

## The Desert Tortoise and Grazing Livestock

**The toothless tortoise is ill equipped to harvest and masticate range forage.** The tortoise can harvest only tender vegetation, and it can't masticate even that. The tortoise can't process enough bulky, low analysis forage fast enough to meet its nutritional requirements. They solved this problem long ago—they allow other animals to do it for them. **Desert tortoises feed primarily on dung.** The more animals using the range, the more dung, which makes more food available for tortoises.

In the millennia preceding the advent of domestic livestock on the range, tortoises subsisted on pellets excreted by rabbits, deer, and bighorn and scats of predators. Tortoise populations adjusted to the amount of dung available; their numbers were low.

**The Western Regional Extension Publication No. 39: "By-products and Unusual Feedstuffs in Livestock Rations"** states: "it is commonly estimated that 80% of the total nutrients in feeds are excreted by animals as manure." The desert tortoise is well adapted for making use of cow dung. Four days elapse between meals.

This allows plenty of time for the tortoise to complete the digestion that began in the cow's stomach. The digested food moves slowly, ever so slowly, through tortoise intestines. This trip takes 17 days. It is a biological law that all organisms tend to increase to the limits of their food supply. Therefore, it is natural and to be expected that desert tortoise numbers and livestock numbers peaked on the public domain at the same time. It is also a natural law that if the food supply is diminished for any population, that population will adjust to come in balance with the reduced food supply. For 50 years BLM has been reducing the numbers of livestock permitted on the Federal Range. For 50 years desert tortoise populations have been declining.

The intense competition for forage by livestock owners was halted by the Taylor Grazing act of 1934. The big reduction in grazing use in 1936 (about 50 percent) didn't bring about any noticeable range improvement, and another cut in authorized use was made by shortening the length of the grazing season. It was after this second cut that **Woodbury and Hardy (1948) reported a desert tortoise population density of 150 tortoises per square mile.**

BLM made further cuts in grazing use in the early fifties and again in the sixties. In 1970 1,500 acres of tortoise habitat were fenced and closed to all grazing by livestock. Sheep use was eliminated. Four years later Coombs (1974) reported **39 tortoises per square mile.** Between Hardy's census in 1948 and Coombs' census in 1974, livestock grazing was reduced 100 percent. **There was a 74 percent reduction in tortoise density.**