

Southern Australia Durum Growers Association Inc.



www.durumgrowers.org.au

Issue 8: October 2015

From the Chairman

Earlier this year I was elected as the new chairman for SADGA, taking over from Mark Hill. First of all I would like to thank Mark for his leadership over the past 3 years. I have big shoes to fill! I will endeavor to do my best for the association. The committee of SADGA are all very motivated and a great team to work with.

Just a little background about myself. I'm from the West Wimmera in the Kaniva District of Victoria. Our farming business has been growing Durum for over 20 years. It is a family partnership of my brother, son, myself and our wives.



We have had 2 very successful Spring Field Days. (Crop walks), in the Mid North and South East of S.A - West Wimmera, Victoria. These were very well attended by our sponsors, farmers and researchers. I would like to thank Dr. Jason Able and Rob Wheeler for making themselves available for both field days and sharing their knowledge and information with us! I would also like to thank our sponsors for their financial support, because without your support, our research work would not happen. We also appreciate your presence at our crop walks, as it helps growers and sponsors to build contacts and networks with one another, and source new information, which can be helpful to sponsors, growers and researchers.

The new variety 'Aurora' released by Dr. Jason Able, seems to be performing very well under trying conditions. This variety should have a lot lower level of screenings, compared to the 800 series of Yawa, 802 and Tjilkuri.

If you would like to order seed from the Association, please contact Neville Sharpe on 0419 607 120 or myself on 0427 558 170. These seed crops have been walked and checked for weeds, barley and bread wheat contamination, and will be sold with a purity and germ test.

I sense a new era of optimism in the Durum Industry, with good prices and our new variety (Aurora) released and others in the pipe line, to help address disease and quality issues.

From what I understand, most area's in SA will finish with a below par to near average season. In Southern NSW it has been a tough end to the season, unless you have irrigation, but further North in Central NSW, conditions are much better, despite the heat taking a bit off the yield.

Western Victorian and South East of SA are a different story, with the Northern Wimmera and Southern Mallee having a full blown drought. Many crops of wheat, beans, lentils and canola will be a complete failure or near failure (seed only).

In closing, I would like to wish everyone a safe and relaxed Christmas with family and friends, as harvest, (sadly), should be done and dusted by then. Here's hoping for a big year next year.

- Alwyn Dyer, Chairman.



News from Jason

- The field days and crop walks that were held across September and October in the southern region of Australia were well attended with many growers taking the time to come along and see the exciting research and trial results that were discussed as part of Durum Breeding Australia's (DBA) Southern Node.
- This is my 5th harvest coming up, and it seems like yesterday that I was under Tony's 'wings'. A lot has happened since then so I thought for this edition a recap followed by a short account of where I see us heading down the track was in order.

2011-2014

- Consolidated/completed a stock-take on the program's germplasm and capabilities inherited from Tony.
- Introduced >200 overseas lines into the crossing blocks for various purposes ranging from quality to abiotic and biotic stress tolerance.
- Overhauled all operational aspects, including the machinery (which was only made possible through the generous continued support of San Remo and the University of Adelaide).
- Released Yawa (Tony – 2012), WID802 (Jason – 2012), and DBA-Aurora (2014).
- With excellent cooperation through Professor Diane Mather and Allan Binney, a small but important marker-assisted selection strategy for our early generation materials has been established. Ultimately this frees up resources by not sowing negative material for a particular trait that we have targeted, and therefore allows us to channel extra materials into the pipeline when crossing parents.
- Increased the number of samples that are sent to be evaluated for quality testing each year through our collaboration with Dr Mike Sissons.
- New breeding operations technical staff employed with passion, commitment and drive. This enables me to focus on the important task of scoring; knowing that sowing, maintenance and harvest are under control by AI, Stu and Ranj.



Figure 1. Redhill (2015) looking pretty impressive. Out of danger and should yield well. All S2 early generation materials as well as the new GRDC national dispersive soils program that Associate Professor Glenn McDonald is leading. Thanks to John Wheaton and his continued support for allowing us to sow on his property.

2015

- We were competitively awarded two grants from SAGIT, which are both kindly supported through the SADGA and all the sponsor's contributions (thanks!). This research will be mentioned briefly later in the article.
- We sowed 15 sites this year. This is a 50% increase on the number of sites since first sowing in 2011. We will continue to build if the support structures are there and if we can afford it! There are several areas that continue to warrant further investigation.
- This is the first year where I have been able to visualise (with full replication) a number of the crosses I initiated back in 2011. These materials are across as many as six of our sites now, and within the next five-seven years we should have some 'winners' coming from these materials.
- For the first time we have now been able to sow many promising lines that Dr Hugh Wallwork from SARDI has developed. Thanks to Hugh and his cooperation, we can now get a glimpse of whether these improved crown rot lines are agronomically sound and have acceptable-good quality (although the quality will have to wait until we start getting replicated plots in 2016).
- UAD1152020 has been stacked up against DBA-Aurora and Yawa at our multiplication site (Virginia). Thanks to Neville (!) and his tireless efforts in getting this in the ground this year – which will more than likely be his last as the breeding program takes on this role from 2016. The breeding program will make a decision as to whether this line is progressed further once the yield analysis is back from that larger scale trial.
- This year has been another challenging year with the weather conditions. While it is no good for growers, these years (as long as they are not total wipe-outs) can enable the breeding program to track potentially exciting materials that still stand up reasonably well (all things considered). The final yield results in the months ahead will either support the scoring or not.



Figure 2. Roseworthy (2015) – SAGIT heat chamber discussion. Snapshot of growers and sponsors (about 50) attending the day (as far afield as Finley, Ian Taig joined us)! Good discussions held with Jason and Paul about the heat tolerance project funded through SAGIT as part of the day's activities. Special thanks to Rob and Dave (SARDI) who also covered their excellent project results on herbicide tolerance trials earlier in the day at Mallala on Richard Konzag's property, where DBA-Aurora was on full display across the paddock.

2016 and beyond

- Selected entries will be tracked into the NVT next year including UAD1152020 and possibly UAD1151056 (subject to DBA operations agreement).
- Many lines that have been tracked using marker-assisted selection, and/or, developed with improved quality traits in mind; will be making their way through the S2, S3 and S4 trials. Those that show promise and tick all the boxes will make it to variety status by 2022.
- The program will be up for renewal through GRDC investment June 2017. Next year we start the process of holding discussions as to how this will be structured.
- Through the investment that SAGIT has made, the program (and growers!) stand to benefit immeasurably in that:
 - (1) We will be able to get a greater handle on the heat tolerance of selected S3 entries. These entries are well-advanced and one year off being promoted to S4 trials (pre-variety release trials). This work is being conducted in conjunction with the cooperation of AGT and I would like to thank Paul Telfer for his expertise in this area.
 - (2) Our gross margin sensitivity analysis trials will give us benchmarks for the lead durum and bread wheat varieties across five different areas of the State (this year we sowed at Yeelanna [EP], Wandearah, Sanderston, Coonalpyn and Roseworthy). This is the first time the program has sowed on the EP and should the durums stack up well against the bread wheats over the coming three years of SAGIT trial work, this could result in a new grower base in the State.



Figure 3. Wandearah (2015) – SAGIT September Field Day. Al giving a discussion on the gross margin trials to the growers in the region at another field day. Well attended, with interest in durum for this area. Thanks to Phillip Johns and his support to host us at this site.

I have not covered everything as I would go on for pages (and have already). I hope that the above snapshot gives you some confidence that while bad seasons will always happen, we are working hard on trying to make those seasons less painful on the hip pocket! Through your support, and time, I am confident we will get there. And on that note, a big thank-you needs to be said for all our investors. Without the GRDC, SAGIT, San Remo, University of Adelaide, and our other stakeholders, we wouldn't be doing what we are doing.



Figure 4. The South East (2015). Something to look forward to when there is plenty of water! Ben Hunt took back to Dad (Bill) the new standard (DBA-Aurora) and its potential when sufficient water is available. This image is a representative plant taken from our multiplication at Virginia showing about 12 tillers and heads with on average having florets that numbered 15+. Not grown on irrigation but a carrot rotation. Bill's look says it all! Nice shot Benny.



Figure 5. Kaniva (2015) looking challenged but it was a lovely day for scoring (30th September). The S2 lines here are the same as those in Figure 1 at Redhill. Hopefully we can get some meaningful yield data from this trial. Thanks to Alwyn and his continued support of the trials we wish to have in the Wimmera!

In closing, I am looking forward to the harvest with our team, which is imminent. The yield results will come in, and the analysis will start. Selections will be made, and before we know it the 2016 forums will be here. That will provide us with an opportunity to reflect on a tough couple of seasons (2014, 2015) and present the results from this current season (and no doubt much more). With any luck the durum price will remain highly competitive in 2016 so that we as an industry can grow further. Between now and then, best wishes to you and your families for the harvest season and I hope to see you all next year.

Jason.

Herbicide tolerance of durum varieties

By David Brunton and Rob Wheeler, SARDI

The level of tolerance to commonly used herbicides in durum varieties has been found to vary between cultivars. Small yield reductions to sensitive varieties caused by herbicide damage may be easily detected on a large scale, but can be very costly. The variation in tolerance may be due to any combination of differences in morphological or physiological traits among the varieties. Varieties are extensively tested to determine level of tolerance to commonly used herbicides in South Australia as part of a national GRDC funded program. All newly released varieties are tested to identify any potential herbicide sensitivity to provide additional information to growers for the agronomic management of new varieties. Varieties are first tested in preliminary trials at higher than recommended rates of the herbicides to identify any sensitivity to specific herbicides.

Once a significant variety and herbicide interaction has been identified, the variety is tested with the specific herbicide in more advanced trials using recommended and higher than recommended herbicide rates to determine the severity of the yield reductions caused by the herbicide.

Given that environmental conditions strongly influence the level of safety of most herbicides it is important that varieties are tested over a number of seasons to clearly identify the level of tolerance.

Field trials conducted at Mallala and Kybunga indicated that newly released variety DBA Aurora displays good tolerance to a wide range of herbicides tested. In general there are a limited number of significant herbicide effects that have been identified across most durum varieties except for Tamaroi and 2,4-D amine. Moderate sensitivity exists towards metsulfuron-methyl and diuron in some varieties. Boxer Gold appears to be generally safe across all durum varieties tested. The level of sensitivity is determined by yield reductions in comparison to unsprayed controls of the same variety. The long-term results are presented in the following tables, summarised using the symbols below.

- not tested or insufficient data.
✓ no significant yield reductions at label or higher than recommended rates in (z) trials.
N (w/z) narrow margin, significant yield reductions at higher than recommended rate, but not at recommended rate. Significant event occurring in w trials out of z trials tested. Eg. (2/5) = tested in 5 trials, 2 trials returning a significant yield reduction.
x% (1/z) yield reduction (warning) significant yield reduction at recommended rate in 1 trial only out of z trials conducted.
x-y% (w/z) yield reductions (warning) significant yield reductions at recommended rate in w trials out of z trials conducted.

Table 1. Wheat variety response to herbicides in South Australia (1993-2014)

Herbicide			2,4-D Amine 625	Achieve®	Affinity Force® + MCPA	Ally®	Axial®	Banvel M®	Boxer Gold®	Bromoxynil MCPA	Cadence®
			2,4-D Amine	Tralkoxydim	Carfentrazone-Ethyl + MCPA Amine	Metsulfuron-methyl	Pinoxaden + Cloquintocet-Methyl	MCPA+ Dicamba	Prosulfocarb + S-Metalochlor	Bromoxynil + MCPA	Dicamba
Variety	Year	1993-2014	1993-2014	2006-2014	1993-2014	2006-2014	1993-2009	2009-2014	1994-2014	2006-2014	
DBA Aurora	2013-2014	✓ (2)	✓ (2)	✓ (2)	✓ (2)	✓ (2)	-	✓ (2)	✓ (2)	✓ (2)	
Hyperno	2009-2012	✓ (2)	✓ (2)	N (2/4)	9 (1/3)	✓ (2)	-	✓ (2)	5 (1/2)	9 (1/2)	
Saintly	2009-2012	✓ (2)	✓ (2)	✓ (2)	✓ (2)	✓ (2)	-	✓ (2)	✓ (2)	✓ (2)	
Tamaroi	1996-2003	3-4 (2/8)	5 (1/8)	-	11 (1/8)	-	✓ (8)	-	N (3/8)	-	
Tjilkuri	2009-2010	✓ (2)	✓ (2)	✓ (2)	✓ (2)	✓ (2)	-	✓ (2)	✓ (2)	✓ (2)	
WID802	2010-2012	✓ (2)	✓ (2)	✓ (2)	N (1/3)	✓ (2)	-	✓ (2)	✓ (2)	✓ (2)	
Yawa	2009-2010	✓ (2)	✓ (2)	N (1/2)	8 (1/2)	N (1/2)	-	✓ (2)	✓ (2)	✓ (2)	
Rates (product/ha)		1.4 L	380 g	100 mL + 500 mL	7 g	250 mL	1.4 L	2.5 L	1.4 L	200 g	
Crop stage at spraying		2 node	3 leaf	3 leaf	3 leaf	3 leaf	5 leaf	IBS	3 leaf	5 leaf	

Herbicide		Conclude®	Crusader®	Diuron(500SC) + MCPA	Glean	Hussar®	Logran®	LVE MCPA	Tigrex®
		MCPA + Florasulam	Pyroxsulam	Diuron + MCPA Amine	Chlorsulfuron	Iodosulfuron-Merhylsodium	Triasulfuron	LVE MCPA	MCPA + Diflufenican
Variety	Year	2010-2012	2011-2012	1993-2014	2008-2012	2005-2014	1993-2009	1996-2008	1996-2014
DBA Aurora	2013-2014	-	-	✓ (2)	-	✓ (2)	-	-	✓ (2)
Hyperno	2009-2012	-	9 (1/2)	✓ (2)	N (1/4)	N (1/4)	-	-	✓ (2)
Saintly	2009-2012	-	-	6 (1/3)	N (1/3)	N (1/3)	-	-	✓ (2)
Tamaroi	1996-2003	-	-	4 (1/8)	-	N (1/2)	N (2/8)	N (3/7)	✓ (8)
Tjilkuri	2009-2010	-	-	✓ (2)	✓ (2)	✓ (2)	-	-	✓ (2)
WID802	2010-2012	-	-	✓ (2)	✓ (2)	✓ (2)	-	-	✓ (2)
Yawa	2009-2010	-	-	✓ (2)	✓ (2)	✓ (2)	-	-	✓ (2)
Rates (product/ha)		700 mL	500 mL	500 mL + 350 mL	20 g	200 g	35 g	1.2 L	1 L
Crop stage at spraying		5 leaf	3 leaf	3 leaf	3 leaf	3 leaf	PSPE	5 leaf	5 leaf

DURUM GRAIN MARKETERS

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Seed for Sale 2016.

If you are interested in growing the Durum varieties in 2016 orders can be placed with
Neville Sharpe, Seed Manager

Neville Sharpe

Mobile: 0419 607 120 or P: 08 8338 7339

Fax: 08 8379 9665

Email: njsharp@bigpond.com

or download an order form from our web site

www.durumgrowerssa.org.au

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