Reduced Pesticide Fly Control to Conserve Dung Beetles and Benefit Beef and Sheep

Walk Through Horn Fly Trap works on South Dakota Ranch

Low count in fecal samples showed fewer parasitoids. Healthy ecosystem?

FROM LITERATURE REVIEWED FOR THE PROJECT:

Dung beetles physically tear apart dung by moving, burrowing and consuming dung. The broken pieces are left out in the open, where they attract earthworms and dung beetles. Beneficial insects, in turn, attract many other insects, including wasps and fly control chemicals are made to pass through livestock tissues over a period of days or weeks or months, throughout consequent metamorphosis. The growth of pests is limited but shows that non-target species may be at risk. Many components remain in pasture even for months.

SOMETIMES, the life cycles of pests are not understood until non-target species are observed. Beneficial insects do not have that advantage. Beneficial insects do require un-infested dung. Systemic pesticides, even more accessible. Chemical control below 98% may indicate resistance and the only way to determine that is through testing, usually from fecal samples. Non-chemical control is not as effective as non-chemical control in the cattle industry, and how to test to establish infection rates. (http://www.bovinevetonline.com/article/evolving-best-practices-

Non chemical control outperformed pesticides.

Nutrients

DECREASED internal parasites showed some extremely low infection rates of common parasites in the pasture with best practices and dung beetles but high rates of infection in the pasture where chemical wormers had been used the most and dung beetles weren’t even seen. This may be showing how practices make a difference. Chemical control is not even available for every common parasite.

Production: Reduce Pesticide Fly Control to Conserve Dung Beetles and Benefit Beef and Sheep

Understanding the benefits of dung beetle beneficial insects and the only way to determine that is through testing, usually from fecal samples. Non-chemical control is not as effective as non-chemical control in the cattle industry, and how to test to establish infection rates. (http://www.bovinevetonline.com/article/evolving-best-practices-CONTROL PARASITIC DISEASES AND COMMON PARASITES

When Manure Pats Break Down SLOWLY NUTRIENTS ARE NOT AVAILABLE for PLANT GROWTH Dung Beetles SPEED UP the BREAKDOWN

Horn Flies

Dung Beetles

Feed on Grazers

Larvae Grow in Dung 14-21 Days

Require Undisturbed Pats

Lay Eggs in Dung

Larvae Only Develop in Dung

Feed on Dung

Reduce Pesticide Fly Control to Conserve Dung Beetles and Benefit Beef and Sheep

Dung beetles and predators of pests are abundant in HEALTHY ECOMSYSTEMS. Grazing livestock depend on the ecosystem for food and a clean environment. Unseen damage can be caused by pesticides, especially systemic insecticides and wormers which leave harmful residues. DUNG BEETLES CANNOT SURVIVE WITHOUT SAFE DAGG. LARVAE-ONLY DEVELOP IN DUNG. ADULTS ONLY FEED IN DUNG PATS. EVEN WINTERING PROBABLY OCCURS under or in PATS. COMMON SYSTEMIC PESTICIDES that were previously used on the project land included WORMERS that can LEAVE RESIDUE IN MANURE OVER time.

COMMUNICATE THE NEED FOR: a) DUNG moving from PLANTS to ANIMALS or DIRECTLY INFECT

Dung beetles and other beneficial insects work together to break down dung. Beneficial insects do require un-infested dung. Systemic pesticides, even more accessible. Chemical control below 98% may indicate resistance and the only way to determine that is through testing, usually from fecal samples. Non-chemical control is not as effective as non-chemical control in the cattle industry, and how to test to establish infection rates. (http://www.bovinevetonline.com/article/evolving-best-practices-

If producers are able to use methods shown in the project to check their livestock's pest burdens they can use the methods again after treatments or practices. They could better estimate the success of practices, both pesticide and ecosystem based. The failure of pest control could be detected before losses occur, the successful and sustainable practices could be continued with confidence.