MURRAY DAIRY

SUMMER CROPPING REMINDERS

SORGHUM & MILLET

PLAN YOUR FEEDBASE FOR YOUR FARM SYSTEM AND NEEDS

1. **Identify your feed gap.**
   Sorghum and millet are usually direct-grazed options, available through the summer months, however they can also be conserved.

   If you choose to conserve feed, particularly as silage, your infrastructure should support storage and feed out to optimise quality and minimise losses.
   - Aerobic spoilage during storage and feed out can result in losses of 10% or more.
   - Wastage of silage during feed out, as a result of spoilage or non-consumption, can be anywhere up to 50%. Measures should be taken to create a system to prevent cows trampling, camping, urinating or defecating on silage.

   Work with your agronomist to select a variety and/or hybrid that meets your feed needs and works in your rotation.

USEFUL RESOURCES

Grains2Milk
Feed Value Varies in Different Feeds

Accelerating Change
Successful Summer Cropping Workshop notes – opportunistic use of sorghum and millet

Dairy Australia
Project 30 30
Millet and Sorghum factsheet

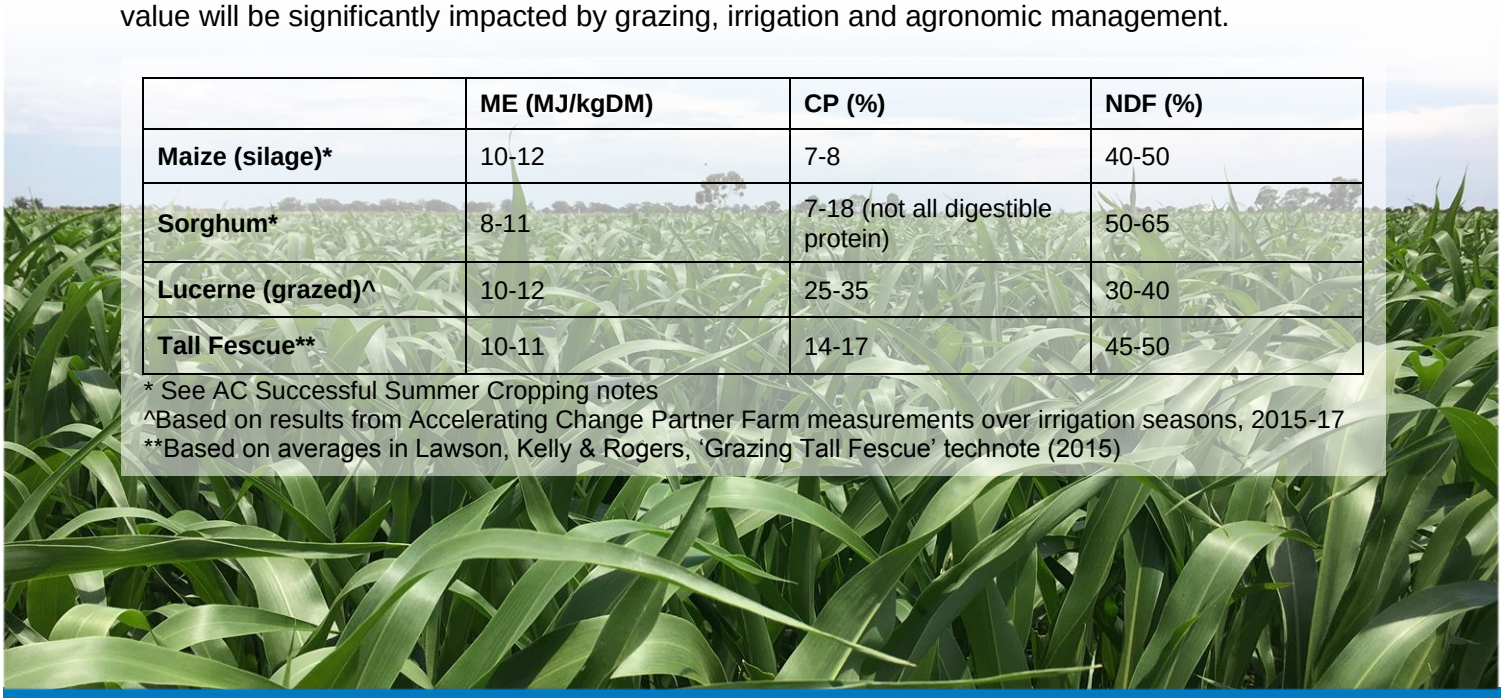
Dairy Australia & NSW DPI
Successful Silage
Top Fodder

2. Sorghum and millet meets a specific part of the diet.
   Work with your nutritionist to develop a feed plan and identify any missing nutritional requirements to ensure the diet is balanced and milk production is maintained.

   Below is a chart showing ball park nutritional figures for different summer forage options. Nutritional value will be significantly impacted by grazing, irrigation and agronomic management.

	ME (MJ/kgDM)	CP (%)	NDF (%)
Maize (silage)*	10-12	7-8	40-50
Sorghum*	8-11	7-18 (not all digestible protein)	50-65
Lucerne (grazed)^	10-12	25-35	30-40
Tall Fescue**	10-11	14-17	45-50

* See AC Successful Summer Cropping notes
^Based on results from Accelerating Change Partner Farm measurements over irrigation seasons, 2015-17
**Based on averages in Lawson, Kelly & Rogers, 'Grazing Tall Fescue' technote (2015)



BE PREPARED TO INVEST IN KEY AREAS

3. Although sorghum and millet can be more forgiving than maize, crop performance (and the value it brings your business) relies on good preparation, nutrient management, pest and weed control, and water availability.

Consider the climate and market outlooks for the upcoming season.

- Ensure that you will be able to secure water to meet your crop needs
- Consider all your options: grow, buy or contract feed: match your decisions with your budget and your appetite for risk

USEFUL RESOURCES

Dairy Australia
Situation and Outlook

Northern Vic Resources Manager
Water Outlook

NSW DPI
Water Availability Outlook

Dale Grey's *The Very Fast Break*
Seasonal Climate Update for Vic

PREPARE!

4. Select and prepare your paddock well.

Identify and assess any soil constraints as there is little you can do about them once the crop is up and running, and they could have a significant impact on crop performance. Your top soil is your horsepower and your subsoil is your water tank.

- Dig a hole and have a look at your soils, particularly the depth of your top soil and the effective root zone:
  - The more top soil you have, the higher the productivity capacity of your soil. Being aware of the amount and variability of top soil across your farm will assist you to decide where is best to plant and how to manage your soil resource. On sites where top soil is limiting, consider the impact of land-forming and cultivation which could lead to further losses, and try to balance this with the agronomic needs of your crop.
  - The effective root zone is the depth at which the presence of roots is enough that the plant is likely to extract all the available water from the soil. The shallower the root system, the smaller the 'water bucket' and less efficient the delivery of nutrients for crop uptake. A shallow root zone can indicate hostile layers and remediation options should be discussed with your agronomist.

USEFUL RESOURCES

Accelerating Change Tech Note:
Depth, Texture and Structure of A-Horizon Top Soil

Accelerating Change Tech Note:
Effective Root Zone Depth and Available Water Content

Where there are hostile layers in your subsoil, **deep-ripping** can be used to shatter soils and improve structure. BUT for a deep rip to be effective the soil needs to be stabilised as well as shattered. Stability is achieved through the incorporation of organic matter, application of gypsum, and the movement of nutrients into the profile. Depending on your circumstances, this may be achieved through direct application, crop rotations, wetting and drying (a change in irrigation management) or a combination. Work with your agronomist to integrate soil management into your crop plan.

Soil test to inform your nutrient management. Pay particular attention to Nitrogen and Phosphorus levels. Nutrient should be applied prior to sowing, however you should also keep an eye on nutrient requirement throughout the growing season, especially if grazing. Discuss this with your agronomist.

For support interpreting your soil tests, refer to Chapter 9 of the Fert$mart manual.

5. Weeds compete with crops for moisture, sunlight and nutrients. **Select a site not prone to weeds and get on to weed control early.** Start with a complete knockdown, and use a pre-emergent as required. Work with your agronomist to get weed control right.

6. **Sow on time!** Sorghum must be sown at a soil temperature of 16°C and rising. Sow early for highest yields but not before 16°C.

7. Pre-irrigating is preferred. Ideally you want to **sow into moisture**. Irrigating after sowing will cause the soil temperature to drop.

USE THE ADVICE OF SERVICE PROVIDERS

8. Agronomists will help you to plan and manage your crop through the season, reducing risk and helping to lift production.