Animal Enhancement Activity – WQL18- *Non-Chemical Livestock Pest Control*

State Supplemental information in Blue font

Non-Chemical Livestock Pest Control
Apply management techniques, devices, and biological agents that control external pests and internal parasites of livestock without the use of synthetic pesticides**.**

Land use applicability
Pasture, Range and Forest (if the forest is grazed)

Benefits
Environmental benefits will be operation specific. Benefits may include, but are not limited to improved animal health, reduced risk to humans and improved water quality.

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 synthetic chemical treatments poses risks to water quality through animal contact and runoff. Farm workers are also exposed by handling chemicals and livestock. An alternative non-chemical pest control option can address these concerns and provide adequate pest/parasite control in many situations. Non-chemical control may also require increased monitoring and enhanced management applications which can affect a higher overall level of management efficiency.

Criteria for Non-Chemical Livestock Pest Control

1. Prepare a written plan addressing basic management considerations, including:
   a. pests/parasites to be controlled, including correct species identification
   b. monitoring process (jug traps, baited cards, on-livestock counts, fecal egg counts, FAMANCHA, etc) to determine when control is needed and control effectiveness
   c. sanitation, cleaning feed/hay sites, and manure removal to reduce breeding sites
   d. rotational grazing and how it will be used to disrupt pest life cycles, minimum residual forage height to reduce parasite ingestion
2. Incorporate two or more of the following applications into the plan as appropriate:
   a. Release of wasps that are parasitic to flies or the release of hister beetles
   b. traps for house and stable flies, used with fly tape, paper, ribbons, etc.
   c. traps for biting flies or face flies
   d. walk through fly traps for horn flies
   e. fly vacuums
   f. bug zappers
   g. enhance populations of martins, swallows and bats with roost, nesting and breeding sites as appropriate

3. Incorporate one or more of the following applications into the plan as appropriate:
   a. provide non-invasive plants with secondary compounds such as tannins and terpenes that can reduce internal parasites when grazed by livestock
   Preferred Plants include:
   - Bird's-foot trefoil (Lotus corniculatus)
   - Chicory (Chichorium intybus)
   - Showy Tick Trefoil (Desmodium canadense)

b. provide for multi-species grazing to disrupt life cycles of host specific parasites
c. monitor dung beetle populations and enhance by eliminating or significantly reducing use of detrimental injectable, pour-on, and especially bolus type pesticides
d. if dung beetle populations are essentially non-existent, harrow or otherwise mechanically treat manure piles to speed up drying and decomposition.
e. incorporate pastured poultry, such as portable poultry wagons, into pasture rotations to eat fly larvae, 2-3 days after livestock leave pasture
f. use parasite/pest resistance as a basis for individual genetic selection and culling

Documentation Requirements for Non-Chemical Livestock Pest Control

Written plan that includes basic management consideration and specific selected applications. Vermont Grazing Plan Templates and Enhanced O&M sections will be used to document length and frequency of grazing. These documents are available online at:
http://www.vt.nrcs.usda.gov/technical/Grazing_Info/Grazing_Index.html
Applicants will follow a modified Operation and maintenance Plan using this tool as well as the Record Keeping Sheet.

Brief written description of tasks and applications completed, including dates, effectiveness of applications, and other monitoring results.

Schedule of when grazing occurred on pastures and residual vegetation heights both at start and end of each grazing period.