

Where high livestock pressure can be expected on the fencing at the waterer, consider installing wooden rail fencing. Shown in Figure 7, below, rails are used at the nose pump and around the dugout.



Figure 7 Rail Fencing at Nose Pump Location

Nose Pump Pro's & Con's

Nose Pumps have the following advantages:

- low cost, typically \$300 - \$500
- easily moved, set up, and maintained
- no energy source needed
- can be used to access ground water (via a shallow well) or surface water
- can be set back from the water source, reducing contamination concerns

Nose Pumps have the following disadvantages:

- livestock will need some training to operate the waterer
- generally for larger sized livestock, but adaptations possible for others
- limited to approximately 6m (20 ft) lift; 60m (200 ft) distance, or combination
- a single waterer serves a small number of livestock (see below)
- slow water delivery of approximately ½ litre per lever stroke
- can not be used in freezing conditions (see below)

Successful installations

Consider the following points for a successful nose pump installation:

- allow for 1 waterer per 20-30 beef cows or horses, or 10 milking dairy cows
- securely mount to a ground-level or raised base
- use a foot valve at the supply end of the pipe to maintain water in the line
- train livestock to use the nose pump prior to putting them out on pasture

Winter-Use Nose Pump

The nose pumps described above are only for use in non-freezing conditions. A producer in Alberta has developed a nose pump that can be used in winter that is structurally different from the above “sucking” devices. The *Frostfree Nosepump* is set up over a shallow well. As with other nose pumps, the livestock operate a lever to deliver water to the drinker. The difference with this design is that the lever operates a simple reciprocating displacement piston pump set down the well (a pump type similar to a windmill pump – refer to Factsheet # 590.305-2). This pump truly “pumps” water up from the well into the drinker. Refer to Figure 8, next page.

The amount of energy required to move water is the volume times the lift so there is a practical limit to the pump depth down the well. The supplier suggests depths of about 10 feet and has units up to 47 feet deep. Well casing must be sized to accommodate the pump diameter. Standard units are 4 inch in diameter with a smaller 2.75 inch diameter unit available.

Environmental Conditions. In locating most waterers, sites are chosen that have a low risk on contaminating surface or ground water (such as setback where contaminated runoff will not impact a stream). As this nose pump must be installed on the well head to accommodate the pump drive, there is some degree of risk of ground water contamination from manure that will collect around the waterer. The supplier recommends good sealing to the casing and a 20 feet by 20 feet sloped concrete pad around the well casing thus ensuring drainage away from the casing.

It should be noted that such winter waterers are often installed to reduce impacts that may occur to surface water from direct livestock access. The ground water risk of a winter nose pump may be much less than the direct access option.

For details go the suppliers' web site at <http://www.frostfreenosepumps.com/>



Source: Frostfree Nosepumps Ltd.



Figure 8 Frostfree Nosepump Installation