



Tech Note



PRODUCT OVERVIEW

Hammer 400® Herbicide was launched in 2011, replacing Hammer 240. Hammer 400 has shown to be a highly effective and versatile tool for broadacre use prior to establishing winter and summer crops or commencing fallows. When used in combination with knockdown herbicides, Hammer significantly increases brownout and improves control of hard to kill weeds such as marshmallow, capeweed, Paterson's curse and wild radish.

How Does Hammer 400 work?

Hammer 400 is a non-residual, contact herbicide that is readily absorbed by green leaves and stems of broadleaf plants, with no translocation within the plant to roots or to other, unsprayed leaves. When used at the label rates, Hammer has no residual activity from herbicide that falls onto soil.

The active constituent in Hammer 400 (Carfentrazone-ethyl) is a unique herbicidal molecule that interacts with the plant's photosynthetic system to form highly active compounds. These compounds rupture the plant cell membranes, resulting in the cell contents leaking out which causes rapid cell death. Because this mode of action is connected with photosynthesis, sunlight is essential for expression of herbicidal activity.

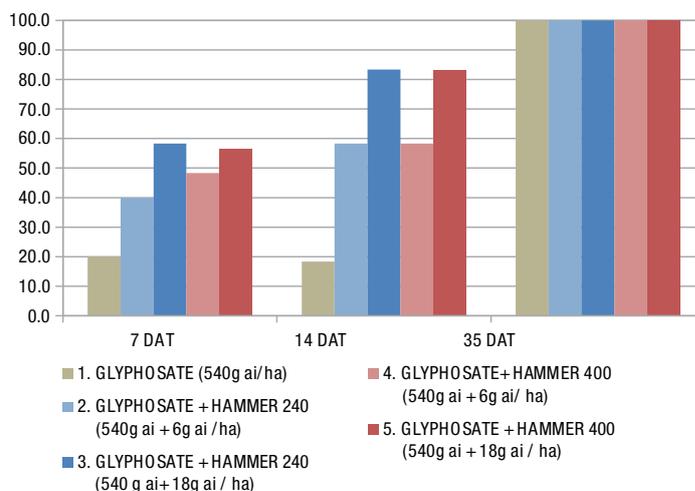
Hammer is not translocated from where spray lands on susceptible green leaf and stem tissue. Broadleaf species are most sensitive, while grasses are usually unaffected. Hammer is classified as a Group G herbicide.

Using Hammer 400 With Knockdown Herbicides

Hammer 400 shows robust and consistent control of hard-to-kill broadleaf weeds. Hammer 400 has excellent compatibility with glyphosate and paraquat based herbicides for broad spectrum weed control.

Here is a collection of trial results showing the difference between a glyphosate spray (all glyphosate used here is a surfactant loaded 540 g product) compared to the addition of Hammer 400. The previous Hammer 240 formulation has been included as a reference point.

Marshmallow Control

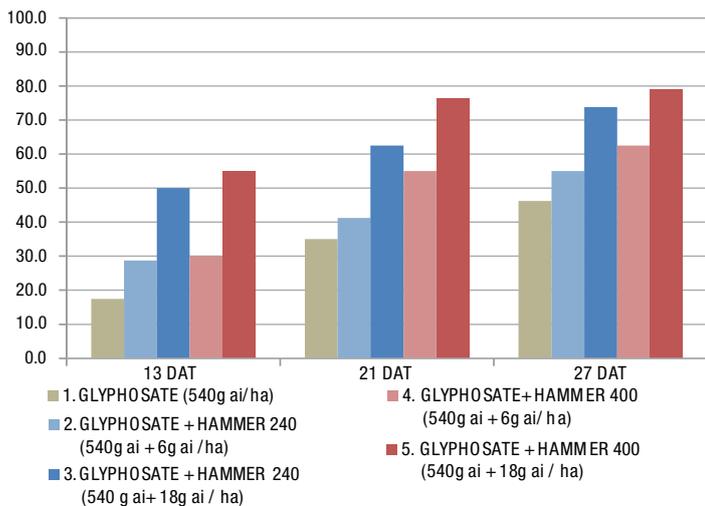


Source: Agrisearch Services Horsham VIC



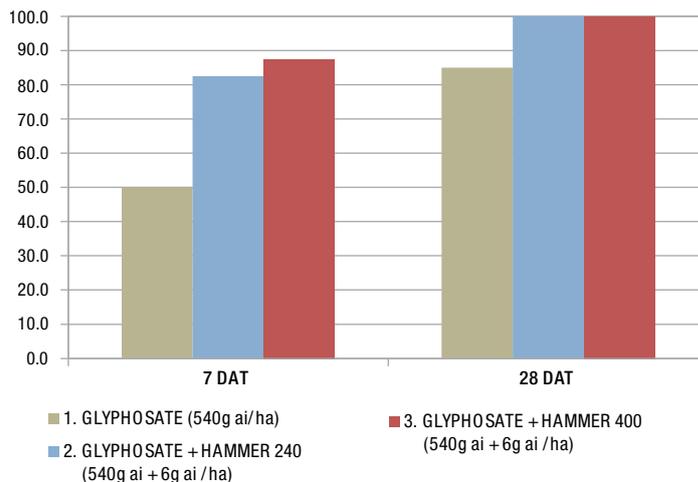
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Three Cornered Jack Control



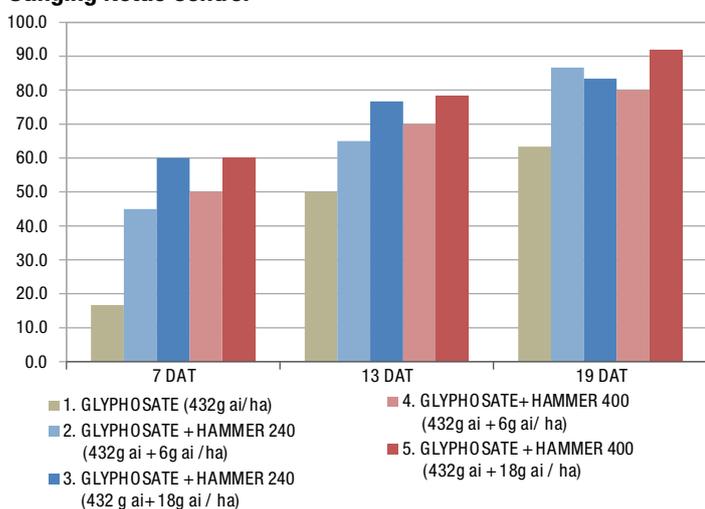
Source: Agrisearch Services Roseworthy SA

Three Cornered Jack Control



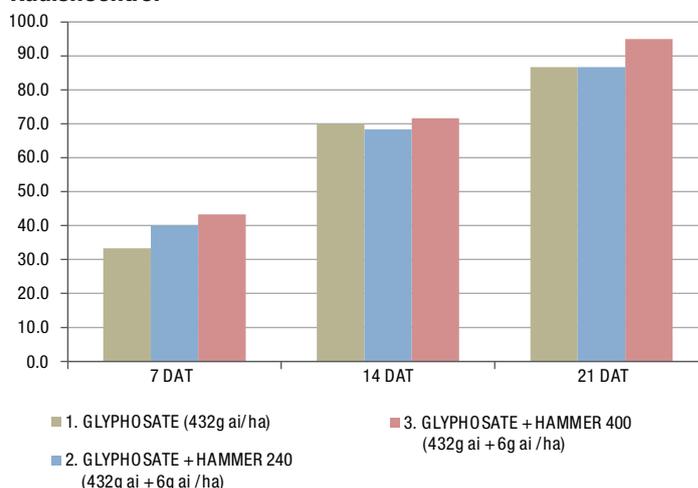
Source: Agrisearch Services York WA

Stinging Nettle Control



Source: Agrisearch Services Werribee

RadishControl



Source: Agrisearch Services Pearcedale VIC

OPTIMISE PERFORMANCE OF HAMMER

- Climatic conditions that favour good steady weed or plant growth and hence optimum enzyme activity within the plant cells also favour the activity of Hammer. Conversely, applying Hammer to plants that are not actively growing due to cold or heat stress or too little or too much moisture can lead to a reduction in control.
- If plants have been moisture stressed, delay application until after rainfall or irrigation and ensure weeds or suckers have resumed steady growth. Weeds don't have to be obviously wilting to be under dry stress which can limit control by Hammer.

TIP

To test for dry stress, dig up weeds and check for adequate moisture in the root zone. Is soil adhering to the roots or does it fall away? Can you make a ball of soil in your hand from soil below the roots? If not, then enzyme metabolism in the weeds may have shut down

and they will be less responsive to Hammer. Weeds don't have to be obviously wilting to have shut down. The onset of dry stress is usually faster on lighter soil types which can vary across a paddock.

- Hammer has a rapid rainfast period of only one hour. However, when tank mixed with another herbicide, observe the rainfast period for the second other herbicide as well.
- Hammer is a contact herbicide, so ensure that the recommended water volume is applied to give thorough coverage of leaves and stems for optimum control.
- Use good quality water, preferably in the pH range of 5 – 7. Cold water will not affect the performance of Hammer.
- Target smaller, young weeds which are usually more susceptible than older, larger weeds. Older, hardened leaves are slower to respond to Hammer as a result of reduced enzyme activity.

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