

The Benchmark for Paraquat Performance in Australian Conditions

KELPIE® P-QUAT ADVANCE, 250g/L Paraquat & 10g/L Amitrole, is a non-selective post emergent herbicide absorbed by plant foliage, providing broad-spectrum control of broad-leaved weeds and grasses in crop and pasture situations.

The two actives, Paraquat and Amitrole, are able to inhibit both the photosystem 1 and carotenoid biosynthesis pathways in a plant. The two modes of action have proven to be complementary in their effects. The internal plant metabolism of Amitrole delays the direct action of the Paraquat. This activity promotes broader translocation of the Paraquat active within the target resulting in a greater Paraquat burn and delivering greater weed control.

KELPIE® P-QUAT ADVANCE PRODUCT FEATURES



KELPIE P-QUAT ADVANCE has a unique co-formulation. The Amitrole active slows down the uptake of Paraquat which allows greater translocation of the active. Traditional Paraquat formulations burn down quickly often allowing larger more difficult weeds to recover. This co-formulation increases control efficacy especially on larger weeds.

Manage Glyphosate Resistance

KELPIE P-QUAT ADVANCE incorporates group L and Q herbicides with both a photosystem I inhibitor and an inhibitor of carotenoid biosynthesis modes of action. This cost effective formulation with leading market performance provides an alternative mode of action to glyphosate.

Optimal Performance

KELPIE P-QUAT ADVANCE contains a unique quality surfactant to provide optimal performance. This proprietary blend of Paraquat and Amitrole contains no Ammonium thiocyanate.

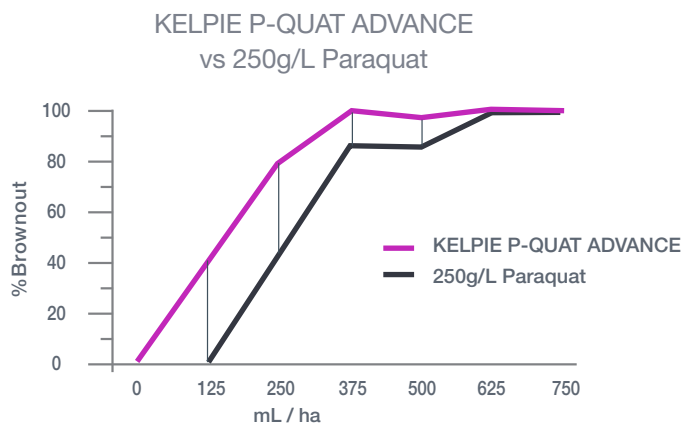
Compatibility

KELPIE P-QUAT ADVANCE is tank mix compatible with atrazine and simazine. It is also compatible with Penetrate Wetter, Diquat, Dicamba 500g/L, 2,4-D Amine, MCPA 500, Chlorosulfuron 750g/kg, Oryzalin/Trifluralin 250g/L.

Independent Trials

Independent trials conducted by Dr Peter Boutsalis of Plant Science Consulting in Adelaide, South Australia found KELPIE P-QUAT ADVANCE to have superior control percentage of annual ryegrass to 250g/L Paraquat at a range of doses under controlled conditions.

Figure 1: (right) Dose response as measured by the percentage burndown, of Annual Ryegrass to applications of KELPIE P-QUAT ADVANCE and 250g/L Paraquat at a range of doses under controlled conditions 26 days after treatment (DAT).



In another trial conducted by Dr Peter Boutsalis of Plant Science Consulting in Adelaide, South Australia the Lethal dose 50% response of annual ryegrass, wild radish and silver grass to KELPIE P-QUAT ADVANCE, 250g/L Paraquat and 135g/L Paraquat + 115g/L Diquat was compared.

The results demonstrated an above average improvement in efficacy of **25%** over 135g/L Paraquat + 115g/L Diquat and 250g/L Paraquat.

KELPIE P-QUAT ADVANCE vs 135g/L Paraquat + 115g/L Diquat and 250g/L Paraquat

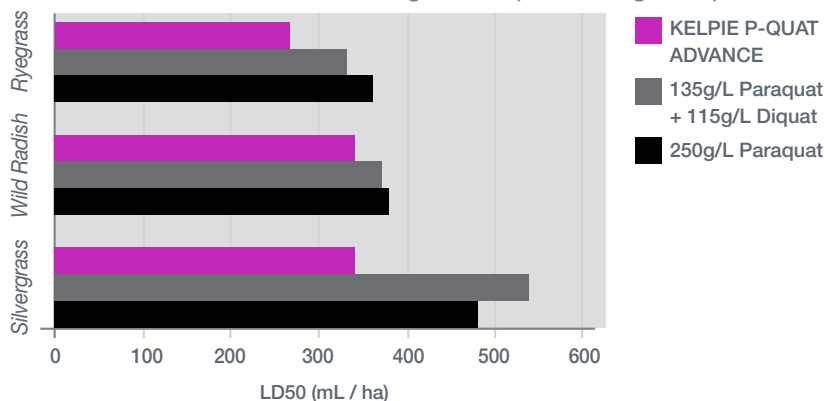


Figure 2: Calculated Lethal Dose 50% response (LD50) of Ryegrass, Wild Radish and Silvergrass to KELPIE P-QUAT ADVANCE, 250g/L Paraquat and 135g/L Paraquat + 115g/L Diquat.

Source: Boutsalis P, 2014

Full label rates should always be applied to reduce the chance of resistance developing. In challenging spraying conditions there is potential for a sub-lethal dose leading to reduced herbicide efficacy.

Trials assessing the brownout percentage of general fallow weeds at various trial sites supported that KELPIE PQUAT ADVANCE applied at 75% of the Paraquat 250 rates consistently provided equivalent or better control.

KELPIE P-QUAT ADVANCE vs Paraquat 250 on Sowthistle

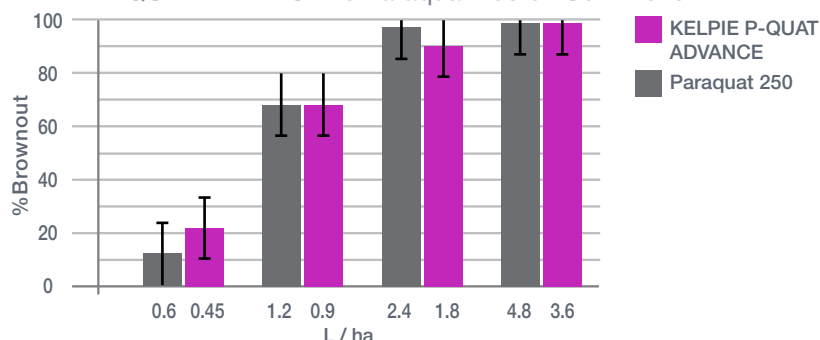


Figure 3: Comparative efficacy of KELPIE P-QUAT ADVANCE (Pink) applied at 75% Paraquat 250 (Grey) rates on Sowthistle (*Sonchus spp.*) as assessed by percentage brownout (inc LSD) 25 days after treatment (DAT) at Padthaway, SA.

Source: Kalyx 2015, KA 15-0999

KELPIE P-QUAT ADVANCE vs Paraquat 250 on Flaxleaf Fleabane

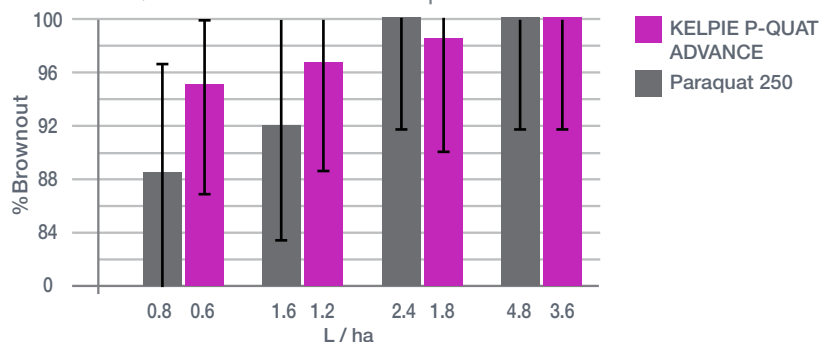


Figure 4: Comparative efficacy of KELPIE P-QUAT ADVANCE (Pink) applied at 75% Paraquat 250 (Grey) rates on Flaxleaf Fleabane (*Conyza bonariensis*) as assessed by percentage brownout (inc LSD) 15 days after treatment (DAT) at Narrabri, NSW.

Source: Eurofins Agrisearch, 2015

Application

- Application must be of medium spray quality.
- Avoid spraying plants under stress from waterlogging, frost and drought or covered with dust and soil.
- KELPIE P-QUAT ADVANCE is inactivated by soil or heavy dew.
- KELPIE P-QUAT ADVANCE contains wetting agent.