

Canola – make every shot count

Prof Steven Powels from West Australia is an expert in the field of herbicide resistance management and he recommends that we should 'Make every shot count'.

This means that we must make sure that when we administer herbicide, it is done correctly to obtain the best possible results. In the case of canola, there are a relatively limited number of herbicides that can be used. Therefore it is even more important to follow his advice. Selection pressure leads to the build-up of resistance, and where the spraying needs to be repeated, the selection pressure is increased even more.

One of the most important products available for annual grass control in canola is trifluralin (trif). However, the efficiency of trifluralin is reduced with the increasing popularity of conservation farming and keeping the crop residue on the soil surface. The product binds strongly to any plant residues and is not washed away by water (rain). Very little product therefore ends up on the soil.

The trifluralin works through the roots of the grass plants and should therefore end up

in the weeds during the germination stage, before the plants appear above the ground. Furthermore, it is also broken down by the ultraviolet rays of the sun – another reason why it is very important for the product to be mixed with the top layer of soil directly after administration

What to do now?

Trifluralin gives the best results when sprayed broadly on the soil surface and then mixed thoroughly with the top 5 cm to 10 cm of the soil profile before the canola is planted. The current practice, where this product is mostly administered during the plant process in thick layers of crop residue, will at best ensure 70% grass control, and this percentage will drop with the increase in crop residue on the surface and/or where less product is mixed with the soil, for example where a disk-type planter is used. On the other hand, the practice described above should give 100% control if the topsoil mixing is done properly.

However, this means that stubble management in conservation tillage systems will have to be adapted where grass weeds are a

problem. Fields targeted for canola cultivation will have to be prepared differently in order to use the trifluralin efficiently. To reduce the previous year's small grain stubble, it could be baled or grazed by cattle.

An efficient practice in Australia is to put the chaff in a narrow lane and burn it. In this way, only a small area of the field is burned. This practice will also destroy a large percentage of weed seeds. Sometimes producers drag heavy tyres across the field to break up the residues and to level the soil. A once-off shallow tillage after spraying the trifluralin and before the canola is planted, can also be considered. Using the cutter and spreader on the combine harvester also helps to make the straw easier to work with and to spread it evenly across the field.

Producers who struggle to get rid of the annual grass weeds should decide what is more important to them – effective grass management in the canola phase that will not only increase canola yields because it is easier to establish small-seeded canola successfully when there is not much crop residue on the field, but will also reduce grass weed



problems in the follow-up grain crop, or the loss of ground cover (mulch in one out of four years).

The three other herbicide options that can contribute to ryegrass management are Kerb, Cysure and atrazine. Kerb is administered postemergence of the canola and ryegrass. The canola should be at two to three-leaf stage, and the grass preferably not further than two-leaf stage. Kerb needs a moist topsoil to enter the vapour phase and the soil should not be too loose, because it will support the deeper germination of weeds that cannot then be controlled successfully.

Although sulphonyl-urea (SU) resistance in ryegrass is common, there are still many producers who achieve acceptable control with Cysure. Only the Clearfield canola cultivars can be sprayed with Cysure. The canola should be past the five-leaf stage before Cysure is administered.

Atrazine can only be sprayed on triazine-tolerant (TT) cultivars. It can be administered with planting or early postemergence of the

weeds. The atrazine should be administered right before rain for best results, as the product is mainly absorbed by the weed roots and the rain will wash it into the soil. Atrazine should also control broad-leaved weeds like wild radish successfully. It is important to not actively administer more than 1 kg/ha of any triazine, as it will harm the subsequent grain crop to the point where the yield benefit that the canola is supposed to give will not be achieved.

Canola has various advantages as a rotation crop for small grains. It is now a cash crop in its own right, because the availability of hybrid cultivars has increased the yield potential significantly.

The fact that other chemistry groups can be utilised in canola than in the grain phase means that successful weed resistance strategies can be put in place. Good grass control in the canola can also save on expensive grass herbicides in the grain phase.

One of the most important properties of canola is the crop's ability to completely suppress later germinating weeds, which have

become an increasing problem, through a dense, strongly competitive leaf canopy that is already achieved during four to five-leaf stage. An even, dense stand of canola is extremely important, because weeds will flourish in any empty spots. This can be obtained by planting canola in narrower rows. In this way, the inner-row competition between canola plants, causing the young canola plants to die, is reduced. Producers should aim to keep 50 to 70 plants per square metre spread evenly across the field to ensure maximum yields.

Although the greater variety of products for grass control in canola facilitates successful weed control, it is still important to do everything right. **Make every shot count!**

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