

Don't over-dose on Sakura

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Don't over-dose on Sakura, is the message from weeds scientists and Bayer, the company releasing this important new soil activated pre-emergent herbicide.

Like all agricultural chemicals, it will need to be well managed if it is not to be 'lost' due to herbicide resistance within a few years. Conversely, if it is well managed by industry it could extend the effective life of other pre-emergence herbicides such as trifluralin.

Sakura – formally Sakura(R) 850 WG herbicide – is a pre-emergence herbicide that, according to Greg Skinner, Technical Advisory Manager with Bayer CropScience, offers consistently high levels of grass weed control under varying conditions including paddocks with substantial levels of carry-over stubble and provides more than 90% control of annual ryegrass, including populations resistant to other herbicides.

The active ingredient in Sakura is pyroxasulfone, a Group K chemical that is taken up through roots and shoots and inhibits seedling growth by disrupting the ability of susceptible plants to synthesise very long chain fatty acids. This affects growth of the coleoptile and growing point.

Sakura is formulated as a wettable granule (WG) and the concentration of 850 g/kg of active ingredient means an application rate of only 118 g/ha, Mr Skinner said.

It is currently registered for use on annual ryegrass, barley grass, annual phalaris, silver grass and toad rush in wheat and triticale.

It should be applied to soil that has not been cultivated and needs to be incorporated by sowing using knife point tines plus press wheels or harrows, not both, within three days of application at a speed that ensures treated soil is not thrown into adjacent crop rows.

Cultivation before Sakura application will bury weed seeds and usually result in reduced weed control, Mr Skinner said. Excessive surface variability such as ruts caused by vehicles can lead to concentration of the chemical in the depressions and leaching by the water aggregated there.

Sakura is ideally used immediately ahead



YORKE PENINSULA GRAIN GROWER ANDREW HOLLAMS CHECKS THE RESULTS ACHIEVED IN A 2011 SAKURA TRIAL.

of sowing but can be applied up to three days ahead of the seeding operation.

It does not bind strongly to plant residues so provides good control in paddocks with moderate stubble loads. However, high levels of residual organic matter on the soil surface will reduce control levels.

As a rule of thumb, it is inadvisable to use Sakura in paddocks where more than half the soil surface is covered with stubble or other organic matter. If the previous year's stubble is to be burnt it should be done

using a 'hot' burn several weeks before seeding because the residue from a 'cold' burn can create a physical barrier between the Sakura and germinating weeds, he said.

The residual activity of this new product varies with soil type and moisture levels, but tends to be greater than other currently available pre-emergence IBS herbicides.

Initial control levels may be reduced in sandy soils but the residual action of Sakura means it can control later-emerging weeds so final control levels are usually equal to or better than

comparable products, Mr Skinner said.

Bayer CropScience recommends that Sakura be used in rotation with other chemical and non-chemical weed control options, a stance supported by University of Adelaide weeds scientist Chris Preston.

A five-fold increase in the incidence of trifluralin resistance in ryegrass populations in the Wimmera and Victorian Mallee over the past five years highlighted the need to design herbicide strategies to minimise the risk of resistance and maintain the efficacy of valuable herbicides, Dr Preston said.

“The availability of Sakura will lessen the significance of trifluralin resistance in the short-term but it will be important to manage use of this new product to minimise the risk of weed populations developing resistance to it.”

Dr Preston described the solubility of Sakura, as far more soluble than trifluralin but less soluble than Boxer Gold.

This solubility means Sakura – and Boxer Gold – will move in the soil profile when there is moisture, so there can be greater risk of crop damage with these products if heavy rainfall occurs after application, he said.

Neither Sakura nor Boxer Gold will work if soil conditions are too dry, Dr Preston said, but Sakura is more persistent and can still have an effect up to three months after application, so it can control later-emerging ryegrass plants.

Chris Anderson, Bayer CropScience’s Senior Development Specialist, reinforced the resistance management message, saying it was important to not rely exclusively on Sakura but to use it as part of a planned integrated weed management (IWM) program. This approach has the potential to preserve the efficacy of the new product and extend the life of other pre-emergence herbicides such as trifluralin by easing the selection pressure on them.

It was also important to always use the full rate of Sakura to maximise weed kill and minimise the chance of escapes and resistance development, he said.

Sakura is compatible with a broad range of products but its use with minimal disturbance seeding equipment such as disc seeders is still being investigated.

The residual ability of Sakura means durum or oats cannot be grown in paddocks treated with Sakura in the previous growing season; with more than 21 months needed between the use of the product and sowing of these crops.

Sakura is registered for use in wheat and triticale but not durum, which is easily damaged by it. It appears to be generally safe on barley but may have a yield

effect in some varieties and this aspect is still being explored, Mr Anderson said.

It has little effect on established plants so emerged weeds should be controlled by an effective knockdown herbicide prior to planting the crop, he said.

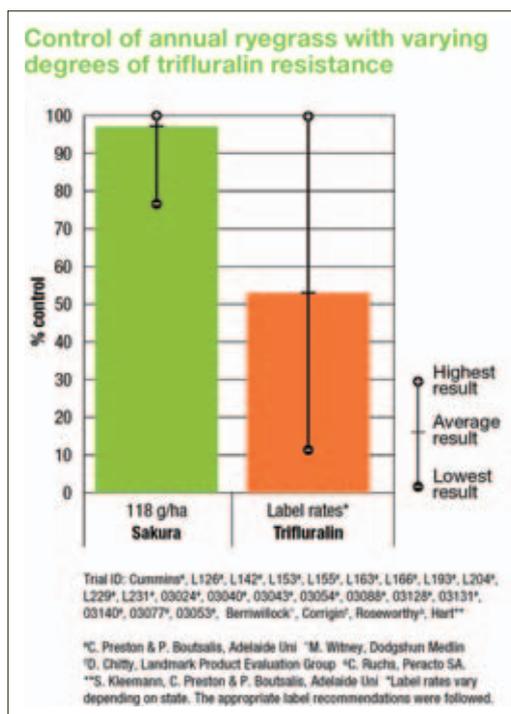
Sakura should not be applied if heavy rain is forecast to fall within 48 hours because heavy rainfall on sandy soil may cause movement of the herbicide out of the weed seed zone and reduce weed control.

Conversely, do not use the product if conditions are likely to be dry for two weeks after application.

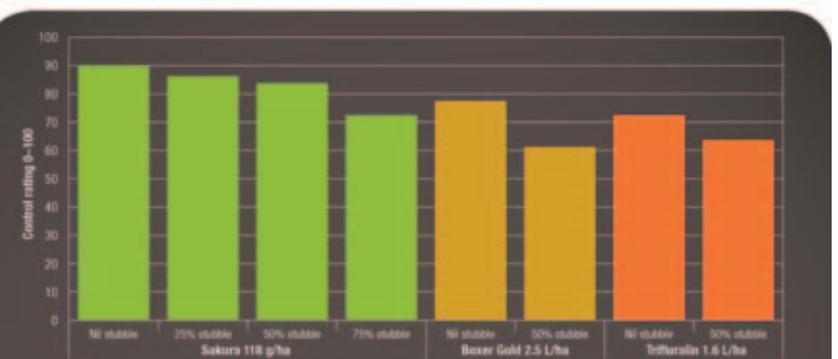
And always use the full label rate of 118 g/ha because reducing rates will compromise weed control and increase the risk of developing herbicide resistant weed populations, Mr Anderson said.

Sakura is compatible with commonly-used knockdown herbicides. For best results with tank mixes add the Sakura to the tank first and ensure it is fully dispersed before other products are added. It is also important to maintain good agitation before and during spraying.

For more information contact your agronomist or local Bayer CropScience representative.



Annual ryegrass control with different levels of stubble residue



In this trial there was little reduction in ryegrass control for Sakura in up to 50% stubble. Where there was 50% stubble cover, Sakura gave much higher control than Boxer Gold and trifluralin.

Photos of stubble levels in W07-107

