



Photos by Kim Goodling of Vermont Grand View Farm



BioWorma®: Worm-killing fungus

by Susan Schoenian

BioWorma® is a relatively new feed product that contains a worm-killing fungus: *Duddingtonia flagrans*. When fed to livestock, the fungus passes through the animal's digestive system and ends up in the feces, where it traps and kills roundworm larvae. By targeting worm larvae, BioWorma® reduces pasture infectivity. It is effective against various roundworm species and works in any grazing animal. It is a biological method of worm control, with no known adverse effects in the animal or environment.

To get the desired results, it is recommended that BioWorma® be fed daily to livestock when the environmental conditions are conducive to larvae development, e.g. over 40°F. The most susceptible livestock should be targeted for feeding. In small ruminants, these include young animals (3 to 24 months) and periparturient females (last month of pregnancy and while producing milk).

Two BioWorma® products are available for purchase: 1) Bio-Worma® and 2) Livamol® with BioWorma®. BioWorma® is a feed additive that contains 34 percent fungus. It is meant to be mixed into large batches of feed, as its dosage is only 0.1 ounces per hundred weight of animal. Livamol® with BioWorma® is a feed supplement that contains 2.2 percent fungus. It is meant to be mixed into other feeds or supplements. The dosage is 1.6 ounces per hundred weight of animal.

For small producers, the Livamol® product is probably the better option, as it is a ready-to-use product, whereas BioWorma® needs to be blended into a feed. In addition, Livamol® is the only product that producers can directly purchase. The EPA limits the purchase of BioWorma® to veterinarians and feed manufacturers (with EPA certification). Premier 1 Supplies (of Iowa) is one of the major suppliers of BioWorma® to the US market. Since Premier has veterinarians on staff, it is now able to sell BioWorma®.

Many years of research went into the development of BioWorma® and

similar fungi. BioWorma® products are marketed by an Australian company (International Animal Health) and became available to US producers last spring (2019). US research (with BioWorma®) is just beginning. The research isn't aimed at proving the efficacy of BioWorma® so much as determining if BioWorma® can produce similar results if it is fed less often, e.g. every other day or for two weeks every month. There is also interest in incorporating BioWorma® into a mineral product, so that animals could self-feed. The goal of proposed research is to reduce the cost and labor associated with feeding BioWorma®. Research is needed before any of these practices can be recommended.

Watch a webinar (YouTube video) on BioWorma® at <https://youtu.be/i-JmxoytzDc>.

Susan Schoenian, *Sheep & Goat Specialist* University of Maryland Extension - sschoen@umd.edu