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# Preparing Animals for Moving Day

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Think for a moment how you react when you visit or move to a new place. Are you disoriented and maybe even a little frightened? Do you prefer to go to new places alone or with friends? Where do you eat? Do you ask someone local for a good restaurant or do you settle for some familiar restaurant chain even if you hate the food?

When moved to a new location, livestock and wildlife face many of the same challenges we do. In fact, moving to a new location is generally much harder for livestock than for us because animals don't have fast food chains, road maps, or signs.

Animals raised in a particular location learn about foods and habitats through social interactions with the herd and through trial and error learning (Biquand and Biquand, 1992). But when animals find themselves in new surroundings either because they're forced to move, or due to catastrophic events, such as fires or floods, much of the knowledge they learned about their old environment may be useless or even harmful in their new surroundings. Animals in unfamiliar environments suffer more from malnutrition, over-ingestion of poisonous plants and predation than animals in familiar environments.

Moving animals from familiar to unfamiliar environments is stressful. Chronic stress inhibits immune responses, which increases illness and decreases performance of livestock. Placing them with animals they don't know, also causes stress. Rough handling makes the problem worse. The final blow is often being forced to eat unfamiliar foods. Given the above combination of circumstances, animals are much more likely to suffer from illness due to stress than in familiar situations (Moberg and Mench, 2000). So, what can be done?

## Choose Similar Areas

Animals adjust to unfamiliar environments more quickly if they are moved to areas where foods and terrain are similar to what they have previously experienced. Some producers buy replacement animals only from areas similar to their ranch. Still, no matter how similar a new area may be to a familiar area, animals still experience stress. That is why many ranchers insist on raising their own replacement females because animals bought elsewhere and moved to new areas often suffer from malnourishment, lose weight, and reproduce poorly.

In general, animals reared in harsh environments where plants tend to be low in nutrients and/or high in toxins and are sparsely distributed over rough country will likely adapt when moved to areas with plentiful, nutritious plants. Whereas animals raised on high-density, nutritious pastures are not likely to perform well in harsh environments. In some cases they may lose body condition and fail to breed back. For example, cattle raised on desert rangelands and moved to good quality pasture are likely to fair better than moving cattle from good quality pasture to desert rangelands.

While this practice is a good rule of thumb, it doesn't always work. One rancher moved his cattle

herd from the mountains of Colorado to the nutritious grasslands of Nebraska. His animals lost weight and their reproductive performance was so poor that he finally sold his cows and bought a herd from the area. While it's possible his cows were simply depressed over the loss of their mountain view, this example demonstrates that animals may perform poorly in an unfamiliar location even if the location is considered prime habitat and forage for that species.

A research study in Australia provides another example of how moving animals from arid rangelands to high quality irrigated pastures can have disappointing results, at least initially. In the study, one group of heifers was raised on rangeland. A second group of heifers was raised on irrigated pastures. After weaning, both groups of heifers were moved to irrigated pastures similar to the pastures where the second group of heifers was raised. Daily gains of the pasture-reared group were comparable before and after the move. However, daily gains of range-reared heifers declined to 0.7 lbs/day when moved to irrigated pastures. Four to six weeks after range-reared heifers were moved to irrigated pastures, weight gains leveled off at 2.7 lbs/day and were similar to pasture-reared heifers (Thomas et al., 2011).

## Provide Familiar Foods

Preparing animals for foods they will eat in new environments improves productivity and reduces illness when animals arrive at their new location. For example, exposing young animals with their mothers to foods the offspring will eat in the feedlot increases intake (Ortega-Reyes et al., 1992). Young animals given only brief exposure with their mothers, an hour per day for five days, remember foods for at least 3 years (Green et al., 1984). Immediate acceptance of food in the feedlot helps reduce stress and illness.

If animals cannot be familiarized with new foods before moving, providing animals with familiar foods when they first arrive to new areas will help ease the transition (Burritt and Provenza, 1997). For instance, one young man sold some bulls to another man in a neighboring state. After a few weeks, the irate new owner called to discuss and cuss the poor performance of the bulls. The man was shocked and felt badly. He couldn't understand the problem. The bulls were fine when he sold them. At that point, his grandfather suggested they take the new owner a load of hay from the home place, a once-common but bygone practice. They did, the condition of the bulls improved, and the bulls and their new owner were on their way to making the transition.

Moving animals to new environments can be devastating, as Arizona rancher, Mick Holder, discovered. During a drought he moved part of his cows 100 miles from his ranch. Many of the cattle that were moved died from poisonous plants, while the cattle at the home ranch did not. Holder didn't realize animals prefer familiar to novel foods even if the familiar foods are toxic and this response is especially true in new environments (Burritt and Provenza, 1997). When Holder moved his cattle, they ate too much lupine and locoweed because other familiar foods were not available. Furthermore, the same dose of a toxin has a greater effect in an unfamiliar environment compared to a familiar one (Siegel, 1976). Thus, cattle may have eaten amounts of toxic plants that were not lethal in the familiar environment, but lethal in the unfamiliar environment. Providing some familiar nutritious foods when the cattle were moved would have helped ease the transition.

## Provide Role Models

When introducing animals to a new location, it may be helpful to mix experienced and naive animals together provided the animals graze together. Animals prefer to forage with companions instead of strangers and will likely graze in separate herds if they are not familiar with each other before they are turned out together to graze (Scott and Provenza, 1995). Using older animals to model behaviors for younger animals may also be effective. One producer who runs stocker calves runs mature cows familiar with his rangeland with new stocker calves. The old cows act as lead animals for the new stockers showing them where to forage and what to eat.

## Conclusions

We often buy and sell animals and move them to unfamiliar environments without considering where they were raised or their previous dietary experience and then wonder why they don't perform well. Animal performance depends on the

amount and type of experience they have with the environment in which they're expected to forage. When bringing animals into a new area, managers can help ease the transition by: 1) selecting animals that were raised in areas similar to the new area, 2) introducing animals to foods they will encounter at new locations, 3) providing familiar foods at new locations, and 4) providing appropriate role models.

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