**Ready – Set Grow!**

Emerald farming systems forum and Update

Central Queensland Sustainable Farming Systems project in conjunction with the GRDC is organising a November 2007 – entitled Ready, Set, GROW… at the Emerald Town Hall on November 24 & 25th would showcase new ideas and research across a range of emerging industry issues.

**Diary dates**

More detailed diary dates are located on the GRDC website.

**Up coming Grains Research Updates**

- **Wednesday July 18th**
  Moree RSL – Summer crops

- **Thursday July 19th**
  Spring Ridge Country Club – Summer crops and local research

- **Tuesday and Wednesday 24 & 25th July**
  Emerald Town Hall – Farming systems (24th) and on-farm storage (25th)

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**Wild oats resistance options**

“Herbicide resistance is becoming more widespread through a range of weed management tactics such as using a range of weed management tactics such as using a pre-emergent like Avadex followed by a Group B herbicide, rotating to a summer crop, selective crop topping with Mataven and adopting agronomic strategies that give the crop a competitive head start on the weeds,” advises Mr Storrie. Close monitoring must be carried out within 2 weeks of any spray application to ensure patches of wild oats have not escaped control.

- Spray in-crop test strips, using Group A (fop and dim), B & K herbicides to determine resistance levels. This will give fast (~3 week) results, or
- Alternatively weed seed can be sampled for testing later in the year.

**FURTHER INFORMATION:**

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**RESEARCH INFORMATION FOR FARM ADVISERS**

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Feedlots value corn

“Feeds rationed high in available energy reduce daily operational costs (feed manufacture / delivery & manure removal), grain/energy loss and feed requirements. This implies that a feedlot that processes grain as dry or tempered rolled, could afford to purchase corn at a 30% premium to that of sorghum, and wheat at a 25% premium because of higher NEg efficiency. “Even if the price differentials were greater, I would still advise the feedlot to source an additional greater rather than rely solely on dry or tempered rolled sorghum,” said Mr Lawrence.

This raises the question, if corn is potentially a higher value crop, why is it not a common feedlot ingredient? The answer is that due to poor local availability of corn, it is harder to source, can sometimes be priced out of the market and can have processing limitations (tonnes/hour), as many local feedlot roller mills are not configured for corn. “Source reliability, steam flaking and reconstitution allow sorghum to be used more efficiently. However feedlots would prefer corn as a feed source due to its high energy efficiency,” said Mr Lawrence.

Improved agronomy and management of corn as a dry land crop could improve the reliability and potential volume of local supply. With growing local demand for what is potentially a premium feedlot grain, is there the option to change the mix of summer crops grown in irrigated and more reliable dryland growing regions?

Phillip Dew of IAP will be addressing the relative value of feed grains at the Moree Grains Research Update on July 18th at the Moree Services Club.

FURTHER INFORMATION:
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Improving reliability of rainfed corn

“With increasing demand for quality feed grains and silage, there is renewed interest in corn. Being more sensitive to moisture and temperature stress than grain sorghum, corn has a reputation as a variable and somewhat unreliable yielding dryland crop. However with increased demand and with the development of new quick maturing varieties coupled with good agronomy, there is room to reassess options for corn in southern Queensland and northern NSW,” said Dr Colin Birch of the University of Queensland.

Dr Birch has modelled dryland corn in APSIM using soil and long term weather data. Yield impacts were modelled for combinations of plant population, quick and medium maturing cultivars, planting dates and soil water profiles. Key findings were:

- Unsurprisingly, higher rainfall areas like Quirindi and Gunnedah had higher predicted yields and were more reliable than areas to the north and west (Goondiwindi – Moree)
- Wide yield variability (0-85%) existed in the Goondiwindi to Moree area
- Fast maturing cultivars were more reliable and produced higher predicted mean yields outside traditional premium corn growing areas
- Low plant populations (20,000 plants/ha) were more reliable, especially in more marginal areas (Moree - Goondiwindi), with higher populations suitable on full profiles in the more reliable areas (eg Quirindi)
- Planting on a full soil water profile increased yield and reduced risk of crop failure, especially in more marginal areas.
- Strategies to minimise high temperatures during sensitive crop stages using early or late planting of fast cultivars in more marginal areas will help optimise yield.

This research along with regional summer crop trial results will be discussed in more detail at the Moree Grains Research Update to be held at the Moree Services Club on July 18th.

FURTHER INFORMATION:
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Summer crop water use - how does this compare to wheat?

How much water do different crops use and how does this affect crop selection for different situations / soils and roles in a crop rotation? The Combating Subsoil Constraints Project has been investigating water use by both summer and winter crops.

Two trials at Jambil and Moura looked at rooting depth and water use of 6 summer crops: sorghum, corn, mungbeans, cotton, pearl and French white millet.

The data (figures 1 and 2) showed that water use by a particular crop in a relatively unconstrained site, was proportional to the length of growing time, with longer season crops (eg cotton) extracting more water than shorter season crops (eg French white millet).

“There’s a lot of variety in the summer crops we plant here, and while we know how much water we use in each crop, we haven’t really looked at the different crops in a side by side comparison,” said Dr Colin Birch.

This raises the question, how much water do these crops use and how does this compare to wheat? “It is often commented by growers that the soil seems drier (more cracks) after wheat compared to sorghum. Is this a difference in water extraction? Looking at 18 wheat and 10 sorghum trials with a dry finish, sorghum extracted slightly more water than wheat throughout the profile (figure 3). A possible reason for the greater observation is that sorghum is grown during the wet season and so on average would receive more in-crop rainfall. This has obvious re-cropping implications, with less rainfall needed to refill the profile after French white millet than after cotton. Subsoil constraints that limit rooting depth, also impact water use. At a highly constrained site in 2004/5, mungbean roots were limited to 83cm, whereas French white millet and corn extracted water from 100cm, and sorghum to more than 100cm,” said researcher Mr Stuart Buck, from QDPi&T Biloela.