Ecopar demo for late season wild radish control

Aim:

To evaluate Ecopar for controlling flowering & podding wild radish in pasture.

Background:

Wild Radish (*Raphanus raphanistrum*) is a weed of growing concern for many on the Northern Yorke Peninsula. It can have multiple germinations throughout the year and is increasingly becoming resistant to Group B and Group I herbicides. Resistance has been building through the use of cheaper herbicides (Metsulfuron) at rates that are often not enough to kill larger weeds. Often there are "escapes" in cereal crops that reach podding stage, this trial investigates rates and timings of Ecopar to scorch and kill these well developed plants.

Details:

Location:	Pt Broughton, Northern Yorke Peninsula, SA.
Researcher:	Leighton Wilksch.
Co-operators:	Colin Young, NSS Committee, Sipcam
Site:	Horse pasture with medic + soursob, assorted cereals & wild radish
Application Dates:	16th July – full flower. 18th August – late flower/early pod fill, 3rd September - 70% pods turning colour
Trial Details:	Replicated three times. Sprayed with 2m hand boom, 100L/ha water rate, 015 nozzles, 6kph walking speed. 2bar

Results:

Table 1. Summary of wild radish control (brown out)

Trt. No.	Treatment	Rate /ha	Timing	Brown Out % 33DAA Early Timing	Final wild radish control 14DAA late timing
T1	UTC			0	0
T2	Logran + Uptake	15g + 1.0%	A	78	80
T3	Ecopar + Uptake	250ml + 0.5%	A	82	85
T4	Ecopar + Uptake	500ml + 0.5%	A	97	95
T5	Ecopar + BS 1000	500ml + 0.2%	A	90	92
T6	Ecopar + Hasten	500ml + 0.5%	A	97	97
T7	Ecopar + Uptake	800ml + 0.5%	A	95	95
T8	Ecopar + Uptake	500ml + 0.5%	B	0	93*
T9	Ecopar + Uptake	500ml + 0.5%	C	0	85*
			CV	**6**	**5**
			LSD	**6.7%**	**7%**

All treatments are not on label
A = full flower
B=Post flower, early pod fill
C= 70% pods turning brown/yellow
DAA = Days After Application.
*High brown out score does not necessarily mean that seed in pods was not viable.

Ecopar demo for late season wild radish control

Discussion:
This demonstration showed the capacity of Ecopar to scorch up and control wild radish in this pasture situation. There was not a lot of shading from other plant species (see photo 1) so herbicide readily hit the target leaf. Application at timing 1 was at full flowering when earliest pods were starting to form (see photo 2)


Photo 1 site at time of early application with **photo 2** showing radish size & stage.

There was variation in control amongst the early application treatments. The use of Logran indicated that there is likely some level of group B resistance as brown out was poor compared to other treatments.

There was also a rate response with a better result being observed with the 500ml/ha rate compared to the 250ml/ha rate, however, using the 800mlha rate did not result in a 100% brown out. With high density radish populations, there will always be some shading of smaller plants by the bigger ones, so these small plants can survive and grow through to seed set.

Finally, the use of BS1000 gave a marginally poorer result compared to using Hasten or Uptake.

Applying later treatments of Ecopar had a remarkable effect on scorching off leaves and shriveling up pods. Photo 3 shows the Ecopar treatment applied at Post flowering when pods were starting to fill. The flowers have all been scorched off as well as the juvenile pods. The larger pods are visible, but are shriveled up too. These had no seed inside them, even though they appeared to have shriveled up around a seed.

The application of Ecopar at late pod fill also had a very visible response by scorching off any remaining leaves and juvenile pods. Photo 4 shows that most of the pods are also shriveled up. About 20 grams of pods were smashed up and then placed on wet cotton wool to observe if they would germinate. Three juvenile plants were observed

germinating from the crushed up seed pods demonstrating the hardiness of this plant and its capacity to reproduce even in the most challenging conditions. (Photo 5)

It must be highlighted that this demonstration is for concept evaluation only and is not meant to be a recommendation by any means. Please observe existing Ecopar label recommendations.

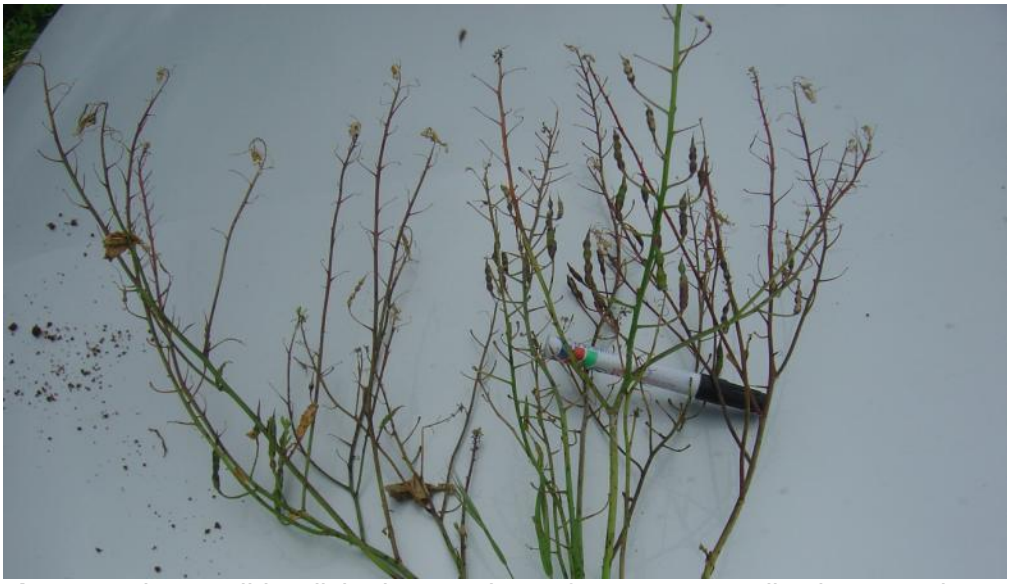

Photo 3. Shows wild radish plant 16 days after Ecopar application at early pod fill.

Photo 4. Shows wild radish plant 20 days after Ecopar application at late pod fill alongside an untreated plant.

Ecopar demo for late season wild radish control

Photo 5. Shows two germinating radish seeds extracted from the smashed up pods from the late Ecopar treatment.