

# Saving a shrinking resource

Livestock farmers must optimise green and blue water use on the farm, says **Dr Heinz Meissner**, consultant to the national RPO.

**W**ater is a resource that is declining in quantity and quality, and requires dedicated management, according to Dr Heinz Meissner, consultant to the RPO.

Agriculture uses about 75% of the rainfall in South Africa. Of this, 60% is utilised by natural vegetation, 12% by dryland crop production and 3% by irrigation. Natural vegetation (veld) and dryland crop production use only 'green water' – rainfall stored in the soil after precipitation. It is 'green' because only plants growing in the soil utilise it.

a conservative stocking rate and long resting periods for camps.

A conservative stocking rate refers to the farm in total. This means that you may run more animals than the calculated stocking rate in a single camp at any one time. In fact, intensive grazing under specific environmental conditions can be a good option, as it helps to break up the top soil through trampling and provides more manure to support moisture infiltration and seed germination.

However, the grazing period should be short and the resting period

## 'CONSTRUCT WEIRS IN CATCHMENT AREAS, AND CREATE WETLANDS BY PLANTING REEDS AND GRASSES'

Green water is used to produce meat under extensive grazing systems.

Blue water, by contrast, is runoff water in streams, lakes and dams, or water stored in aquifers and recovered by boreholes. It is primarily used for the water requirements of livestock.

Livestock farmers should optimise both green and blue water use. This involves taking the following measures:

- **Water storage**

Construct weirs in catchment areas for water storage. Create wetlands by planting reeds and grasses adapted to the specific region.

- **Plant cover**

Ensure good plant cover in rangelands through correct grazing management,

long to ensure proper recovery and densifying of the vegetation.

A good plant cover in rangeland captures rainwater that otherwise would have flowed away, and utilises it effectively for plant growth.

- **Minimum till**

In a mixed farming operation – running livestock and growing crops – consider introducing minimum-till if you have not done so already. This ensures more organic matter in the soil, which leads to better water capture and usage.

- **Seasonal shift**

Be aware of any change in the timing of the seasons and rainfall patterns. Currently, summer rainfall may start in October and taper off in April, but there



**ABOVE:** Test drinking water regularly to ensure it is free of contaminants. FW ARCHIVE

is a shift from somewhat earlier in the north-eastern parts of the country to somewhat later in the south-western parts.

With climate change, this trend is expected to change. In most regions, the summer rainfall period should shorten, affecting the period of active plant growth. In the winter rainfall region, less rainfall is expected because the interior high pressure system will shift the rain south-east into the sea. This will have major implications for irrigation from mountain catchments.

### QUALITY

The quality of water is as important as the quantity. This is often not considered on farms. Implement effective measures to ensure that water is free of contaminants by conducting regular water

tests, particularly if your water is chlorinated.

Cover storage tanks and reservoirs to prevent contamination by birds, rodents and organic and inorganic matter. Ensure that the air vents to these tanks and reservoirs are insect- and rodent-proof.

### EFFLUENT

Take care to prevent effluent such as from a feedlot from contaminating water sources. The effluent should be properly managed and disposed of correctly. If it is applied to pasture, allow 21 days to elapse between application and grazing or harvesting the pasture.

Locate storage facilities for oil, silage spray liquors, fertilisers and other polluting substances in a safe place. Ensure that accidents do not pollute farm water supplies.

- *Phone the Red Meat Producers' Organisation on 012 348 1933.*



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## Mini pears

Besides creating a range of blushed pears, Taaibos' innovative breeding initiative also included the development of a range of unique miniature pears (baby pears). Although the initial reaction from industry was very pessimistic, he persisted with his ideal of distinctive baby pears. £

Early reactions from overseas supermarkets are overwhelming and some are already willing to explore TV adverts to indicate their support. Taaibos started the breeding programme in

1998 and he is currently working on breeding various blushed miniature pears. Five miniature pears, four green and one blushed, have been submitted for a Plant Breeders Right application. According to Taaibos small pears should weigh between 40g and 50g, compared to regular pears which weigh 250g to 300g. "It's definitely a niche market but I believe there is a place for the baby pears. It's such a unique product and there has schools, airline caterers