



Challenges in meeting agronomic and environmental targets for phosphorus use in acid sandy soils

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Wattle Room: P use efficiency in mining, agriculture, food processing II



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| PBI range | Critical values (mg P/ kg) | | DRP at source (mg/l) | |
|-----------|----------------------------|-------|---------------------------|-------|
| | Temperate grazed pastures | Wheat | Temperate grazed pastures | Wheat |
| 0-5 | 10 | 7 | 76.2 | 7.6 |
| 5-10 | 15 | 10 | 1.6 | 0.46 |
| 10-15 | 20 | 12 | 0.77 | 0.22 |
| 15-35 | 25 | 16 | 0.24 | 0.12 |
| 35-70 | 29 | 22 | 0.10 | 0.08 |
| 70-140 | 34 | 29 | 0.07 | 0.06 |
| 140-280 | 40 | 38 | 0.05 | 0.05 |



- **Percentage P applied recovered in grains ~ 48% and grazed pastures < 30%**
- **Over 80% of 109,000 soil samples examined > CV for crops and pastures**
- **Little yield gains with P application**
- **Management options include:**
 - **lowering soil P to CV**
 - **ameliorating soils to increase PBI**
 - **split fertiliser application**
 - **using crops and pastures with lower external P requirement.**

