SUMMER FALLOW WEED CONTROL - WHY "STORING" SUMMER RAIN IS BECOMING MORE CRITICAL

TECH NOTE SERIES

KEY POINTS

- Adjuvants should be matched to the most important herbicide in the mix & the dominant weed targeted.
- Droplet survival and drift reduction are critical for effective summer weed control.
- *ANTIEVAP*® and *ENHANCE*® have proven superior to soyal phospholipids type products in Glyphosate, Triclopyr and Ester mixes.
- Non-ionic surfactants should be avoided in summer spraying – as they reduce droplet size, offer no leaf penetration and increase the risk of off-target damage.

If you thought the boomspray seems to be getting more of a workout in summer than winter in recent years – you'd be correct. Changes in rainfall patterns have seen a marked shift away from the traditional winter dominant mediterranean climate to higher summer rainfall, marked by less frequent but heavier rainfall events, and a shift in summer weed spectrum – from broadleaves to more tropical type grasses.

For Southern Australia's predominantly winter cropping system, this has presented a number of challenges. Later & less reliable autumn breaks, with less in-crop winter rainfall (offset by higher summer rain and a shift in weed type) has meant "storing" summer rainfall by controlling weeds, can ensure adequate soil moisture leading into winter crop seeding is now crucial to maximising yield.

Figure 1: Boomspray - 2016
(Source: SACOA)

SACOA'S RESEARCH ON NEWLY EMERGING FALLOW WEEDS

Over the last four summers, SACOA has built on its decades of research into making herbicides work more effectively. Focusing its field research program on new, difficult to control fallow weeds where matching the correct adjuvant to the most important herbicide mode of action in the tank mix is critical. In addition, new herbicide mode of actions have also been evaluated, to ensure that growers are well informed on how to match the right adjuvant with the right herbicide mode of action. As an example, with some new actives such as saflufenacil – the use of acidifying adjuvant such as a soyal phospholipids can cause inactivation of the herbicide.

GET THE MOST OUT OF SUMMER FALLOW HERBICIDES BY:

Using an adjuvant that:

- Increases droplet size – to reduce drift whilst still providing good coverage.
- Increases droplet survival – to allow herbicides to penetrate through leaves.
- Improves the mixing compatibility of multiple products in poor quality water.
- Is matched to the most important mode of action in the mix – generally targeted at the most dominant/difficult to kill weed.
- Always add AMS to the mix particularly with glyphosate.

CHANGING WEED TYPES

In the previous decade, summer weed control in southern cropping areas used to focus almost exclusively on broadleaves like melons, caltrop and wireweed.

"Tropical" type grasses such as button grass, windmill grass and kerosene grass were really only a problem in northern cropping areas.

Whilst broadleaves like fleabane and matricaria were rare – they are now, more often than not, the dominant weed. (See Figure 2).

Figure 2: From Lemons, Caltrip & Wireweed ....

To Grass, Fleabane and Matricaria *(Source: SACOA)*

ANTIEVAP® AND ENHANCE®

SACOA's mineral oil based adjuvant *ANTIEVAP®* and *ENHANCE®* have become the fallow spraying adjuvant of choice in many cropping areas – offering the benefits above as well as:

- Flexibility to mix with all herbicides including glyphosate and paraquat for the double knock.
- Having no impact on spray mix pH – important for newer herbicide active.
- Over twenty years of proven results under local Australian conditions.
- Ongoing product support including up to date information on new weeds and actives.
- Made in Australia, by a fully Australian owned, agriculture focused company.

THE FACTS

SACOA's research program uses a combination of in-house and external resources to produce fully replicated and statistically sound information which is highly regarded in the industry for its integrity and relevance to current agronomic programs.

RESULTS ON GRASSES

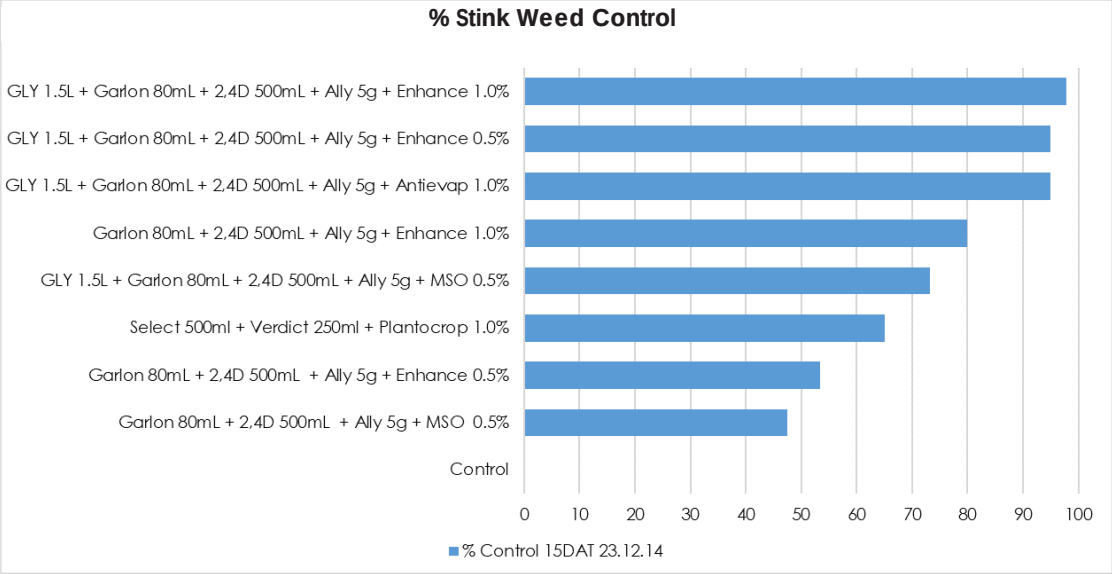


Chart 1: Stink Weed
(Source: T Boyes AgVivo Agronomy, Dec 2014)

RESULTS ON BROADLEAVES

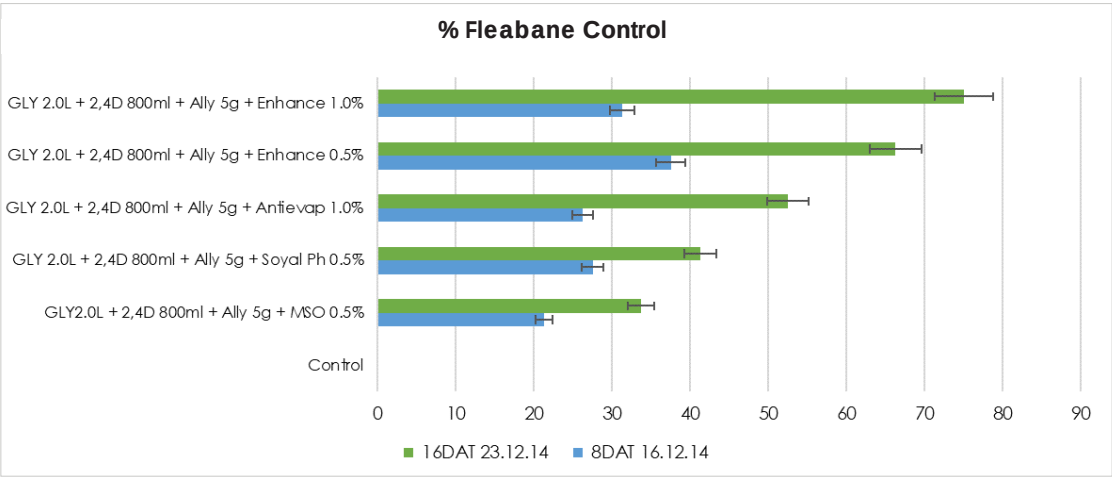


Chart 2: % Fleabane Control
(Source: T Boyes AgVivo Agronomy, Dec 2014)

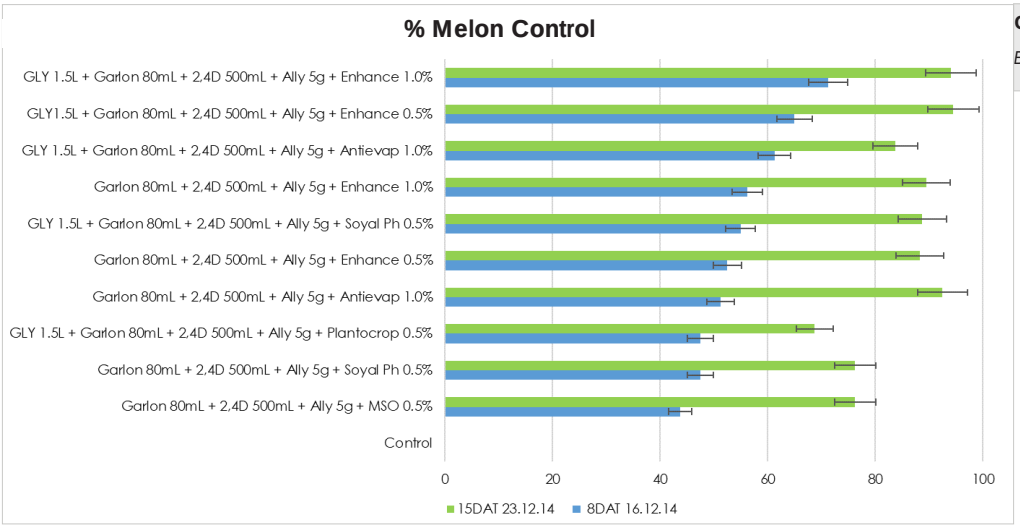


Chart 3: % Melon Control *(Source: T Boyes AgVivo Agronomy, Dec 2014)*

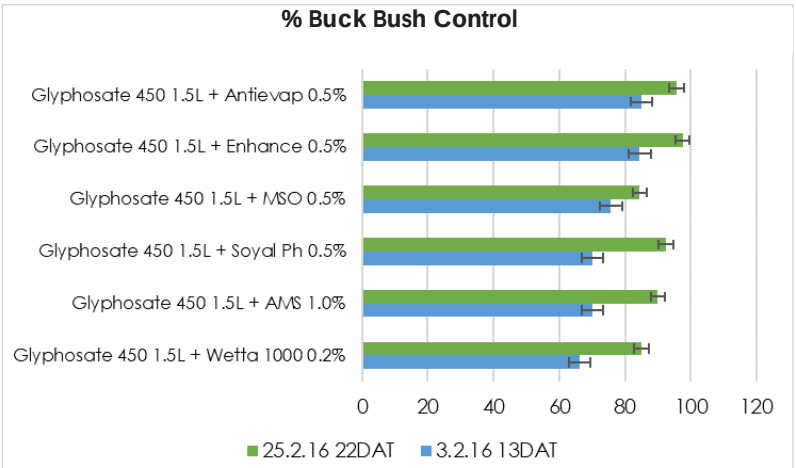
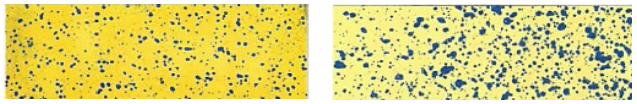


Chart 4: % Buck Bush Control *(Source: SACOA Internal Trial February 2016)*



WATER
7.5% Coverage,
19% Predicted,VMD 150um,
Spray Quality (Fine)

ANTIEVAP®
23.5% Coverage,
23.1% Predicted,VMD 300um
Spray Quality (Coarse)

Figure 3: Spray coverage of various adjuvant types in a typical summer herbicide mixture with AI110015 nozzels @ 3Bar and 100L/Ha water. Temp: 30.4oC, RH 32%, Wind speed 11.0km/Hr, Delta T 11.5 Coverage analysis conducted using Snapcard® water sensitive paper analysis app. *(Source: SACOA internal trial December 2014.)*

TAKEAWAY MESSAGES

- *ENHANCE*® and *ANTIEVAP*® proved superior to other adjuvant types, particularly soyal phosolipids and non-ionic surfactants across a range of broadleaf and grass weeds at multiple replicated trial sites.
- Improvement in performance was observed with all actives tested including glyphosate, paraquat, triclopyr, and GRP A grass selectives with no evidence of compatibility issues or antagonism even on grasses.

IMPORTANCE OF CORRECT BOOMSPRAY SETUP

The first consideration of summer fallow weed control is to ensure the herbicide mix goes out correctly. Summer spraying often produces some of the most challenging conditions for herbicides to work – therefore having the right nozzles, operating pressures, Delta T, travel speed & water volumes to minimise drift and maximise target coverage is critical to achieving the best results. Every boomspray and situation is different so use tools like water sensitive paper & the Snapcard app to ensure that herbicides get to where they need to be.

FIND OUT MORE

Further information is available at www.sacoa.com.au or by contacting SACOA on 08 9386 7666 or contact your local SACOA representative.

REFERENCES

- GRDC – Summer Fallow Spraying http://tinyurl.com/l5a2hy2
- GRDC – Summer Fallow Weed Management Reference Manual http://tinyurl.com/paf7j86
- PIR(SA) – Conde of Practice, Summer Weed Control http://tinyurl.com/pdzbls6

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