

# Planning for autumn & winter feed using dryland cropping options

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**Plan now for the coming autumn–winter. Some of our dryland farms are struggling to have enough water for stock and farms usually blessed with higher rainfall and irrigation need to consider dryland methods, including moisture-conservation. There has been little runoff to replenish water reserves. Unless the coming autumn is unusually wet, irrigation capacity for many farmers will be limited.**

Consider dryland cropping with oats or other cereals for winter feed; these crops can make use of stored soil moisture. Dryland cropping sites require a clean fallow to trap and retain rainfall. Minimum tillage with herbicide will help conserve soil moisture, reduce evaporation loss and erosion risk. Depending on rainfall and temperature, winter forage crops can be planted in autumn, once the risk of high temperatures is reduced, and when there is sufficient moisture in topsoil to below planting depth (0-7 cm).

If it has rained, oats can generally be planted in southeast Queensland from mid to late March. When grazing dryland oats, ensure the first graze is light so that the growing point is not removed. Subsequent grazings that maintain a 5 cm residue are desirable during autumn and spring, and will not restrict yield or quality of the crop regardless of the time between grazings. However in winter, a higher grazing height of 12 cm is recommended. Oats is an excellent forage source which provides a high quality feed during the cooler months of the year. In fact, over-sowing oats into existing kikuyu pastures can be a promising alternative to ryegrass particularly when higher temperatures make it hard for ryegrass seedlings to compete with established kikuyu.

Consider cereal rye as another potential grazing forage. It can be ready to graze in 30-55 days and can withstand 4-5 grazings from a single planting. In winter of 2015, the C4Milk dairy team planted some cereal rye on-farm at Pimpimbudgee following 10 mm of rain. It was planted mid-June as the season was very dry. Following planting, 20 mm of rain fell as well as a few smaller showers in the early growth period, which was preceded by two months of dry weather. The cereal rye yielded 4.2 t DM/ha when cut for grazing at the tillering stage (2.4 t DM/ha first cut and 1.8 t DM/ha second cut) with 19% CP. While yield was low, the rate of growth and persistence in such dry conditions was impressive compared to the wheat which yielded 3 t DM/ha over the same 100 day growing period. Cereal rye has a more extensive root system in the top 30 cm than both wheat and oats which allows the plant to explore more of the topsoil profile, increasing its tolerance to dry conditions. Ensure cereal rye is grazed when tillering for optimum quality and palatability as the quality declines rapidly as the plant enters the reproductive growth stage.

Other options particularly for those farms conserving feed include the usual crops like wheat and barley. To improve quality of these crops, winter forage combinations grown on-farm have shown impressive results when legumes such as field peas and vetch are planted with a cereal as a blend. The crops presented in Table 1 were planted under irrigation on 10th June 2015 and received 110 mm of water in-crop (two 30 mm applications of irrigation and 50 mm of rainfall). Barley

yielded 11.2 t DM/ha, the highest amongst all crops grown in this demonstration. When planted with peas as a blend (barley 20 kg/ha and peas 30 kg/ha using a combine planter), a total crop yield of 10.2 t DM/ha was achieved (see Photo 1). While yield was 1 t DM/ha less than barley planted alone, the crude protein content was 4 percentage units higher. Crude protein in the barley/vetch crop (see Photo 2) was even higher at 24% (8% higher than barley alone) and while yield was lower it would certainly be a good option as a grazing alternative.

These forage combinations were established at demonstration sites in the Burnett region with many farmers now reaping the benefits of planting a legume with a winter cereal. Further sites will be planted by the C4Milk team this coming winter to encourage further uptake of these impressive blends. ■■



Photo 1: Barley/Pea blend yielding 10.2 t DM/ha



Photo 2: Barley/Vetch blend yielding 8.6 t DM/ha



Photo 3: Oats/Vetch blend yielding 7.3 t DM/ha

**Table 1** Planting details and yields of crops planted on an irrigated dairy farm at Goomeri.

Crop	Variety	Planting Rate (kg/ha)	Yield (t DM/ha)	CP (% DM)
Barley	Shepherd	40	11.2	16
Field Peas	Morgan	60	8.3	23
Barley/ Peas Blend	Shepherd/ Morgan	20 / 30	10.2	20
Barley/ Vetch Blend	Oxford/ Namoi	40 / 15	8.6	24
Oats/ Vetch Blend	Outback/ Namoi	45 / 15	7.3	25