5 steps for effective pre-emergent spraying in stubble

Pre-emergent herbicides can be a highly effective tool for weed control in modern cropping systems. However, with the advent of minimum and zero tillage, stubble loads in paddocks are now greater - especially in high yielding crops - and can pose a challenge when applying pre-emergent herbicides.

BOXER GOLD® is a highly effective pre-emergent herbicide to control grass and broadleaf weeds in wheat and barley, and importantly, control Group D resistant ryegrass.

To get the most from pre-emergent herbicides including BOXER GOLD, growers can follow this practical guide to making sure BOXER GOLD and other pre-emergent herbicides are evenly distributed and as effective as possible.

**Step 1. Assess the density of crop stubble**

With minimum or zero till a common practice, the resulting stubble coverage can create a physical barrier to pre-emergent application. Whether the stubble is still standing or whether stock or equipment movement has flattened it will determine how easily the spray can reach the soil. Where there is greater than 40-50 per cent soil cover, weed control with many pre-emergent products is likely to be significantly reduced and growers need a good stubble management plan. Even if you choose to burn stubble off, the ash residue can also create a physical barrier to spray.

**BOXER GOLD should be applied:**

- Where there is less than 40-50% soil cover
- Preferably where the stubble is standing (not flattened)
With water rates greater than 70L/ha
Using a nozzle that produces coarse conventional droplets

Step 2. Check if there’s any weed residue
Weed residue from previous spray applications also shield the soil and can prevent spray droplets from reaching the soil surface evenly. It is also a risk that pre-emergent herbicides may bind to weeds. Hence, weed residue should be assessed with the same importance as stubble.

Step 3. Make sure you have the right nozzles
To make sure your spray in stubble is as effective as possible, you need a conventional coarse droplet. Conventional coarse droplets have a higher velocity than a similar sized AI droplet and tend to shatter more as they hit the surface, penetrating the stubble and improving soil coverage.

The Syngenta Vegetable Nozzle, or “stubble buster”, is a dual purpose nozzle designed not only for vegetable crops but also for pre-emergent soil applied herbicides like BOXER GOLD.

The “stubble buster” is a 65 degree flat fan nozzle, with the narrow spray angle reducing spray drift and spray retained on stubble or weed residue, maximising spray reaching the soil. If you prefer an AI nozzle to reduce spray drift further, the Syngenta AI nozzle is an effective choice. It delivers all the benefits of an AI nozzle while at the same time producing more drops per litre than any other AI nozzle on the market.

Step 4. Consider your equipment capabilities
Before spraying gets underway, it is important to check your equipment for maintenance needs and plan ahead for specific set-up requirements. Some spray equipment can handle stubble well, but you need to consider stubble management when setting water rates and boom height.

For better spray penetration, apply BOXER GOLD with water rates greater than 70L/ha. If you use a nozzle with a 65 degree spray pattern as recommended, you can set the boom higher (up to 80cm). In contrast, a 110 degree nozzle should be 50cm from the target.

Step 5. Take into account the effect of tank mixes
Tank mixing BOXER GOLD with either SPRAY.SEED® or glyphosate has been shown to improve the knockdown effect on seedling annual ryegrass.

When electing to make these types of applications, growers will need to assess the situation at hand. Growing conditions at application, the non-selective herbicide partner, seedbed conditions, stubble load and weather conditions all need to be taken into account. This is because the most effective application of BOXER GOLD may not always be the best application of knockdowns, and vice versa.