

USING SALT FOR LIVESTOCK

E. P. Schwennesen¹

The elements of common salt, sodium and chlorine, are essential for animal life. They are part of several functions in maintaining osmotic pressure in body cells which is vital to the transfer of nutrients and waste products across the cell membrane. Salt is a major component of fluid blood, which contains about 0.17% of both sodium and chlorine. Experiments have shown conclusively that extended deprivation of salt (up to one year) will cause a marked breakdown in animal production.

Livestock have shown that they are fairly capable of regulating their own intake of salt if given a reliable source of it. Under range conditions about 20 pounds per head per year has been recommended, with most available during the active growing season to assist the animal with the faster metabolism of succulent feeds.

Overdoses of salt are relatively rare, as sodium chloride is readily excreted in the urine; however it is possible to induce rumen acidosis when using salt to limit feed supplement rations, especially if a generous source of drinking water is not available.

SALT AS A MANAGEMENT TOOL

Efforts by ranchers throughout the Southwest to improve the productivity of the range have shown that a tremendous

advantage lies in using salt as a tool, as well as a mineral supplement. Almost anywhere a "salting ground" can be found, the effects of continuous attraction of livestock and wildlife are obvious. These usually bare, trampled areas are often blamed on the effect of salt on the soil, rather than the result of many years of daily trampling, loafing and nearby continuous grazing. In fact, a growing number of Arizona ranchers are realizing the benefits from using salt to attract the impact of the cattle herds' feet into areas that need the short-term disturbance.

TIME

As long as the salt source remains, animals will be attracted to it. Many ranches place large, hard salt blocks in the same place year after year to be sure that the stock will be able to find it. However, while grass is growing the recovery time from grazing effects is critical. To the plant, removal of its leaves by biting or trampling has a similar effect in that either way, it will have to draw on root reserves to replace the lost leaves. If animals are still in the vicinity when the new leaves are regenerating and before root reserves are replenished, that plant will be overgrazed.

In Arizona, during summer grass growth, the plant needs a minimum of roughly 30 days to recover from loss of its leaves. From this it is easy to realize that if the salt source still attracts animals within that recovery period, the local vegetation will suffer. The biggest single benefit of salt on rangeland is that by moving it around with plant recovery time in mind, plants in any one area can be effectively grazed, but protected from overgrazing. **Never leave a salt source in one spot longer than the time it takes for the first nearby desired plants to begin regrowth.**

AMOUNT

The statement above will make some stockmen imagine the unacceptable amount of work it would take to find, pick up and move one or several large salt blocks every few days. That is a management choice, but unnecessary. The easiest way to move salt while controlling time is to place only enough salt, that it will be completely consumed in a day or two. Then, the next salt should be placed somewhere else. Depending on the time of year and size of the herd, as well as the amount that wildlife consume, some experimentation will quickly show how much salt is needed.

LOCATION

There are literally an infinite number of locations on Arizona rangelands where the brief placement of salt will be a positive management tool. A cursory glance through the pasture inventory will show many locations that are far away, on steep hillsides, in dense brush or suffering from rodent dens where the concentrated short-term effect of the herd chasing salt can be a beneficial event. We are seeing a growing number of examples of small, soft salt blocks placed at the bottom and on the sides of actively eroding gullies, where the efforts of the animals to reach the salt for a few days has rounded over the eroding banks, filled in the bottom and stirred enough seed into the soil that vegetation has been able to stabilize the erosion. **The least desirable location for salt on rangeland is close to the water source.** This is because the water is already a long-term attractant which tends to concentrate the time of animal use for too long, and salt will only increase the animal pressure. Some ranchers in southeast Arizona deliberately place their salt as far from the water point as the pasture will allow, so as to get

their animals exposed to as much of the forage as possible.

EFFECTIVE USES

Salt is a powerful attraction to animals of every description. As such, it gives the land manager a valuable way to use animal impact for the improvement of the land and vegetation. By moving salt sources frequently, herds are persuaded to go into and utilize areas they never use, and just as importantly are attracted away from areas already impacted to allow vegetation to fully recover. As "bait", salt will help:

- Break down standing (dead) litter
- Control grazing time in any one location
- Concentrate livestock use within a pasture
- Attract heavy animal impact into areas needing disturbance, such as dense mesquite, blackbrush, manzanita thickets
- Attract wild stock out of hiding, allow them to associate salt provider with familiarity
- Bring effective forage use into areas neglected for long periods

MANAGEMENT

All of the effects listed above require the active, thoughtful management of the rancher and/or land manager. By developing a careful, detailed plan of the land, vegetation and animal life and their various needs, the manager can make the lowly salt block one of the most effective resource improvement tools in the inventory.

REFERENCES

McDonald, P., Edwards, R., Greenhalgh, J., (1973). *Animal Nutrition*, Hafner Publishing, New York.

Morrison, F.P. *Feeds and Feeding*, Morrison Publishing Co., New York.

ANR Livestock Agent¹
Cochise County Extension Office
The University of Arizona
Tucson, AZ 85721

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Russell Gum, George Ruyle, and Richard Rice, Editors.
Arizona Cooperative Extension

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