REPORT ON AGRIBUSINESS TRIAL NETWORK WA, 2005

Ninghan Farm Focus Group

The second successful group to attract funding for the Agribusiness Trial Network were very interested in testing various seeding systems in the drier environment of the eastern wheatbelt at Mukinbudin. They also want to gain better access to cereal varieties national and establish a site as a part of the National Variety Testing scheme which is also funded by GRDC.

The group team up with Agritech Research for the project who did all the design and management of trials according to the groups wishes. Ten different seeding systems in a farmer scale trial were sown with wheat under three different trifluralin rates at the Group's field day site. The trial was design to test which were the best systems for crop establishment in the area and they plan to run the trials over a number of years determine seasonal effects on establishment.

Vigour and seeding depth measurements were made after seeding and plant counts and a vigour rating in spring before final grain yield and quality at harvest. While there were some differences in the earlier vigour reading as the season progress these difference became less noticeable.

The 10 systems being tested are listed in the table below:

1. Ezee-On, 7” rows, Super Seeder points, Banded, Chain Harrows
2. Frigstat (FleixCoil), 9” row, Super Seeder, Phillips Rolling Harrows
3. Gumbo Machine, 9” row, Knifepoints, Press Wheels
4. Forward Engineering, 12” row, Knifepoints + Press Wheels
5. Horward Bagshaw Primary Precision Seeder, press wheels
6. Tobin Pertoft 12 “ row, Knifepoints + Press Wheels
7. Case Speed Drill, 9” row Disc seeder,
8. John Deere, Morris Gumbo (paired rows), Press wheels
10. Primary Precision Seeder (custom built), 9” rows, Knife & press wheels (Agritech)
11. Gumbo machine (custom built), 9” row, press wheels (Agritech)

Seeding depth for all machines ranged from 1.8 to 3.8 cms with the best early plants counts generally coming from those plots with press wheels. Yield results for the trial will be report at the Regional Crop Updates and in the Ninghan Farm Focus Newsletter.

Photo 1: Peter Burgess of Agritech Research presents the early data from the Seeding Systems trials at the Ninghan Farm Focus Group, spring field day last year.
Photo 2. Ninghan Farm Focus Group established a site for wheat in the National Variety Testing Scheme and Peter Burgess of Agric Tech Research presents information on each of the wheat varieties during the spring field day.

Moora Miling Pasture Improvement Group
Agrow Consulting principal David Williams teamed up with the Moora Miling Pasture Group to look at four key areas identified by the group; Nitrogen x Phosphorous in wheat, Disease management in wheat, Potassium source and placement in wheat and Optimising Nitrogen fixation of pastures

The group chose the trials and the sites in conjunction with Agrow Consulting which were located 150 kilometres north east of Perth. During the year one major spring field day was held where forty farmers and industry representatives visited the sites.
Nitrogen x Phosphorous in wheat. This trial is looking at economic rates of Nitrogen and Phosphorous in high yield situations and encompasses 15 treatments of 0, 10, 20 and 40 units of Phosphorous in combination with 0, 30, 60 and 90 units of Nitrogen.

Disease management in wheat. This trial is looking at a range of management strategies for controlling wheat leaf diseases prevalent in the medium rainfall zone. Two varieties of wheat – Arrino and Calingiri – have been sown on burnt and unburnt wheat stubble with various fungicide treatments at sowing combined with foliar fungicide treatments.

Potassium source and placement in wheat. This trial is assessing the effect of muriate of Potash and sulphate of Potash either banded below the seed or top-dressed in wheat. Rates of Potassium used were 0, 10, 20 and 40 units.

Optimising Nitrogen fixation of pastures for improved wheat production. This trial was established to assess whether the nitrogen fixation and productivity of old clover-based pastures could be improved through use of new rhizobia species and application methods.

The results of these trial will be reported by David William at the regional Updates in February this year. The group also visited a pasture crop rotation trial and a legume crop trial conducted by the Department of Agriculture, which were both funded by GRDC.

The Moora Miling Pasture Improvement Group is an Associated group within the Grower Group Alliance.

**Jeddacutup Top Crop and Pasture Improvement**

The Jeddacutup Top Crop Group has been going since 1998 and were the third group to successful in obtaining funding through the Agribusiness Trial Network in 2005. They combine their ideas with local agronomist David Eksteen and submitted trials to look at timing and placement of nitrogen on canola in the sandy gravel soils and interactions between liming and availability. Being on the south coast where soils are often heavy leach nutrition is a priority for many of the growers.

Details of the results will be report at the regional Crop Updates and have been placed on the LFGN website.

Placement and timing of nitrogen on canola trial found there was little difference between applying at seeding to applying it at the start of flowering. For this site the optimum rate of N for $ returns was 60kg/ha in 2005 with a seed yield of 2 t/ha. There were additional treatments at the site of zinc and manganese which basically showed a increase in uptake at N increased.

A second demonstration site investigated the effects of liming or gypsum on crop rooting depth and was applied to a barley crop in 180 m long strips. One application of potash was also made. Although it is too early to expect a response to the lime the site showed a slightly better response for the 2 tonne lime treatment. This demonstration site will continue for the next 2 seasons.
Kellerberrin Demonstration Group

Last year the Kellerberrin Demonstration Group, which has been operating since 1998, conducted over 20 large scale trials across 6 farms in the Kellerberrin region of WA. They were also successful in attracting GRDC funding through the Agribusiness Trial Network.

The group obtains strength from a relationship forged with Farm Focus Consultants, and keeping them locally focused. Like the Moora-Miling Pasture Improvement Group they had trials on disease control in wheat and also looked at seeding rates.

Each year the group meets in summer to discuss the results of the previous year, and to design trials which will be relevant to the coming year. In 2005 the Kellerberrin Demonstration Group also conducted trials on evaluating potassium responses in cereals, fertiliser and foliar applied fungicides, nitrogen management in wheat, and the effects of brown manuring on the following seasons’ cereal crop.

The Agribusiness Trial Network help the group to continue with it extensive trial program and allowed them to see the effects of similar trials over a number of seasons in their own district. The group owes its success to the commitment and contribution of each member, and the on-going support provided by Farm Focus Consultants.

The result of their key trials will be presented at the regional crop update and to the groups preseason meeting.
Photo 4. Members of the Kellerberrin Demonstration Group get down to do the plant counts in the seeding rate trials that was supported through the Agribusiness Trial Network during 2005

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