



FACT SHEET

BEST PRACTICE NUTRITIONAL MANAGEMENT OF GRAZED RANGELANDS PASTURE SPECIES

THE PROJECT

In early 2006, the Outback Lakes SA Group (the Group) with the assistance of the South Australian Arid Lands Natural Resources Management (SAAL NRM) Board began work on a project funded through the Australian Government's National Landcare Programme Community Support Grant. This project aims to improve pastoralists' ability to identify those plant species that provide the main sources of nutrition for grazing stock.

Animals in the rangelands are already known to source a range of plant species that seem to meet their dietary requirements, so why does the Group want to learn more about the nutritive value of these plants?

The Group is carrying out bimonthly sampling of ten key pasture species, as well as twice-yearly blood sampling of stock across four properties. By collecting samples of plants at different growth stages, it may explain the reason why stock graze on particular plants in dry versus green environments, and at flowering versus seeding plant stages. In addition to identifying the potential and real deficiencies, cost effective decisions about supplementation can also be made to target

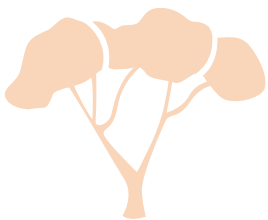
the animals' actual needs. This research may assist landholders' decision making on issues such as which paddock is suitable for certain stock, whether it is better to graze stock on green pick after rain or to hold stock back on certain areas until seed sets.

These project activities appear to be providing a clearer understanding about nutrition and plant values while assisting decision making about certain production requirements for stock. For example, sheep in pregnancy or weaning have different requirements to those that need to maintain body condition.

RESULTS

To date, project results show that sampled animals are generally in good health, although some specific mineral deficiencies were identified through blood tests. The three main deficiencies were calcium, cobalt (Vitamin B12) and copper. This is consistent with the findings from previous work carried out by Productive Nutrition in the Southern Rangelands.

The Outback Lakes SA Group's preliminary results indicate that protein levels in the sampled plants range from 5.4% through to 22.8%, with metabolisable energy (ME) ranging from 6.4 to 12.2 MJ/kgDM.



Photographs courtesy of Outback Lakes SA Group 2007.



Jess Kemp and Daryl Bell taking Canegrass samples.



Trent Sholz taking blood samples of stock.

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Australian Government

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National Landcare Program

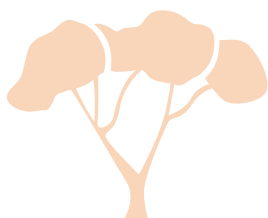
OUTBACK LAKES SA



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The preliminary results also show livestock molybdenum levels range from 0.55mg/kg to 14.2mg/kg. The maximum tolerable molybdenum level for livestock is 10mg/kg. Excessive molybdenum can impair copper uptake in animals causing a deficiency, almost certainly leading to retarded reproductive rates. Further work is required to investigate the above deficiencies.

These project results appear to be scientifically confirming pastoralists' existing knowledge and also providing additional information that may be relevant to everyday pastoral property management for producers in the region.

The preliminary results presented above are in no way comprehensive or conclusive at this stage. These results have been collected from current sampling data and their purpose is to generate discussion. All values are expressed in mg/kgDM unless otherwise specified and are referred to in relation to the acceptable reference ranges and maximum tolerable levels.

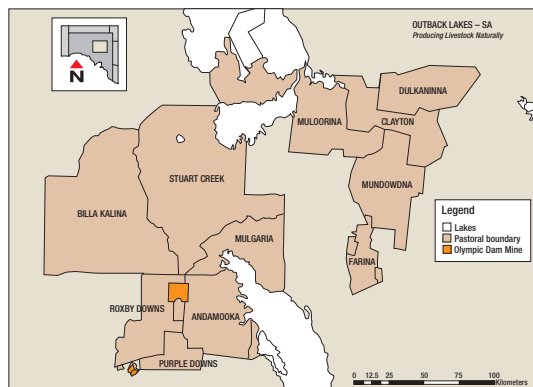
OUTBACK LAKES SA GROUP

The Group formed in 2004 after Northern South Australian pastoralists discussed the benefits of working together to promote their region and the products they produce. The Group has been actively involved in seeking opportunities to support continuing improvement in property and herd management whilst maintaining an awareness of customer and consumer requirements. Through these activities the Group identified a lack of information about the nutritional value of pasture species within the arid region of South Australia.

THE OUTBACK LAKES REGION

The member properties are located in or immediately bounded by the larger salt lakes of the arid zone of South Australia. The region has a diverse mix of plants from ephemerals to annuals to perennials composed differently across the region.

Map of Outback Lakes Group member properties.



FURTHER WORK

The Group will need to collect more information about the plants in the region to determine if some of the interesting results collected are trends or just one off events. Questions for further investigation may include whether:

- » plants have deficient levels of minerals after rainfall events
- » different plant stages have different nutritional values
- » plants that have high mineral levels can be toxic to stock
- » other plants not yet sampled, may need to be investigated
- » this information can be linked to projects and research from other regions.

The Group hopes that the project results can assist with decision making about animal nutrition, in combination with other pastoral management tools that are already being used, to help assess the practicality, cost-effectiveness and environmental sustainability of the landholder's long-term decision making processes.

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