

# Productivity Highlights

6

No 6 October 2003

## Potassium applications - topdressed, drilled or banded?

### Background

Potassium (K) deficiency is common on deep acid sandy soils in high rainfall zones of WA, and is also becoming more common in other areas.

- Low K is usually corrected by topdressing Muriate of Potash (MOP) before sowing, as it is assumed that autumn rain rapidly washes it into the root zone.
- This may not be the case during dry conditions after sowing, when placing K near the seed may be more efficient.
- Potash can be toxic if applied at high rates near the seed.
- Low potassium supply can reduce seed size, and increase screenings in cereals and susceptibility to leaf disease.

CSBP has conducted 9 trials comparing the efficiency of K topdressed, drilled and banded in cereal crops.

### Key Results

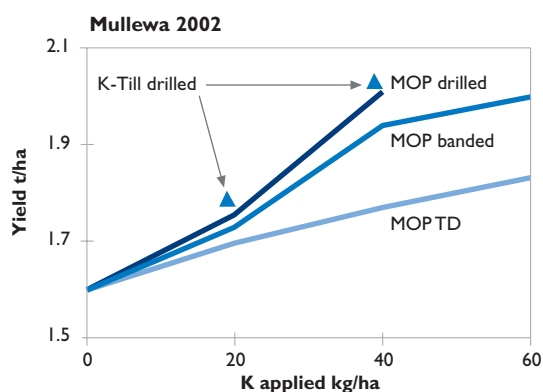
- Drilling 20kg K/ha or more on 22cm row spacings reduced plant density in several trials.
- Where K was banded below the seed by 3 to 4cm, the safety was improved considerably.
- In most cases, drilling or banding K improved early K uptake and growth compared to topdressing – often translating into yield increases.
- When K-Till Extra was banded or drilled with the seed, benefits were similar to Potash banded or drilled.

### Summary

- No more than 15 to 18kg K/ha is recommended when drilling K close to the seed depending on the row spacing.
- In acutely deficient soils, drilling K near the seed can improve its efficiency.
- In these soils where higher rates of K are needed at seeding and fertiliser is placed away from the seed, K-Till Extra and MacroPro Extra are ideal starter fertilisers.
- In slightly deficient soils, K-Till and MacroPro are useful starter fertilisers for maintaining K reserves in the soil.
- K-Till products eliminate the need for topdressing Potash in some situations.



K responses in a CSBP trial – note yellowing and poor growth on the right.



Symptoms of K deficiency appear on the oldest leaves in wheat.