

THINKING AHEAD RURAL INFRASTRUCTURE

Stock Water Systems Maintenance

with the approach of the autumn and winter months, thought should be put in to the performance of the stock water system on your property.

Reduced or no water flow: This is associated with low-pressure gravity schemes, or where siphoning is used. The system inlet sucking in air or a fitting in negative pressure area not being watertight can cause this. Poor or no flow may also be caused when the water velocity in the pipeline is too slow. This causes air bubbles to form, which lodge in the high points of the pipeline, creating airlocks, which slow and eventually stop the water flow.

Pipeline failure resulting in leakage, The major causes are:

- ☐ Pressure - the incorrect grade of pressure pipe used to withstand scheme pressure.
 - ☐ Pipes not being buried, suffering mechanical damage.
 - ☐ Exposure to direct sunlight heating the pipe this softens the pipe wall, reducing the pipes ability to withstand internal pressure.
 - ☐ Frost - water expands when frozen, which can rupture the pipe wall and associated valves and pipe fittings.
 - ☐ Water-hammer - a shock transmitted down the pipeline related to sudden valve opening and closure, which can cause pipe failure. Be careful when long pipelines are associated with quick turn-off valves (e.g. ball-valves) - shut valves slowly
 - ☐ Chemical - pipes carrying liquids or additives that are outside the manufacturer's recommendations.
 - ☐ Incorrect installation and assembly of pipe fittings, e.g. leaks from threaded fittings, poor solvent welding of PVC fittings, etc.
 - ☐ Excessive pump stopping and starting The pressure cylinder water logging may cause this, or a pump not properly matched to the pipe system.
 - ☐ If the cylinder becomes water logged, it will need to be emptied and refilled (commonly known as bleeding).
 - ☐ Pump mismatch - there may be a case for changing the pump to suit the system, if it is cycling too often. Electric-motors starting and stopping too frequently can use more electricity than the same motor running continuously. (Starting current for electric motors may be four or five times higher than the run current). Excessive suction lift
- In a prolonged dry spell many water source levels drop. During these times the point may be reached where the physical suction lift from the water source to the pump is beyond the pump's capability. This will cause a reduction or cessation in the pump's output. The simplest remedy when this occurs is to lower the pump, if possible. Water storage loss To guard against water loss from a reservoir in gravity supply systems caused by a ballcock failure or leaking pipe, have two valves on your supply tank. One valve halfway up the tank and the other at the bottom. The halfway valve acts as the normal system take-off, while the bottom valve is normally closed. This way if a problem occurs down the farm, only half the tank will empty, leaving the other half tank as a reserve.

Pipe Blockage:

Blockages can be caused by; organic materials in the water source, physical obstructions or chemical deposits, such as iron. Chemical deposits can reduce the effective pipe bore size over the entire pipeline, thereby reducing flow rates. The other materials will tend to settle out in lower velocity areas or in the pipelines low points. Flushing taps in these low areas will help reduce this problem. For more information or assistance in regard to any stock water issues, see the team at your local Farmlands store. Article supplied by Iplex.