Flaxleaf fleabane (Conyza bonariensis) is a major weed of the cropping regions of southern Queensland and northern New South Wales and is a developing problem weed in southern and western states. It has become more of a problem weed following the widespread adoption of minimum tillage farming, as it is a weed favoured by reduced tillage.

**FLEABANE CHARACTERISTICS**

Fleabane is a prolific seeder and is capable of producing in excess of 350,000 seeds per plant. For this reason a seed bank can build up if no control measures are put in place or if control measures are inadequate.

The majority of the fleabane will germinate in the top 2cm of soil, with most germinating on the surface and to a depth of 0.5cm. Very little fleabane germinates from below a depth of 2cm. It is sensitive to burial, but can have longevity in the soil for about three years. It is generally more common on lighter soil than heavy soils.

Fleabane will generally germinate year round but favours germination in the autumn and spring when the temperature is between 10 and 25° and following significant rainfall events.

The key to good fleabane management is applying control measures in both the fallow and in crop, particularly in winter cereals. Fleabane rosettes germinating in autumn and winter appear to grow slowly, however their roots continue to grow rapidly to depth in the soil to absorb available moisture (Figure 1).

During this period and in the cooler months, fleabane plants are harder to control due to this strong root reserve. In spring and summer they grow quickly with increased temperature and available soil moisture. Fleabane will often suffer plant stress due to the more difficult growing conditions, making them even harder to control. Later flowering fleabane is common in late spring and early summer and is often evident in fields or paddocks once winter cereals have been harvested (Figure 9).

**Amicide® Advance 700** is now registered for fleabane control in fallow as well as in wheat and barley.

Use rates in fallow range from 0.65 to 1.1L/ha, while the in crop use rate of 1.4 L/ha (see label for details).
CONTROL STRATEGY

The best strategy for managing fleabane is to target small, young weeds 4-6 weeks after germination (Figure 2). Targeting fleabane at the rosette stage, when the plants are small and young is the key to achieving consistently good control. Fleabane is a tap rooted plant and although the rosette may look small it may have significant tap root reserves, which can make control difficult.

Selecting the correct strategy for control of fleabane will depend on the size of the weeds. Against cotyledon to 12 leaf rosettes good control can be achieved with an application of Amicide Advance 700. The addition of weedmaster DST® will improve control and sequential application of Crop Care Shirquat® can be applied to control surviving plants and any new germination.

Once plants have begun to elongate or are flowering, then the control strategy should consist of weedmaster DST + Amicide Advance 700, followed by Shirquat 7-14 days after initial treatments. A single application of weedmaster DST + Amicide Advance 700 may not be sufficient, particularly under harsh growing conditions.

Trial data presented in Figure 4 indicates when targeting small rosettes (cotyledon to 12 leaf) more consistent control was obtained with the tank mix of 0.65 to 1.1L/ha Amicide Advance 700 plus weedmaster DST compared to Amicide Advance 700 applied alone. The sequential application of Shirquat improved the level of control as well as controlling some new germinations of fleabane.

Figure 2: Target young seedling with a small tap root

Figure 3: A & B – (a) Fleabane preferred target growth stage is about 4-6 weeks after germination and (b) 55 days later the seedlings look small, but have a large tap and are more difficult to control.

Summary of 3 x winter (small) and 4 x spring/summer (large) trials

Figure 4: Fleabane control strategy. Source: Nufarm 2012
Against elongating to flowering plants (often targeted in the spring and summer) high levels of fleabane control was achieved with a tank mix of Amicide Advance 700 plus weedmaster DST followed by a sequential application of Shirquat (Figure 5). The preferred interval between the two applications should be 7 to 14 days.

**TOP TIPS FOR GOOD CONTROL**

- **Timing/weed size**
  Fleabane can be a difficult weed to control once it passes the rosette stage, so target weed age rather than size. Best results are obtained when post emergent treatments are applied to young weeds 4-6 weeks after a germinating rain. Older, small weeds may have a significant taproot even though the above ground part of the plant is small. Adopt a sequential application strategy to maximise control of larger fleabane.

- **Coverage**
  Increase application water volume to improve coverage - stubble, crop residues and old fleabane skeletons (Figure 6) often shade fleabane seedlings making coverage difficult. Split applications may need to be considered to ensure adequate control. To maximise coverage, a minimum of 70L/ha of water applied as a coarse spray quality, or greater, should be used.

- **Moisture stress**
  In the summer, fleabane plants are often subject to high temperatures and moisture stress (Figure 7). Plant stress will reduce the effectiveness of herbicide application. Herbicide uptake can also be reduced by a reduction of leaf area due to drought stress.

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**Figure 5:** Mature fleabane control with Amicide Advance 700 + glyphosate, followed by Shirquat (Macalister, QLD).

**Figure 6:** Coverage can be compromised by stubble or plant skeletons (Brookstead, QLD).

**Figure 7:** Fleabane suffering moisture stress (Oakey QLD).
• **Moisture loss**
  If not controlled, fleabane will use available stored moisture (Figure 8). If fleabane is not controlled in the fallow, it can have a significant impact on the establishment and subsequent yield of the following crop. Figure 8 below demonstrates the effect of poor fleabane control in the fallow on the establishment of the next cereal crop.

![Figure 8](image)

*Figure 8:* Poor fleabane control can lead to reduced germination in the following crop (Moree, NSW).

**In crop weed control**
Controlling fleabane in winter cereals needs to be considered. A lack of in-crop control strategies can lead to significant fleabane problems in the fallow over the summer (Figure 9).

![Shirquat](image)

*Figure 9:* No control in the winter crop can lead to potential problems in summer fallow (Cecil Plains, QLD).

While a relatively new weed for many, fleabane can be reliably controlled with the correct program in place. Timely control shortly after germination will provide reliable weed control in fallow situations with weedmaster DST and Amicide Advance 700. Older fleabane will require a sequential application of Shirquat for reliable control.

For more information on Amicide Advance 700, contact your local Nufarm Area Sales Manager.

**nufarm.com.au**

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