



Wet season spelling in the Northern Gulf

A method for restoring degraded paddocks and increasing animal productivity

The *E-Beef Smart Farming Partnership* and the *GrazingFutures project* support beef producers to make more informed decisions with regard to grazing land management. In August 2020, E-Beef and GrazingFutures project staff came together to establish wet season spelling plots in the Mt Surprise region of the Northern Gulf. Mt Surprise was the first Smart Farm in the E-Beef project, using liveweight data and satellite pasture information to help with stocking rate and grazing management decision making.

Wet season spelling (WSS) is the practice of removing cattle from a paddock during the growing season. It is one of the most practical and scalable tools that graziers in north Queensland have at their disposal to manage land more sustainably. The E-Beef project, while heavily focused on the uptake of new and innovative technologies in grazing, also emphasizes the importance of conventional practices that have been demonstrated to maintain and restore land condition across Queensland's rangelands. Wet season spelling and safe stocking rates create a feedback buffer against seasonal variability and are fundamental features of a resilient livestock business.

Wet season spelling produces healthier, stronger and bulkier pastures.

What is it?

Wet season spelling removes all cattle from a paddock during the growing season (i.e. the wet season).

Why should you do it?

North Queensland beef cattle enterprises rely heavily on 3P (perennial, palatable and productive) native pastures for production. These pastures often decline in abundance over time due to issues such as set stocking, preferential grazing and overstocking, and are replaced by less desirable species. WSS, supported by safe stocking rates, can help restore degraded paddocks and increase animal productivity.

When should you do it?

An effective wet season spell should start at the beginning of the growing season and last long enough for grasses to set seed. Tussock grasses are vulnerable to grazing in the first 6-8 weeks of the growing season, and the practice of wet season spelling protects grasses during this period. Additionally, by seed set there should have been sufficient transfer of nutrients to the roots of 3P grasses to ensure tussock recovery and growth in the next wet season.

Will it work?

For some paddocks a short spell for 6-8 weeks in the wet season is plenty to recharge productivity. However, severely run-down pastures, with low 3P grass populations, will require whole of wet season spelling over several seasons. In fact, in some areas with a history of overgrazing, it may require multiple wet season spells to achieve improvements in 3P grasses and carrying capacities. Immediate restoration of pastures is not possible where land condition and carrying capacity decline has taken place over several decades.



The E-Beef project is supported by a partnership comprising Southern Gulf NRM, Desert Channels Queensland, Northern Gulf RMG, and Queensland Department of Agriculture and Fisheries.





The science behind the theory

During the early 'green pick' stage of growth, tussock grasses rely on their root nutrient reserves to produce green leaf following early season rainfall. Spelling allows pastures to replenish root reserves, maximize seed production and fast track seedling establishment across the system. Ideally, you really need 3P grasses to set seed in most years to maintain productivity, maximize tussock survival in dry years and to increase seed reserves in the soil.

Establishing local wet season spelling trial sites

As part of the E-Beef and GrazingFutures projects, WSS trial sites have been installed on two properties in the Northern Gulf region. The stations, both located in Mt Surprise, are part of an E-Beef producers' groups where likeminded graziers come together to share ideas, experiences, challenges and opportunities with landholders in their region. These trial plots will act as *demonstration sites* for the producer group. Members will be able to track improvements in land condition and pasture productivity over time as a result of changing grazing management practices.

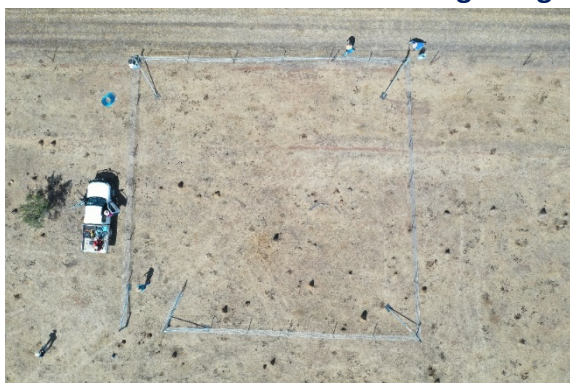
Monitoring and grazing the demonstration sites

The aim of these demonstrations is to manage, monitor, analyse and interpret land condition indicators at each of these sites. These indicators will include changes and likely improvements in pasture species composition, pasture yields, prevalence of weeds, groundcover and soil surface condition. Monitoring will take place at the end of the dry season and the end of the wet season each year. Each demonstration plot will be grazed in the dry season until residual pasture yields reach ~800 kg/ha. This break of season cover will decrease runoff, as well as improve rainfall infiltration and pasture response. The results of these assessments will be compared with control plots in the same paddock outside of the fenced trial sites.

Analyzing the impact of practice change

The project team will be analyzing the data to determine the differences in land condition between sites that have undergone WSS and those which are subject to constant grazing throughout the year. These differences will then be assessed to calculate the benefits of WSS, whilst also considering the lost animal production associated with locking up paddocks for months on end. All the findings from the sites will be shared with the grazing community.

The purpose of this activity is to provide local wet season spelling demonstrations that are regularly and rigorously monitored. Over time, these plots will demonstrate the impacts of implementing sustainable grazing management practices.



For more information on wet season spelling in the gulf simply visit...
https://futurebeef.com.au/wp-content/uploads/WSS_factsheet_web.pdf

As part of the Drought and Climate Adaptation Program (DCAP) GrazingFutures assists extensive livestock producers in western Queensland manage drought and business risks. In close alignment with GrazingFutures, E-Beef is a partnership with local producers and Southern Gulf Natural Resource Management Group (lead), Desert Channels Queensland, Northern Gulf Resource Management Group and the Department of Agriculture & Fisheries (DAF) aiming to trial technologies and implement grazing best management practice.

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