

## Grass and Fairy Rings Create Opportunities

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Recently I was looking for tag fairies, but with little luck. Perhaps there still is hope because the preponderance of fairy rings is becoming very evident.

Rumor has it; the fairy ring is home to fairies because they rest on the mushrooms that encircle the ring as they dance the night away within the ring. Since fairy rings generally occur in grasslands or forests, perhaps the fairies will take up tagging calves as the season progresses. Fairy rings may seem somewhat distant from the cattle business, but really they are not.

The cattle business is a grass business and understanding grass will make or break a cattle producer. So what is a fairy ring?

Simply put, a fairy ring is a proliferation of fungus growth, evident by the mushroom fruiting body of a fungus, brought on by the availability of water and nutrients. As the environmental conditions change, the many available forms of life also change with it. In this case, as the fungus grows outward from the original point, a circle or ring of progressive change occurs.

Initially, the grass greens up as the fungus interacts with the grass, releasing nutrients for the grass to grow and making the nutrients available to the fungus. The fungus then utilizes the nutrients for its own survival and growth, denying nutrients to the grass, so the grass fades or dies. Once the fungus has utilized the nutrients, the fungus dies, releasing the nutrients back into the soil and the grass rebounds in the inner part of the ring.

To a cattle producer walking the grass-laden fields, a fairy ring is a unique reminder of all that is happening under foot. The critical part of the process involves mycelium, the massive compilation of growing hyphae that are critical to the survival and proliferation of the fungus.

Like bread molds spreading in a forgotten bread sack, the mycelium are not visible. In the case of grass, the mycelium are embedded in the soil, but certainly are part of the living cycle within our grasslands.

Lee Manske, Dickinson Research Extension Center rangeland specialist, has been studying rangeland eco-

systems for years. He notes in the center's 2005 annual report that "the soil rhizosphere around perennial grass roots is the zone where a symbiotic relationship occurs between the roots of plants and microorganisms living in the soil. The rhizosphere organisms are bacteria, protozoa, nematodes, mites, small insects, and fungi."

These organisms impact the grassland ecosystem.

"Increased activity of rhizosphere fungi also benefits plant growth," Manske notes. "Rhizosphere fungi are primarily vesicular-arbuscular mycorrhizae (VAM) that form endomycorrhiza in which the vesicles, arbuscules, and hyphae of the fungus enter the cells and tissue of the host plant. The symbiotic function of endomycorrhizal fungi in grassland plant rhizospheres is the nitrification of ammonia and the enhancement of the absorption of phosphorus, other mineral nutrients and water. Stimulation of the activity of rhizosphere organisms results in increased conversion of organic nitrogen into mineral nitrogen and in greater availability of water, minerals and nutrients for the grass plants."

The net result is that the cow has more grass to eat and the cattle producer has more beef to sell. Cattle producers do not need to understand all that is happening under their feet as they walk through their pastures, but rest assured, it's big.

For today, simply appreciate what the fairy ring is trying to tell you. The fairy ring is telling you there is a lot to this world we don't see or understand. However, the important part is to appreciate what we have and, for now, let the tag fairies enjoy their party. The tag fairies don't know how they are going to get all these cattle tagged, either, but they do know how to enjoy life.

May you find all your NAIS-approved Ear Tags.

Your comments are always welcome at [www.BeefTalk.com](http://www.BeefTalk.com). For more information, contact the North Dakota Beef Cattle Improvement Association, 1133 State Avenue, Dickinson, ND 58601 or go to [www.CHAPS2000.com](http://www.CHAPS2000.com) on the Internet. In correspondence about this column, refer to BT0252.

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Enjoy Their Party**