

Livestock Watering FACTSHEET



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FROST-FREE HYDRANTS

This Factsheet outlines installation and use of frost-free hydrants for winter livestock watering.

Frost Free Hydrants

These are installed when intermittent winter access to water is required. These hydrants are frost free only to the extent that once turned off, the unit drains down to the depth of the buried supply line. Refer to Figure 1, next page.

The hydrant is purchased as a complete unit with a choice of its buried depth. They are installed into the supply line and operated by an above ground handle and lever connected to a buried valve. For continuous summer use the valve can remain open but for winter use frost protection is only obtained upon closure of the valve.

To ensure frost protection, the hydrant must drain quickly when closed. This is assured by placing coarse drain rock around the hydrant valve before earth backfilling. A plastic bucket turned upside down can also be used to create an air pocket to ensure hydrant draining. Note that the hydrant may not properly drain (and then be damaged by frost in winter) if air cannot easily enter the hydrant. This can occur if a hose or other device is left connected to the hydrant that blocks air passage.

When a hydrant is closed, water can be siphoned back down to the valve and out the drain. This could be potentially dangerous if the hydrant were installed close to the water source. Contaminated water (e.g. a hose submerged in a sprayer tank of water) could be siphoned out, drain through the hydrant and enter the water source. Anti-siphon or vacuum breaker valves are available to prevent this type of accident occurring. They are installed at the hydrant outlet. In addition, ensuring a hydrant hose is never submerged in contaminated water (an air gap is always maintained) is good practice.

Frozen Hydrants

These hydrants rely on draining the supply riser after each use for frost protection. A water film can remain on the riser after each use and freeze, and if it accumulates it can block the water flow. This may be prevented if sufficient water is flushed through the riser at each use to remove any accumulated ice build-up.

If the hydrant does freeze, it should be thawed out as soon as possible to avoid damage. Remove the handle and lever mechanism then unscrew the head casting from the riser pipe, being careful not to turn the riser pipe. The above ground portion can be thawed by using heat tape, a torch or by pouring hot water over the pipe. The remainder can be thawed using a funnel with a length of 1/4 in. flexible copper

tubing soldered to it. Insert the copper tube into the riser pipe and push it down as hot water is poured into the funnel. Once the hydrant starts to flow, allow the water to flow freely to remove all the ice.

Once water is flowing normally, check to see if the valve shuts off properly and drains quickly. Press down on the plunger rod to close the valve. The water should drain away in a few seconds. If it doesn't, slow drainage is contributing to the icing problem. Improper valve adjustment, a plugged drain hole or a saturated drain bed may be responsible.

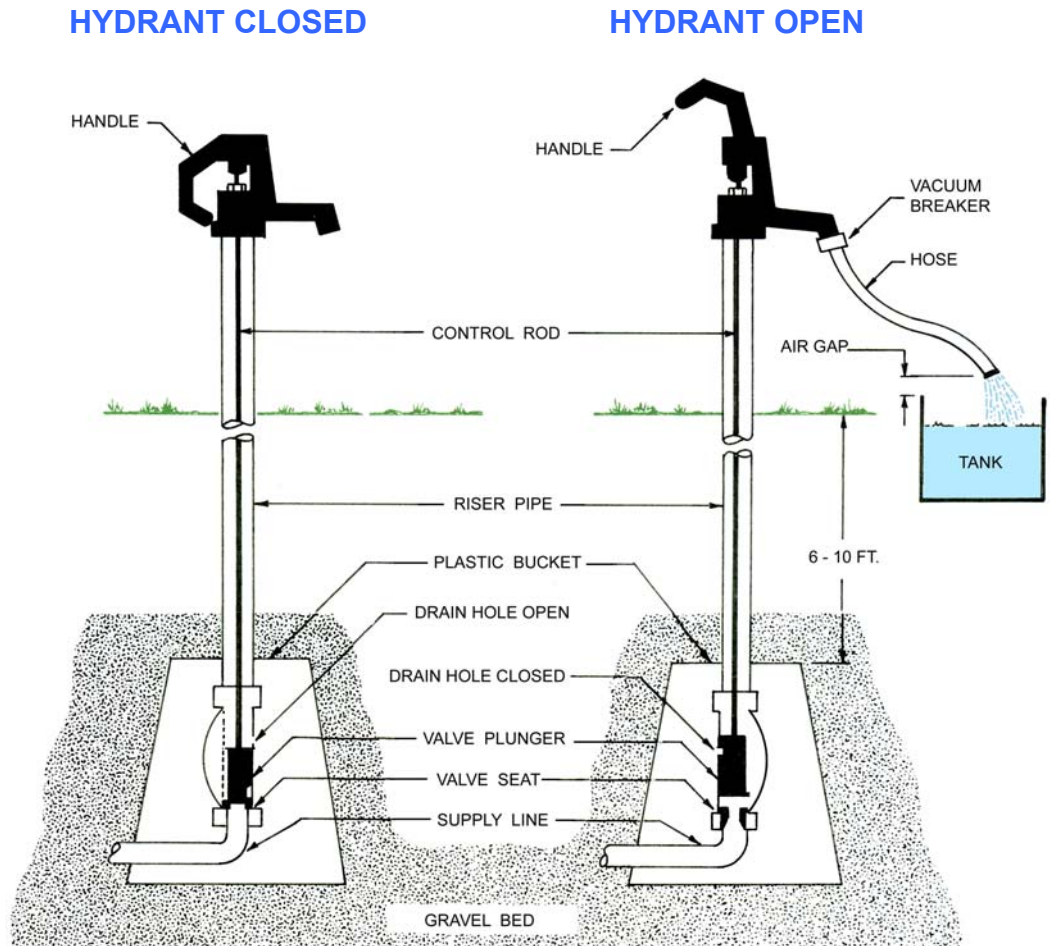


Figure 1 Frost Free Hydrant Installation