans

- Supplemental feed and/or minerals will be balanced with the forage consumption to meet the desired nutritional level for the kind and class of grazing and/or browsing livestock.



Documentation Requirements

Participant will:

- Prior to implementation, provide documentation for review showing producer’s record of integrated pest management meeting Conservation Practice Standard Integrated Pest Management (CPS 595) general criteria.
- During implementation, keep documentation, such as records, plans, receipts, showing the implementation of the activities selected including:
 - Written documentation of what chemical treatment(s) that were replaced by non-harmful alternative method(s).
 - A written plan for matching the forage quantity and quality produced with the grazing and/or browsing demand will be followed.
 - Record of rotational grazing.
- After implementation, make documentation available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- Prior to implementation, provide and explain NRCS Conservation Practice Standard Integrated Pest Management (CPS 595) as it relates to implementing this enhancement.
- As needed, provide technical assistance to the participant as requested.
- After implementation, verify implementation by reviewing records kept during enhancement implementation.

NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name _____ Contract Number _____

Total Acres Applied _____ Fiscal Year Completed _____

NRCS Technical Adequacy Signature

Date

E595E – Eliminate the use of chemical treatments to control pests and to increase the presence of dung beetles	August 2019	Page 3
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North Dakota Sideboards

State Criteria

1. Applies to range or pasture used for normal grazing regardless of the time of year. It does not include feed lots, aftermath grazing, or other land uses used during the production cycle.
2. Requires the producer to already be using a basic IPM and will be using additional IPM techniques that will enhance current management from what they are currently doing.
3. Application method of chemical insecticides (de-wormers, internal and external parasite) on livestock is important as it determines if insecticide gets into the dung of the livestock, and consequently impacts dung beetles. Therefore, application methods of chemical insecticides on livestock while on pasture or range that are **not** allowed include: pour-on, injections, oral drench, bolus, crumbles, dust bags, back oilers, or minerals with added chemical de-wormers. Insecticidal ear tags **are** an acceptable form of insecticide that can be used.

FYI-There are three main classes of chemical de-wormers—benzimidazoles, such as fenbendazole; imidazothiazoles, such as levamisole; and avermectins, of which ivermectin is a member.

4. Livestock cannot enter pastures and/or range if they have been treated with chemical insecticides using the application methods listed above in the previous 30 days. Insecticide residues may be present in dung up to 30 days post-treatment, which are still harmful to dung beetles.
5. Does not allow the use of sacrificial pastures for the 30-day post chemical treatment of livestock before pasture or range entry.
6. Requires the producer to meet ND-CPS-528 Prescribed Grazing.
7. If the operation runs multiple herds, and each herd grazes different acres, the enhancement may be implemented on just one herd. The animal herd must be designated and the acres that the designated herd grazes must be clearly defined for the purposes of the enhancement. Even though this enhancement focuses on the treatment of animals, the key point is that the contracted acres are only grazed by animals meeting the requirements of the enhancement.

E595E – Eliminate the use of chemical treatments to control pests and to increase the presence of dung beetles	August 2019	Page 4
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Documentation Requirements

1. Document that they are not using chemical insecticides (de-wormers, internal and external parasites), using the excluded application methods listed in Criteria #3 above, for livestock while on pasture or range to increase the presence of dung beetles. Complete Table 1 below.

Table 1

Field	Benchmark Livestock Pest Treatment	Planned Livestock Pest Treatment

2. All documentation requirements of ND-CPA-528 must be met.

In addition to the requirements listed in the National Enhancement Worksheet, the NRCS will:

- Prior to implementation, provide and explain NRCS Pest Management Conservation System Standard (595) and NRCS Prescribed Grazing Standard (CPS 528).
- Provide additional technical assistance in developing the integrated pest management plan and grazing management plan, as requested by the participant.
- After implementation of the enhancement, verify changes made to address dung beetle habitat, such as eliminating application methods of chemical treatments listed in Criteria #3 above and implementing alternative pest control methods, and confirm implementation of the grazing plan by reviewing grazing records.



Considerations

1. Producer should consult with their veterinarian on all planned livestock pest treatments **before** making changes to benchmark livestock pest treatments.

2. Alternative treatments may be used while livestock are on pasture and/or range as follows:

- Fly traps. To increase effectiveness of traps, they can be placed where livestock congregate, such as water tanks. An internet search for “fly traps for livestock” provides several viable options.
- Insecticidal ear tags. This targeted method of application works as the insecticide moves from the surface of the tag to the coat of the animal. Because the insecticide stays on the coat of the animal and does not move to the dung, this method of application poses less risk to dung beetles.

o Insecticidal ear tags can be effective and are easy to apply, but horn flies can develop resistance to the active ingredients used in some tags. To address this issue, some general recommendations are:

- Rotate to tags with a different active ingredient from year to year.
 - Place the tags on the animals as late as possible to ensure maximum protection when horn flies are present. Do not tag animals earlier than June 1.
 - Tag weaned calves and mature cows. Nursing calves do not need to be tagged because horn flies typically do not bother them.
 - Remove used tags at the end of the growing season to reduce the occurrence of resistance.
 - High-quality tags are recommended as inexpensive tags may not be as effective.
- Natural (and less toxic) treatments are acceptable, provided:
 - o Producers provide the proposed natural treatment in their management plan so NRCS can approve the planned natural treatment.
 - Grazing management techniques may help reduce fly pressure on livestock by moving the livestock away from fresh dung and flies. Some grazing management strategies to consider are:
 - o When rotating livestock to a different paddock, move them to a paddock that is not immediately adjacent to the paddock they just grazed.
 - o Consider rotating livestock to a paddock with a different water source than the paddock that was just grazed.