

**SHEEP AND THE
ENVIRONMENT**



**SHEEP AND
MULTISPECIES
GRAZING**

Producing more with less while improving the environment are primary aims of any agricultural operation. An effective means of achieving this is through multispecies grazing.

A practice dating back to Biblical times, multispecies grazing occurs naturally in

many grasslands such as the Serengeti plain of East Africa.

Multispecies grazing refers to the use of more than one type of large herbivore to graze a common resource. Multispecies grazers may be either domestic or wild animals, and the grazing may occur simultaneously or at different times.




PAIRING SHEEP AND CATTLE

Studies show that pairing sheep and cattle enhances both livestock production and the environment. This is due primarily to each species dietary preferences and grazing habits. For example, sheep diets usually have more forbs and less grass than cattle diets. Sheep graze lower in the forage canopy, can select fine-scale mixtures more easily, and have a more varied diet than do cattle. When forage is scarce, competition between sheep and cattle tends to decrease because cattle shift their diet to lower-quality and more available forage, while sheep continue to select their preferred diet.

Furthermore, grazing sheep and cattle together may result in fewer losses of sheep to predators since cattle are larger and tend to be more aggressive. The Agricultural Research Service is conducting research on this grazing advantage.

BENEFITS OF MULTISPECIES GRAZING

- Multiple species, with their unique dietary preferences, will result in plant communities that are more resistant not only to grazing impacts but to other factors affecting ecosystem stability, such as drought.

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- Compared to single-species grazing, multiple species of animals use resources more uniformly, which also can enhance ecosystem stability, according to land managers.
 - Many plants that are toxic to cattle, including larkspur, leafy spurge, tansy ragwort and pine needles, do not harm sheep, which have a greater ability to neutralize the plant toxins. Grazing sheep over infested areas can reduce the risk of poisoning to cattle. This practice is in place in the Beaverhead National Forest in Montana and the Routt National Forest in Colorado.
 - In Texas and the Southwest sheep and goats are used to control brushy plant species that invade grassy habitats. Once the grasses return, the land can be used for cattle grazing.
 - Leafy spurge and other noxious weeds pose a tremendous threat to cattle ranchers. Because cattle won't eat the weeds, they quickly spread and choke out more suitable forage. Sheep find leafy spurge palatable and can provide about 95% control of the weed. North Dakota State University's Hettinger Research Experiment Station found that sheep grazing could double the head of cattle — from 100 to 200 — that could be grazed on the spurge-infested test site.
 - In Alberta, Canada, the Ministry of Environmental Protection is using 12,000 sheep to control brush in elk habitats and on rangeland. The Ministry estimates that 25% of the region's elk habitat and a considerable amount of cattle range has been lost to willows, young aspen and other brushy plants.
 - Animals' individual performance typically increases in multispecies grazing. In 14 international studies of sheep and cattle grazing, multispecies grazing can benefit the individual performance of sheep and cattle. Sheep grazed with cattle had gains that ranged from 12 to 126 percent higher than sheep grazed alone. Cattle grazed with sheep had gains of up to 21 percent.
 - Other studies found that multispecies grazing increases meat production by 24 percent compared to cattle-only grazing and 9 percent compared to sheep-only grazing. The gains come from increasing the carrying capacity of the land and from better individual animal performance.

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Sheep and Multispecies Grazing is a publication of the American Sheep Industry Association (ASI), which represents more than 83,000 U.S. sheep producers. Sheep are a natural, low-cost means of managing rangelands, forest and agricultural lands, even as they produce important resources, such as wool, meat and lanolin. ASI is committed to proper grazing that benefits the environment, wildlife, the taxpaying public and consumers. For additional copies of this and other ASI pamphlets on sheep and the environment, contact the American Sheep Industry Association, 6911 S. Yosemite St., Centennial, CO 80112, (303) 771-3500.

