



Farm Animal Council of Saskatchewan Inc.

Managing Water Supplies in a Drought

During extended drought periods, water shortages can become as significant as feed or pasture shortages. The following suggestions may help stretch existing water supplies and minimize negative impacts on animal health and performance.

- ***Pump water to cattle and fence cattle out of dugouts, ponds, streams and potholes to minimize contamination of scarce supplies from excrement and prevent trampling of side slopes and destruction of the storage reservoir.***

Cattle gain better with clean water. Nose-pumps allow cattle-powered pumping on demand. Solar pumps or windmills can be combined with a holding tank for float-controlled gravity-flow to stock troughs. One large dugout with shallow-buried pipelines to paddocks and fields can provide water more effectively and efficiently than several scattered dugouts. Reduce dugout water loss from evaporation or seepage with covers and/or liners.

- ***Use continuous aeration of dugout water to maintain oxygen levels, aid decomposition of dead aquatic organisms and reduce growth of algae and other bacteria.***

During a drought there is less runoff to dilute accumulated salts and nutrients. Runoff from a small snow pack may have drift soil in it, adding nutrients to the water. Growth of blue-green algae (Cyanobacteria), some of which produce dangerous toxins, is encouraged by a concentration of nutrients in water. Aeration can be done efficiently with a wind powered air pump and an air stone diffusion device.

- ***Monitor water quality of dugouts and potholes as they dry up and test any new sources of water for mineral content and algae toxins.***

Evaporation concentrates any minerals in the remaining water, which may reduce salt and mineral intake of cattle. If water becomes too salty, cattle will reject it completely. Water with total dissolved solids (TDS) over 3000 mg/l should be further analysed for additional minerals, in particular, sulphates. Sulphates over 1000 mg/l can cause scours in calves, interfere with trace mineral availability (e.g. copper) causing depressed growth rates and infertility, or cause thiamine deficiency/nutritional polioencephalomalacia.

- ***If hauling water is the only alternative, large holding tanks with float-controlled gravity-feed to troughs can reduce the need for daily hauling, yet provide constant water.***

In an emergency, cattle can be watered every second day but this may result in some non-permanent weight loss in mature cows and will reduce calf gains by half a pound per day. Dry cows will graze farther from water than cows with calves, so weaning calves early may allow more effective use of total range forage.

- **Trap drifting snow to help replenish water supplies using snowfence.**

Dugout water supply relies on surface runoff from snowmelt, yet snow is usually only 25% of annual precipitation. Wyoming style snow fence (horizontal boards, 50% porosity, six feet high) and plastic snow fence (50% porosity, six feet high) are most effective at trapping drifting snow and should be placed upwind to the dugout with an 8" gap at the bottom. The fence should be close enough so the bulk of the snowdrift forms in the dugout.

- **If the dugout goes dry, use the opportunity to clean it out.**

Dredge the muck out of the bottom, deepen it, and remove vegetative growth such as willows or cattails in and around the edges and plant the banks, spoil piles and immediate surroundings to grass. Maintaining good grass cover in the immediate area around the dugout and in riparian areas (runoff runways) will help filter sediment out of runoff water. Plant shelterbelts on the spoil piles to act as snow traps.

For further information:

PFRA – www.agr.gc.ca/pfra/drought/article_e.htm

SAFRR – www.agr.gov.sk.ca/docs/about_us/programs_services/droughtwatch.asp#1

PAMI – The Stockman's Guide to Range Livestock Watering from Surface Water Sources

Western Beef Development Centre – www.wbdc.sk.ca/factsheets.html

Other CattleFACS available:

- Animal Health Concerns When Pastures and Feed are Limited (Drought)
- Annual Crops for Emergency Grazing
- Body Condition Scoring
- Calf Scours Overview
- Calving, When and How to Help
- Cancer Eye
- Carcass Quality Shortfalls
- Cattle Handling, In the Zone
- Colostrum
- Creep Feeding Calves
- Early Weaning of Calves
- Euthanasia in Cattle
- Feeding in a Cold Snap
- Feed Testing and Ration Balancing
- Nitrate Poisoning
- Non-Ambulatory Cattle (Downers)
- Not Enough Feed for the Winter?
- Problem Feeds



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FACS represents the livestock industry in advancing responsible animal care and handling practices in agriculture.

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