

WEEDpak updated with new management tools

WEEEDpak, the industry guide for integrated management of weeds in cotton released in 2002, has been updated to include new management tools for important weeds including cowvine and bellvine, and for handling weeds in cover and rotational crops such as pigeon pea and vetch.

Graham Charles, a weed expert with NSW DPI and the Cotton CRC, said weeds directly impact on cotton production by competing for water, nutrients and light, and can contaminate fibre and seed production.

They also act as hosts for both insects and pathogenic organisms that have adverse impacts on cotton production, and they reduce the efficiency of various operations such as picking.

The management of weeds imposes a significant cost burden on growers particularly as they aim for environmental sensitivity while reducing the risk of weeds developing herbicide resistance.

He said the weed identification section of WEEDpak has also been progressively updated with improved images of many of the original weeds, and a doubling of the number of weeds covered.

Cowvine is an annual weed that grows over the warmer months. Seedlings emerge all year round following rain, but are killed by frosts. A flush of cowvine seedlings normally occurs after every rainfall and irrigation event, even in mid-winter.

Cowvine can be controlled by cultivation and a range of herbicides. It is not easy to control in a farming system due to a number of characteristics, including:



Bellvine in cotton field.

- Strong seed dormancy;
- Long seed life in the seedbank;
- Ability to germinate rapidly after rain, all year round;
- Rapid seedling growth;
- A short generation; and,
- A twining growth habit, making larger plants difficult to control with inter-row cultivation.

An effective cowvine management system will use all the available control options (cultivation, chipping and herbicides) in combination.

Bellvine is an aggressive, highly competitive annual weed that can grow through and over a cotton crop and can tangle inter-row and harvesting equipment.

Very high densities of bellvine seedlings can emerge with the cotton crop, and successive germinations may occur throughout the season. Bellvine plants do not flower and set seed until late summer and autumn, but are capable of producing very large numbers of seeds.

A bellvine problem can be greatly reduced by good management over a couple of seasons, provided no plants are allowed to set seed.

Summer fallows and rotation crops such as sorghum may give the best opportunity to manage bellvine, which is readily controlled by cultivation and herbicides in fallows, but is very difficult to control in cotton.

Pigeon pea is useful as a trap crop and refuge for beneficial insects. A range of herbicides are now available for use with pigeon peas, but may only be used on pigeon peas that are not used for human or livestock consumption.

Weeds in pigeon peas can be best managed using a pre-planting application of prometryn or Sencor and either trifluralin or pendimethalin, and postemergence applications of prometryn as a directed spray or Sencor, or one of the selective grass herbicides listed.

Vetch is being increasingly grown as an alternative rotation crop for cotton, capable of adding large amounts of nitrogen to the soil. Weed management in vetch is problematic, with few registered herbicides for pre-planting applications, and no herbicides registered for controlling broad-leaf weeds in vetch, or for controlling vetch prior to planting cotton.

Vetch should be sown into a clean seedbed, with weeds controlled prior to planting with cultivation and/or herbicides. A wide range of products are registered for controlling weeds in fallows and for controlling grass weeds in vetch.

**Further information: Graham Charles NSW DPI
Ph: 02 6799 1524.**



Vetch is being increasingly grown as an alternative rotation crop for cotton.