United States Department of Agriculture
Natural Resources Conservation Service 2013 Ranking Period 1

Water Quality Enhancement Activity – WQL18 - Non-chemical pest management for livestock

Enhancement Description
The use of management, monitoring, and prevention techniques to manage external livestock pests without the use of pesticides.

Land Use Applicability
Pastureland, Rangeland, Forestland

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 improper use of chemical control methods can pose risks to animal and human health as well as water quality. Nonchemical pest management strategies will require increased monitoring and management of livestock which should result in a higher overall level of management efficiency.

Conditions Where Enhancement Applies
This enhancement applies to all pasture, range or forest land use acres.

Criteria
1. Have a technical expert prepare a written plan addressing basic management considerations, including:
   a. Pests/parasites of concern, 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 to monitor 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. Provide non-invasive plants with secondary compounds such as tannins and terpenes that can reduce internal parasites when grazed by livestock.
   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. Enhance populations of martins, swallows, and bats by providing roosts, nesting, and breeding sites as appropriate.

Adoption Requirements

This enhancement is considered adopted when a management plan has been developed, the management plan contains two or more of the sub-criteria to # 2 above, and the selected sub-criteria have been implemented.

Documentation Requirements

1. Copy of the written plan that includes:
   a. Basic management considerations,
   b. Specific selected prevention and monitoring techniques performed,
   c. Dates techniques performed,
   d. Effectiveness of applications, and
   e. Other monitoring results.
2. Schedule of when grazing occurred on pastures and residual vegetation heights both at start and end of each grazing period.

References

Dufour, Rex. 2001. Biointensive Integrated Pest Management. National Center for the Appropriate Technology (NCAT). https://attra.ncat.org/attra-pub/summaries/summary.php?pub=146.

National Center for the Appropriate Technology (NCAT). 2004. Organic Livestock Workbook – A Guide to Sustainable and Allowed Practices. http://www.co.marin.ca.us/depts/AG/Main/PDFsForOrganicAgAndMOCA/livestockworkbook.pdf.

USDA-AMS. 2012. National Organic Program Final Rule – Access to Pasture www.ams.usda.gov/NOP