



CHAF Demo Farm Variety Trials

Clunes Demonstration Farm

Sown 21/05/09 with IPL Cone
Seeder

80kg/ha DAP at sowing

Harvested 06/01/10 with IPL
Kingaroy plot harvester

Wheat Variety Trial Results:

This Table provides data on wheat yields over the past 3 years and makes comparison between Clunes, South West Victoria and North Central.

	Maximum	2009	2008	2007	3 Year	Sth West	Nth Central
Variety	Classification	%Mean	%Mean	%Mean	%Mean	Predicted	Predicted
Bolac	AH	124	115		120	5446	2832
Gladius	AH	122			122		2946
Lincoln	AH	121			121	5043	2893
Derimut	AH	121	111		116	5080	2905
Catalina	AH	109	103	154	122		2822
Livingston	AH	95			95		2871
Gascoigne	APW	130	112		121	5038	
Espada	APW	117			117	5323	2969
Preston	APW	111	114		112	5466	
Kellalac	APW	95	106		101	4661	2646
Wedgetail	APW	72	82		77	4749	2622
Magenta	APW?	110			110		2915
Sentinel	ASW	119	84	81	95	5006	2810
GBA Ruby	ASW	116	101	104	107		2897
Eaglehawk	ASW?	102			102	4632	
Rosella	ASWN	72	80	70	74	4533	2558
Orion	SF1	88			88		
Yenda	SF1	70			70	4947	2856
Hunter	F	120			120		2954
Frelon	F	104	118	108	110	5463	
Teasdale	F	98	88		93		
Amarok	F	92			92	4808	
Brennan	F	87	82	75	81		
Rudd	F	84	105	110	99	4886	
Naparoo	F	77	87		82	4489	
Mackellar	F	75	101	96	91	5267	
SQP Revenue	F	68	105		87		
	Mean Yield	2.89t/ha	3.17t/ha	2.07t/ha	2.71t/ha		

Conclusions from Trial Results:

Best varieties:

Milling Wheat Varieties – Main Season

Gladius AH classification, improved rust MR-MS Stripe, MS CCN, MS YLS, Good yield – 122% @ Clunes 09, long term nth central 2% above Yitpi.

Espada APW classification, MR-MS Stripe – Good Stem and Leaf, MS CCN, MS YLS, Good yield – 117% @ Clunes 09, 3% above Yitpi Nth Central & good in long season

Catalina AH classification, better stem and leaf rust resistance than Yitpi but MS for stripe, R CCN, MS-S YLS, 122% @ Clunes 3 years, slightly below Yitpi Nth Central long term

Derrimut AH classification, Very good yield in long & short seasons, MS-S YLS, R CCN, MS Stripe, 1% above Yitpi in Nth Central, 11% in SW, 116% mean @ Clunes 2 years

Lincoln AH classification, Best for rust (R-MR), MS YLS, S CCN, 121% @ Clunes, 2% above Yitpi in Nth Central 11% in Sth West

Milling Wheat Varieties – Long Season

Bolac AH Classification, Good yield potential (120% Clunes 2 year), 116% Sth West long term, R-MR Stripe??, MS-S YLS, Screenings – Up to 12.2% @ Smeaton and 17.8% @ Hamilton 09

Sentine! ASW Classification, Yields well in good seasons – 95% Clunes 3 year, Good rust, Likes long cool finish

Derrimut & Lincoln Shorter season AH for later sowing, both very good yield, watch Derrimut for Rust, manage maturity

Preston APW* Classification, very good plant type, R-MR Stripe, S YLS, 111% @ Clunes 09, 23% above Bolac @ Smeaton and 3% screenings, Highest yielding wheat 09 SW NVT, topped Dunkeld SFS winter & spring wheat trials

Feed Wheat Varieties

Frelon Very good yield 110% 3 years @ Clunes – Does better in longer season environments, Highest long season winter wheat in SW NVT & SFS long term yields, Very good yield at Smeaton 09 – up to 7.9t 4% higher than next winter wheat. R to Stripe Rust

Revenue Long season similar to Mackellar but without BYDV resistance, good for rusts, Yield to be proven (2 year Clunes 87%) Grain quality?

Hunter Northern main season feed variety with good yield (120% Clunes 09), MR-MS stripe rust

Wheat varieties. Protein and Moisture levels

	t/ha	Protein	Moisture
Amarok	2.67	16.7	12.2
Bolac	3.6	17.3	11.9
Brennan	2.51	16.3	12.4
Catalina	3.16	Couldn't	Test
Derrimut	3.5	Couldn't	test
Eaglehawk	2.95	16.7	12.4
Espada	3.4	14.8	12.1
Frelon Dividend 1.3	3.29	15.6	13.3
Frelon Dividend 1.3 + Zinc	3.53	16.1	12.2
Frelon Dividend 2.6	3.04	18.2	12.4
Frelon Dividend 2.6 + emerge	2.99	17.2	12.2
Frelon Dividend 2.6 + emerge + zinc	3.2	16.4	13.1
Frelon Hombre	3.2	17.4	12.2
Frelon Raxil	3.01	18.2	12.1
Gascoigne Baytan	3.58	14.9	12.1
Gascoigne Dividend 1.3	3.47	12.9	12.3
Gascoigne Dividend 1.3 + inoc	3.89	12.9	12.2
Gascoigne Dividend 2.6	3.69	14.2	12.2
Gascoigne Dividend 2.6 + emerge	3.79	15.6	16.7
Gascoigne Dividend 2.6 + emerge + zinc	3.18	14.6	12
Gascoigne Hombre	3.56	15.6	12.1
Gascoigne Raxil	3.84	15.5	12.2
Gascoigne Raxil + Inoc	3.99	15.2	12.1
Gascoigne Real	4.16	15.2	12.1
Gladius	3.53	15.9	11.6
Hunter	3.47	13.6	11.9
Kellalac	2.74	Couldn't	Test
Lincoln	3.48	14.1	12
Livingston	2.74	Couldn't	Test
Mackellar	2.17	16.1	12.3
Magenta	3.17	16.5	11.7
Naparoo Dividend 2.6 + emerge	2.47	17.2	12.1
Naparoo Raxil	1.97	17.1	12.2
Orion	2.53	Couldn't	Test
Preston Raxil	3.41	15.8	12
Preston Raxil + inoc	3.52	18	12
Revenue	1.96	16.4	12.8
Rosella	2.07	Couldn't	Test
Ruby	3.35	15.1	12
Rudd	2.43	15.5	12.6
Sentinel	3.44	14.7	12.1
Teasdale	2.82	17.1	12.6
Wedgetail	2.09	Couldn't	Test
Yenda	2.03	16.3	11.8

Frelon mean	3
Gascoigne mean	3.75
Preston mean	3.22
Naparoo mean	2.22

CV = 18.96
lsd = 0.82t/ha
Sig p = <0.0001
Site Mean 3.105t/ha

BARLEY YIELDS

The Barley Variety Trial at the Demo Farm was not harvested in 2009/10 season due to poor growing conditions and high level of weed contamination. This table compares the AGF Smeaton Trial in 2009 with CHAF trial of 2008.

		2009	2008	2008	2007	Long Term	Long Term
Barley	Maximum	Smeaton	Clunes	Smeaton	Clunes	Nth Central	SW Vic
Variety	Grade	%Mean	%Mean	%Mean	%Mean	% Gaird	% Gaird
Tulla	F		123	170	125		97*
Hindmarsh	F*	100	108		79	111	106
Urambie	F	112	80	57	77		102*
Fleet	F	112				109	
Barque	F					96	
Fairview	M		111	97			
Buloke	M	92	105	114	111	104	102
Gairdner	M	79		99	96	100	100
Commander	M					105	103
		Mean =	2.8078t/ha	3.376t/ha	1.5017t/ha		

Barley recommendations from trial results:

Consider **Tulla** for Acidic soils. By far the best in it's niche.

Northern growers confident of achieving Malt should consider **Buloke** (4% better than **Gairdner** in nth central), Hindmarsh for feed - highest yielding feed in nth central and potential Malt.

Gairdner still the benchmark in the south, **Hindmarsh** gaining momentum on the back of some trial results and commercial successes.

Urambie suited to early sowing (from NOW) and grazing, particularly in the north.

Triticale Variety Trial Results

This Table provides data over the past 3 years at Clunes and compares long term with Tahara in SW Vic, North East and Mallee trials.

	Clunes	Clunes	Clunes	Clunes	Smeaton	SW Vic	Nth East	Mallee
	2009	2008	2007	3 Year	2009	Long Term	Long Term	Long Term
Variety	% Mean	%Mean	%Mean	%Mean		% Tahara	% Tahara	% Tahara
Hawkeye	181	135		158	100	114	114	109
Jaywick	125	130		128	98	113	114	107
Tobruk	109	117	134	120		112	113	107
AT573	102	108		105	126			
Crackerjack	136	104	111	117	96			
Endeavour	57	96	80	77	114	97*	94	
Yukuri	84	94	118	99	83	103		
Bogong	145			145		119	121	109
Monstress	60	85	73	72	100			
Mean =	1.2t/ha	3.4t/ha	2.2t/ha	2.3t/ha	6.23t/ha	4.47t/ha	3.22t/ha	1.89t/ha

Triticale Recommendations from Trial Results :

New Stripe Rust has changed Triticale varieties resistance scores.

- **Jackie** broke down spectacularly and is now VS.
- Several different markets for Triticale:
 - Early sowing, grazing and grain = **Tobruk**
 - Early sowing grazing and hay/silage = **Endeavour, Yukuri**
 - Mid (May) sowing grain = **Hawkeye** (Tahara replacement), **Tobruk**
 - Mid (May) sowing silage/hay = **Hawkeye, Yukuri, Crackerjack, Granador.**
 - Late sown grain/hay/silage = **Jaywick** (Speedee replacement)

Oat Variety Trials

This Table provides 3 years data for the oat trials at the Demo Farm and makes comparison with the NVT, South West and North Central trial results

	Clunes	Clunes	Clunes	NVT	Nth Central	Sth West	Assumed
Oats	2009	2008	2007	2007	Long Term	Long Term	Quality
Variety	%Mean	%Mean	%Mean	%Mean	% Echidna	% Echidna	Grade
Possum	121	145	146	96	100	95	M
Mitika	146	139	144	95	100	97	M
Mannus	96	130	116				F
Targa	49	99	69				H
Yiddah	89	49	56				H
Echidna				93	100	100	M
Euro				119	95	91	M
Kojonup				96	98	98	M
Mortlock				95	86	79	M
Potoroo				90	103	98	F
Quoll				96	102	102	F
Yallara				121	97	92	M
Mean =	1.92t/ha	1.968t/ha	1.093t/ha	2.129t/ha	2.34t/ha	3.76t/ha	

Biochar results:

In conjunction with Russell Burnett, CHAF ran a replicated biochar trial. This trial will continue over a number of years to investigate the response to Biochar over time on soil structure, yield and soil carbon.

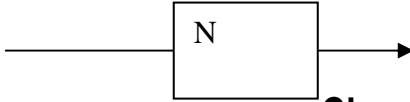
The biochar used in this trial is produced from poultry waste.

Biochar Yields/ha	A	B	C	Average
0kg/ha 100kg DAP	3.33	3.04	3.16	3.18
1t/ha	2.16	2.40	2.53	2.36
2.5t/ha	2.47	2.70	2.57	2.58
5t/ha	2.67	2.43	3.23	2.78



**Munash Crop Trials
For**

Clunes Cropping Site – Wheat Results 2009-2010



TEST 1 (next to Pivot trial)	CONTROL – NORMAL CROP PLANTING 70kg DAP 568kg (3.04t/ha) Moisture 10.2% Protein 14%
TEST 2	NIL FERTILISER Eco-Min @250kg/ha 651kg (3.489t/ha) Grain Moisture 10.4% Protein 14.3%
TEST 3	CONTROL Eco-Min @250kg/ha, Seed Boost, 70kg DAP/ha 673kg (3.607t/ha) Grain Moisture 10.4% Protein 14.5%
TEST 4	MUNASH CROPPING PROGRAM Eco-Min @250kg/ha prior to sowing, DAP 35kg/ha down tube at planting 614kg (3.290t/ha) Grain Moisture 10.5% Protein 13.9%
TEST 5	CONTROL No fertiliser 609kg (3.264t/ha) Grain Moisture 10.4% Protein 14.2%

IMPORTANT NOTES: Crop size 176 x 10.6m
(0.1866ha)

- TEST 1:** **Control - Normal Crop Planting**
Apply 70kg of DAP per hectare
- TEST 2:** **NIL Fertiliser**
Munash Eco-Min @ 250kg/ha
- TEST 3:** **Control**
Eco-Min @250kg/ha, Seed Boost and 70kg/ha DAP
- TEST 4:** **Munash Cropping Program**
Eco-Min @ 250kg/ha prior to sowing. DAP @35kg/ha down tube at planting
- TEST 5:** **Control**
No fertiliser
- Grain sown** **Gascoigne**

CROPPING COMPETITION RESULTS:

This year was our first year in running a cropping competition. The objectives of this competition were two fold:

1. To develop greater interest in the Dem. Farm activities and get more community participation.
2. To learn from each other in the best management tools and decisions to improve crop performance.

The participants included 5 groups:

- Mature Farmers
- Young Farmers
- Agronomists
- Alternative Fertiliser Group
- Financial Professionals – Accountants and Bankers.

The competition has shown some interesting outcomes given the seasonal conditions:

- The highest yield was achieved by the Young Farmers who had the lowest seeding rate of 60kg/ha and lowest fertiliser rate of 50kg DAP /ha. Their yield difference was assessed as being due to the poor growing conditions and the reduced competition for moisture and nutrients.
- The Agronomists had the highest management level including lime application, fertiliser including Zn and seed treatment. The growing conditions unfortunately did not provide the required yield that a normal season would have.
- There is a real need to improve knowledge of marketing opportunities and systems available to farmers. The competition organisers did not incorporate the marketing strategy proposed by the Financial Professionals which may have hindered their success.
- The Mature farmers started off with a disadvantage as their crop failed to grow over about 30% of the plot. In the end however their yield did not reflect this initial setback.
- The overall winner based on Gross Margins analysis went to the Alternative Fertiliser Group who were able to show that selling organic milling grade wheat does have a premium price tag.

Overall the competition can only improve next year. There is already a number of additional participants interested in taking part.

Long Term P Trial:

CHAF has run a Long Term P Trial on site for the past 3 years. We are currently negotiating with ICL Pivot to continue this trial to investigate the impact of applying P fertiliser over the long term. The trial also looks at nitrogen applications on yield.

Demo. Farm activities:

The Demonstration Farm has been established by CHAF to provide a facility for the farming community to have input into what trials and demonstrations they would like to have assessed that are suitable for the soil types and climatic conditions of our region. It has been recognised for some time that the potential for increasing the area to grain production is extremely high. Our demonstrations are aimed at assessing the current varieties available to reduce risk to farmers thinking of increasing grain production.

The demo Farm has a Steering Committee who develop and manage the trials to be undertaken.

Following sowing, a Field Day is held in about October to assess the growth of crops prior to harvest. This is an opportunity to discuss management issues that may arise prior to harvest.

Following harvest each year we run a Trial results Dinner to report back to the community on the trial results. We also take this opportunity to access Guest Speakers to present on relevant issues facing the industry in our area.

The CHAF Demo Farm is the only independent site in our area to undertake trials that have no commercial value to the trial site owner. As a member of our community you are encouraged to participate in what projects we undertake on the Farm.