

Notes from the Workshop on Best Management and Control of Weeds @ Research Updates, 26/2/2019

The Weeds Focus Session comprised 6 short presentations on key topics and 5 scenarios, followed by a panel question and answer session moderated by the Convenor. A series of pre-prepared questions around each scenario were developed in the event that audience engagement was low. Attempts to get the audience to ask questions or make comments around the scenarios before the pre-prepared questions were posed were generally unsuccessful with only a few people willing to engage. There did appear to be significant lethargy from the audience. Consequently the majority of questions were posed by the Convenor based upon key issues identified in the presentations. The panel made positive comments on this approach after the session as they could be actively engaged in providing comment.

Counts of the audience ranged between 40 and 45, with only a few audience members leaving about halfway through. The fact that the large majority of the audience stayed suggested either they appreciated the process and discussion, or were only there for the beer afterwards! A show of hands indicated approximately one third each of farmers, agribusiness/consultants and researchers were present. The audience appeared quite young with well over half below about 40 years of age.

Panel:

Convenor – Dr David Bowran

Scribe – Alex Douglas DPIRD

Members – Catherine Borger, Abul Hashem, Andrew Storrie, James Bee, Mechelle Owen, Jason Emms, Roberto Busi (non-presenter).

Microphone – Sally Peltzer

The notes below relate to questions posed in each of the scenarios and some general discussion. The session went its full 2 hours and was running short of time with scenarios 4 and 5 only briefly covered.

Scenario 1

Green on green detection is now a viable possibility. Guillaume Jourdain to expand Bilberry and move to WA in September 2019.

This is keeping us in the game and ahead of the pack.

Is this worthy of future research and development?

Yes – he has been open and up front with the challenges of the technology. Wild radish works at present but there are many weeds out there and this is not the only solution.

Should we apply higher rates of effective herbicides to populations that have not developed resistance yet? How do we know if the populations are resistant in the first place? Not many growers test unless their agronomists do the sampling and send them off.

New MoA can be used in a targeted system but may need registration incentives as less product will be applied (as it is not a fence to fence application). Companies may lose money.

Soil amelioration, i.e. manage waterlogging, can improve the challenging areas of paddocks = only patches of paddocks may need treatment.

Minor weeds, we should be objective and not hide behind complex situations, not shy away from the hard research.

AHRI is not aware of blow outs in population due to dormancy characteristics, late germination etc. believes they are more like to arise from HR traits.

Any solution needs to be a whole farm approach – for example are chickpeas really a good idea if we have to change the systems greatly first?

Including a better pasture may be a more real solution to approaching a system problem.

Are growers using brown manure?

Yes but not common - 1 (from NSW).

The technique is costly as there is no yield in the year of brown manure, added to the cost of establishment.

Fallows in the eastern wheat belt can be useful but continuous cropping can be just as effective.

HWSC has had huge uptake – is it effective?

The HSD not usually used in canola in the NAR but the RR crops are fairly clean.

Will weeds develop resistance to capture?

Probably yes eventually but many of our weeds will shed at variable times prior to crop maturity.

So a lower selection pressure on capture.

Some growers are adamant that their ARG is now shorter – Michael Walsh study showed that it is not getting shorter!

Can we use early maturing crops, swathing and inter-row robots to cut off weed seed heads?

Are there other herbicides that we are worried about?

Paraquat

There is paraquat resistance already and some of these populations are resistant to paraquat and glyphosate.

Fence lines are a major concern.

Root Lesion Nematode often interacting with weeds.

Which weed species are likely to promote RLN build-up? Are there weed species that will reduce RLN numbers?

Diseased crops are less competitive in general.

There are high yielding ARG varieties with endophyte tolerance available. We could re-introduce ARG lines to out compete the Wimmera type.

Crops could be more competitive in general through increasing seeding rate.

Doubling the SR could be easy money.

High SR can also increase weed height to promote seed capture at harvest.

Applying high rates of N for higher wheat yield will also increase the yield of ARG and other weed seeds. If we are trying for better competition with added N? The N story may be counterproductive.

Fertiliser application time/placement is an area that could be further explored.

Comment from agronomist - Generally crops are cleaner than they have ever been; fertiliser placement under row, lifters on harvesters to get the most seeds into the header, hand weeding for the last plants in the paddock.

Should resistance testing be mandatory?

The concept has merit but not practical.

Row spacing is something that we could do better.

- Residue handling
- Planting time
- Power usage

Most crops are planted on 12 inch spacing's and weeds fill the gaps and are quite healthy.

Row orientation also a consideration

We are leaning on chemistry as it is easier so perhaps we should revisit crop competition (although seasonal variation will also have an effect on row spacing/seeding rate gains).

High SR and decrease row spacing there are many years of data – how do we get the concept to be accepted?

Comment from grower – the bulk of the sowing equipment is coming out of north America and they are 3 row machines with 12 inch spacing it is almost impossible to get 7 inch spacing.

Species and variety competitiveness is also being overlooked by breeders. Some varieties are losing competitiveness e.g. Latrobe barley.

Scenario 2

Why is brome grass becoming such a problem?

- Changing to a major weed
- Very competitive weed
- Brome grass is coming up with the crop and not being controlled by herbicides
- Barley grass has developed some dormancy
- Brome grass produces lots of seed that can last for 3 years.

AHRI testing – 2015 100 samples of brome; 18 resistant to SU's, 1 to fops/dims, none to imi's and knockdowns.

The climate is getting drier with a later start to the crop season, warmer conditions with a wetter spring.

Recorded increase in the use of Monza following a dry start. With a longer wetter start can use more knockdowns.

Triallate is effective on brome grass - could herbicides being applied for other weeds be impacting on brome grass in most seasons?

Sakura + triallate will control most grasses really well (expensive at \$55/ha).

The patents are approaching expiry for sakura and prosulfocarb.

Tank mixing (at max rates) is a better way to keep herbicides that rotating herbicide MoA year to year.

Work on mixtures? New uses of existing chemistry, a continuous arms race.

Rotation options for low rainfall regions – no canola but you do know what the fallow loss will be.

Grower comment – much rather find resistance on a fallow than anywhere else.

Glyphosate resistance in fallows in NSW, has not gone away but has gotten worse – there is no competition in a fallow.

Matricaria spread – reduction in cultivation plus hygiene/biosecurity.

Where you only target 1 species of weed then you do get gaps that are later filled by the less significant weeds.

Stacking traits in GM/non-GM crops to increase the spectrum of control is an advantage.

Scenario 3

Glyphosate contamination in grain is a huge concern overseas – social licence

GRDC is not able to lobby around the use of glyphosate or value of glyphosate.

Social licence/social pressure – don't want to be caught without an alternative to glyphosate.

Have we done a scenario of paraquat.

Are fallows the only option? Due to a reduction in stock numbers and pastures.

We are all producing food and should all be on the same side.

WA sandy soils cannot be farmed without glyphosate and paraquat.

Steam weeding is energy expensive and very expensive.

Farmers are in the business of making money, not feeding the world.

Scenario 4

Grower comment - Summer weeds – button grass has increased in last 5-7 years due to summer rain and is new to the northern ag region. Can be up to a metre across. Carried in the digestive tract of cattle?

Tarvine is similar

Melons and caltrop both produce seed very quickly (in 3 weeks) melons survive well on the surface of the soil.

Summer weed issues often coincide with 2,4-D damage in vines on the south coast.

Use of the correct nozzles and overcoming delta T to avoid stressed weeds.

The health department responsible for policing 2,4-D drift.

Scenario 5

Parasitic weed hypothetical.

Hay testing – is more required?

Effect/potential effect of trucking hay across the country – WA problems to ES in drought or vice versa

Parasitic weeds are prohibited entry in many countries.

What are our best surveillance strategies for weeds coming into WA?