

A 'DIM' VIEW ON ANNUAL RYEGRASS

With the continued increase of annual ryegrass resistance to Group "A" herbicides, there is no time for complacency. The use of an integrated weed management strategy using herbicides like Factor can form an important part of this.

The golden rule of any resistance management strategy has not changed; with each **application ensure you get the highest level of weed control possible.**

After all these years what offers the best chance of achieving adequate control?

From research conducted by Crop Care, Plant Science Consulting, various agronomists and farmers, there is another option that growers can adopt.

FACTOR + Clethodim + SUPERCHARGE® Elite

FACTOR (250g/Kg butoxydim) is a unique, newly developed WG formulation that now has superior dispersion qualities. Although Factor acts in controlling weeds in a similar way to clethodim and is a "dim" herbicide, researchers have identified subtle differences and have demonstrated that even where **clethodim resistance occurs, Factor may offer control.**

Powles et. al. (2007 & 2009) have confirmed that 7 amino acid substitution mutations occur in annual ryegrass that are responsible for the resistance to the Group A herbicides, 'fops' and 'dims'.

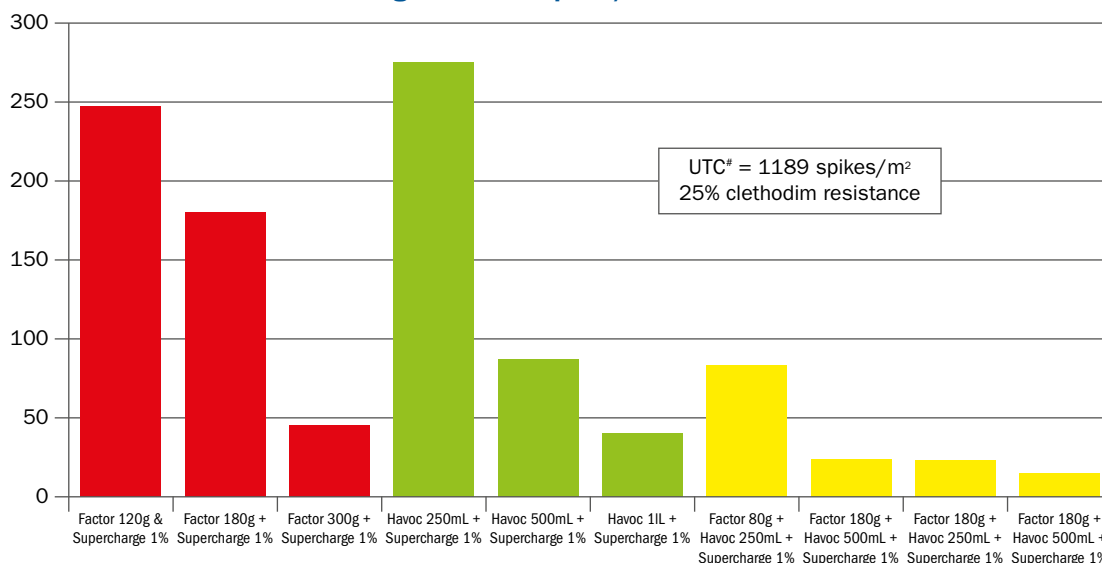
The mutation identified as "1781" is the most common mutation (Rr) and is responsible for stopping "fop"

chemistry working, but this heterozygous mutation is controlled by clethodim and Factor (butoxydim). Homozygous mutations (RR) of "1781" are not controlled by clethodim but about 50% of these are controlled by butoxydim (Yu & Powles, 2007). Further identified mutations "2088" and "2078" have relatively weak resistance mutations that result in a fitness penalty for the plant. Individual plants that carry these mutations are not as competitive with the crop as those ryegrass plants not carrying these mutations (Powles et. al., 2009). This research scientifically demonstrated that differences exist between clethodim and butoxydim. These differences have been observed in-field performance variation between these two actives and also confirmed in pot test results. It can also be concluded that the likelihood of economic control of annual ryegrass with Factor where 1781, 1999, 2018 and 2096 mutations occur is higher than for any other Group A herbicide.

Factor has rapidly become the product of choice for many growers that have higher than average annual ryegrass resistance levels, BUT ideally it should be used well before that point. Most areas that have annual ryegrass issues have some level of resistance, relying on just clethodim for control increases the risk of allowing escapes.

The best approach would be to adopt the "MIX" of clethodim + Factor + Supercharge Elite. This mix will offer the greatest chance of overcoming any of the "low resistance" mutations.

Figure 1: ARG Spikes/m² Mid North SA



*Highest registered rate of Factor is 180g/ha
#UTC = Untreated Control



