Minnipa Farming Systems Competition

DEMO

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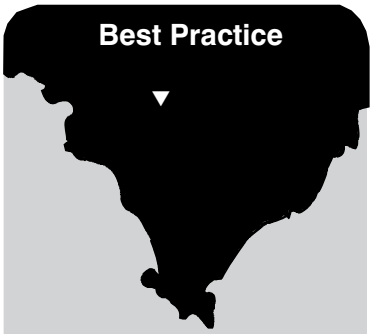

Location: Minnipa Ag Centre

Rainfall
Av. Annual: 325 mm
Av. GSR: 242 mm
2009 Total: 421 mm
2009 GSR: 333 mm

Yield
Potential: 5.2 t/ha (W)
Actual: 4.6 t/ha (W)
Potential: 13.5 t/ha (hay)
Actual: 5.3 t/ha (hay)

Soil Type
Red clay loam

Plot size
2.5 ha

Yield Limiting Factors
Poor agronomy!

Key messages

- **District Practice beat the farmers for grain yield and profit!**
- **Researchers may blitz the field yet, just watch this space…**
- **Oh, and by the way, the farmers are still winning, just.**

Why do the trial?

The Farming Systems Competition, sponsored by Glencore Grain, was inaugurated in 2000 to compare the impact of four different management strategies on production, profitability and sustainability at the Minnipa Agricultural Centre.

How was it done?

The competition is divided in to four separate teams, local heroes (researchers), local growers, local consultants and district practice. Each team has been allocated a separate 2.5 hectare paddock to assign management as the team sees fit.

What happened?

What happened? Hmm, well it rained, and quite a bit really! Finally the competition was run in a season above decile 1. Actually it was closer to decile 10, which was an exciting change from the previous run of seasons. However, low risk strategies (except for the researchers) were the name of the game again. The consultants proceeded with a low input hay crop, whilst the district practice and farmer plots were sown to wheat. Being bold, the researchers put their necks on the chopping block AGAIN and let their paddock regenerate Angel medic.

TEAM 1
The Farmers (Not Too Cocky Cockies)

Team Motto: To farm profitably today while giving our kids the chance to do the same tomorrow.

For many farmers in this area, 2009 was the year of a lifetime and due to some good luck we were able to capitalise on a rare opportunity.

What did we learn last year?

After a copybook start, we managed to establish a wonderful crop of barley grass before the wheat even had a chance to emerge, so a bit of a gamble with some glyphosate and the prickle chain turned out to be very profitable. Growing extraordinary crops with no or low inputs after three droughts, with modest weed burdens, almost no disease, low residue burdens, excellent soil moisture reserves and high levels of accumulated fertility didn't really pose much of a challenge – it just happened.

2010 Plans

This season will need a different approach – grass burdens will be harder to manage, the residue burden is enormous and will consume a significant amount of nitrogen, at this stage we have no moisture reserve and it seems we'll have to live with depressed commodity prices. To persevere with a continuous cereal system will require serious commitment, and if we get it wrong it will be very easy to squander the bonus of the crop just gone. So this year, we will delay our decision making for as long as possible. At least we have some accumulated reserves to allow us to be flexible. Never before has the 'KISS' principle seemed so attractive – 'keep it simple stupid'.

Perhaps more pressing than deciding our approach to the year ahead is the job of reviewing the records from the last ten years and taking another set of soil health measurements. Maybe hidden in those records are some very major lessons about the challenge of achieving profitability with sustainability and the role of sheer luck in farming!

Table 1 Farming Systems Competition Summary 2001 - 2009

Year	Date	Farmers	Consultants	Researchers	District Practice
2001		Yitpi wheat Yield: 2.75 t/ha GM = $600/ha	Yitpi wheat Yield: 2.77 t/ha GM = $572/ha	Frame wheat Cut for hay GM = $207/ha	Yitpi wheat Yield: 2.79 t/ha GM = $575/ha
2002		Krichauff wheat Yield: 1.48 t/ha GM = $316/ha	Krichauff wheat Yield: 1.25 t/ha GM = $231/ha	Bargue barley Yield: 1.36 t/ha GM = $195/ha	Grazed pasture GM = $4/ha
2003		Krichauff wheat Yield: 1.21 t/ha GM = $163/ha	Krichauff wheat Yield: 0.99 t/ha GM = $118/ha	Rivette canola Yield: 0.50 t/ha GM = $90/ha	Yitpi wheat Yield: 0.85 t/ha GM = $117/ha
2004		Wyalkatchem wheat Yield: 1.01 t/ha GM = $84/ha	Keel barley Yield: 1.35 t/ha GM = $67/ha	Yitpi wheat Yield: 1.25 t/ha GM = $132/ha	Krichauff wheat Yield: 0.82 t/ha GM = $41/ha
2005		Toreador medic 793 grazing days GM = $11/ha	Kaspa peas Yield: 1.57 t/ha GM = $ 83/ha	Wyalkatchem wheat Yield: 1.98 t/ha GM = $108/ha	Regenerated pasture 764 grazing days GM = $53/ha
2006		Wyalkatchem wheat Yield: 0.71 t/ha GM = $26/ha	Wyalkatchem wheat Yield: 0.81 t/ha GM = $22/ha	Angel Medic GM = $166/ha	Wyalkatchem wheat Yield: 0.60 t/ha GM = $1/ha
2007		Wyalkatchem wheat Yield: 0.86 t/ha GM = $215/ha	Wyalkatchem wheat Yield: 1.22 t/ha GM = $345/ha	Angel Medic GM = $0	Wyalkatchem wheat Yield: 0.52 t/ha GM = $78/ha
2008		81 small squares of barley grass hay GM = $119/ha	180 Grazing Days GM = $52/ha	0.46 t/ha Gladius Seed GM = $70/ha	49 small squares of canola hay GM = $70/ha
Running gross margin after 2008		$1477/ha	$1364/ha	$573/ha	$921/ha
2009	1 Feb	Paraquat @ 800ml/ha + Oil 100ml/ha	Paraquat @ 800ml/ha + Oil 100ml/ha	Paraquat @ 800ml/ha + Oil 100ml/ha	Paraquat @ 800ml/ha + Oil 100ml/ha
	1 April		Paraquat @ 800 ml/ha		Paraquat @ 1 L/ha + oil @ 100 ml/ha
	30 April	Roundup powermax @ 600 ml/ha	Diuron @ 300 g/ha		Trifluralin @ 800 ml/ha
	30 April	Gladius @ 50 kg/ha + 18:20 @ 35 kg/ha	Winteroo Oats @ 70 kg/ha		Wyalkatchem @ 50 kg/ha + DAP @ 45 kg/ha
	8 May	Roundup powermax @ 600 ml/ha + Prickle Chained (1 day later)			
	22 June	Zinc Sulphate @ 3 L/ha		25 g/ha Broadstrike + 0.5% Uptake	MCPA LVE @ 500 ml/ha + Affinity @ 50 g/ha + Zinc Sulphate @ 3 L/ha
				300 ml/ha Select + 0.5% Hasten	
	4 Sept		Cut for Hay	Grazed by 230 hoggets for 14 days	
		Gladius wheat Yield: 4.39 t/ha, Prot: 10% ASW GM = $620/ha	40 Rolls of hay Yield: 5.37 t/ha GM = $461/ha	1325 Grazing days/ha GM = $58/ha	Wyalkatchem Wheat Yield: 4.61 t/ha, Prot: 10% ASW GM = $631/ha
Running gross margin after 2009		$2,097/ha	$1,825/ha	$631/ha	$1,552/ha

TEAM 2
The Consultants (De$parately $eeking $olutions)

Team Motto: If we get trounced, please blame Ed Hunt.

What did we learn last year?

2009 was a grass control year for the consultant paddock. In fact, 2008 was meant to be the grass control year, but staffing, sabotage and communication issues resulted in our oaten hay being left standing in the paddock with zero grass seed set control. This was unfortunate as we missed an opportunity to sow wheat in a very productive season.

Oaten hay was once again chosen as the most appropriate tool to achieve a high level of grass control. After the hay was removed from the paddock, a non-selective herbicide was applied to prevent seed set in the surviving barley grass. Medic is considered at low density in this paddock. It was "encouraged" to set seed in the hay crop to boost seed reserves so that a pasture option can be utilized in the future.

2010 Plans

Any stored soil moisture will be conserved through appropriate summer weed control, especially if the rain falls after early February.

Barley grass will still be an issue in 2010. No seed set control occurred in 2008, so seed reserves are still at high levels in the paddock.

It is likely that wheat, possibly Mace, will be sown after excellent grass control at the start of the season. Input costs will be carefully monitored, especially if poor commodity prices are predicted. Depending on summer rainfall, some soil testing for N and P may take place to help guide fertiliser application.

TEAM 3
The Researchers (Starship Enterprise)

Team Motto: Boldly going where no man has gone before.

What did we learn last year?

Just for something different, the researchers allowed their Angel medic to regenerate again to have one last crack at a profitable medic pasture. A half respectable stand of medic germinated with the rain in March, although the decision to keep the medic (and not spray it out for sowing wheat) was not made until a subsequent germination of medic came through with the ANZAC day rain. Plenty of "Boo and Hiss" was endured by the author during the growing season. "What were you thinking, why didn't you sow wheat" was asked plenty of times at the smoko table!

Marshmallow proved very difficult to control within the pasture phase. The application of 25 g/ha Broadstrike was only successful in slowing the weed down unfortunately. An earlier timing could have allowed for better control of the difficult weed.

The paddock produced a very good stand of medic pasture which kept 230 hoggets fed for two separate grazings of 7 days. The ultimate aim of the exercise was to harvest the paddock for pasture seed. Our resident medic expert Roy Latta estimates the paddock yielding between 300 and 500 kg/ha of pure seed. This could prove a profitable exercise, now all we need to do is harvest the stuff…

2010 Plans

Harvest huge amount of medic seed, watch paddock drift while booking the overseas holiday.

Agronomically, the discussion began at smoko on the first working day of 2010 as what to do with the paddock. The senior management at MAC are keen to use a canola crop to soak up some of the abundant nitrogen which our medic should have produced. The author (and the rest of the MAC staff) however, is keen for a cereal crop to start to return the paddock back to good soil cover levels and hopefully kill the pig with profitability! Time will tell who prevails!

Acknowledgements

This competition would not be possible without the work of the long suffering farm staff, Mark Klante, Brett McEvoy and Trent Brace. Special thanks to Glencore Grain for helping financially support the ailing teams (i.e. researchers) keep their operations in the black!