

Efficacy trials to control thrips

By Jianhua Mo

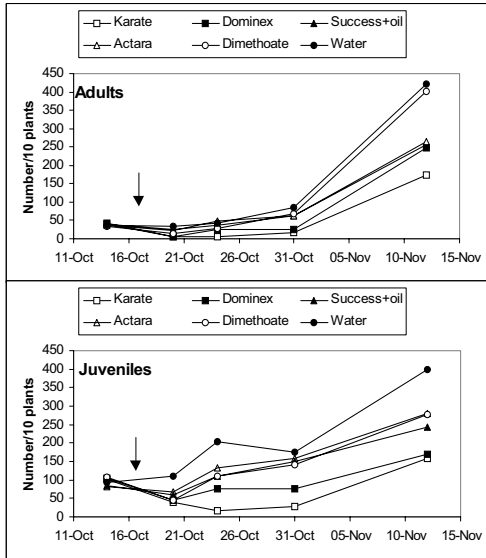


Figure 1. Number of onion thrips per 10 plants. Arrow indicates the spray time.

Collection of residue data is included in the new thrips project coming into effect from this year. For more information contact Dr Jianhua Mo, Research Entomologist at Yanco Agricultural Institute on (02) 6951 2537.

A field trial was conducted during October-November 2003 to test the efficacy of four unregistered chemicals, Karate® (40 mL/ha), Dominex® (130 mL/ha), Actara® (400 g/ha), and Success® (400 mL/ha) for onion thrips control in bulb onion along with the industry standard Dimethoate (800 mL/ha). The results showed that Karate® and Dominex® caused >50% reductions of onion thrips (both adults and juveniles) as compared with the untreated control, with Karate being the most effective. Dimethoate showed significant control of onion thrips seven days after the spray but not on the other post-spray inspection dates. Actara® and Success® did not show significant control of onion thrips.

Karate® is not yet available for use against onion thrips in onions in the mainland states. Australian Pesticides & Veterinary Medicines Authority (APVMA) has indicated that it may be willing to consider a temporary permit application for this chemical if sufficient residue data is supplied. Valid overseas data may be acceptable. Karate® is registered in New Zealand for onion thrips control in onions and there are some other residue data from overseas. The project team will work with Syngenta to prepare the temporary permit application. For more permanent permit or registration, local residue data is needed.

Windbreak protection for melons

By Gerard Kelly

Small melon seedlings and plants are very susceptible to damage by strong winds. An array of damage can occur including uprooting of plants, twisting of stems, plants sliding around on plastic mulch, plants rolling over, sandblasting, tearing and tattering of leaves and fruitlet drop. Sandy soils are worst as the fine particles cause severe abrasion damage to young leaves and stems. Windbreaks can prevent some of this damage as they offer protection 6 to 10 times their height. Annual windbreaks such as cereals or sudax are suited to use in the field and can be slashed down, sprayed with a knockdown herbicide and can be hoed in during or after the melon crop. Permanent trees are suited to planting around the perimeter of fields or sides where the strongest winds prevail from.

In the **Sunraysia** region, cereal rye is commonly used as a windbreak. It is sown around May or June, at least two months before the melons are planted. The windbreak is sown in about 90cm wide strips. The windbreaks are spaced as close as 3 metres (every row) but more commonly are spaced 8 -10 metres or greater (every 3 - 4rows of melons). A base fertilizer of MAP is used and drip or sprinkler irrigation helps get the windbreak established.

When the cereal rye grows reaches about 1 metre in height the tops are slashed back to around 60cm height (just below head height as the heads start to set seed). A knockdown herbicide is sprayed to prevent further growth of the windbreak. The management of height also allows tractor access for spraying the melons. As the runners extend outwards, the windbreak is then slashed down to around 15cm height and may even be hoed in leaving rough stubble. For more information on windbreaks contact Gerard Kelly, District Horticulturist at Dareton, on (03) 5027 4409



Windbreaks offer protection 6 to 10 times their own height



Seedless watermelon trial

By Stephen Wade and Greg Kocanda

The market for seedless watermelons has expanded in recent years due to improved varieties, aggressive marketing and increased consumer demand. To evaluate the latest varieties (see Table 1), a trial was planted at Jamie and Marie Schembri's property "Greenview" near Cowra.

Table 1. Seedless watermelon trial varieties.

| Variety | Company | Shape | Skin Colour |
|-------------|------------------------------------|---------------|---------------------------------------|
| Armarda | Lefroy Valley | oval | dark green skin |
| Arwok | Ace Seeds | oval | dark green stripe, light green skin |
| Banquet | Syngenta | round to oval | dark green skin |
| Barossa | Hendersons | oblong | light green stripe, dark green skin |
| Black Adder | South Pacific Seeds | oblong | dark green skin |
| Bundy | Syngenta | round to oval | dark green skin |
| Classic | Jarit | oval | medium green stripe, light green skin |
| Cutwell | Jarit | oval | medium green stripe, light green skin |
| Kryptonite | Terranova Seeds | round | dark green stripe, medium green skin |
| Nightshade | Jarit | round to oval | medium green skin |
| Pinto | Lefroy Valley | round to oval | dark green stripe, light green skin |
| Prado | Westranell Horticultural Solutions | round to oval | dark green stripe, light green skin |
| Red Back | South Pacific Seeds | round | dark green stripe, medium green skin |
| Silhouette | South Pacific Seeds | oval | dark green skin |
| Tara | Hendersons | round | dark green stripe, light green skin |

The trial was located near the Lachlan River on a red brown earth soil. It was transplanted on the 4th December, 2003. A seeded watermelon variety (Red Tiger) was planted every fourth row to pollinate the seedless varieties. The transplants were sown on 1.5 metre wide raised beds, with one row per bed and one metre plant spacings. The seedlings were grown on black plastic mulch with surface drip irrigation. The melons were harvested on the 11th February, 2004. Due to the seasonal conditions and powdery mildew, the trial only had a 70 day growing season before harvest.



Table 2. Seedless watermelon trial results.

| Variety ¹ | Total Yield (tonnes/hectare) | Market Yield ² (tonnes/hectare) | Fruit Size (kilograms) | Fruit per Plant |
|----------------------|---------------------------------|---|---------------------------|------------------|
| Red Back | 101.2 | 71.6 ^a | 4.4 | 4.6 ^a |
| Nightshade | 97.3 | 76.3 ^a | 4.6 | 4.3 ^a |
| Arwok | 95.4 | 80.0 ^a | 5.3 ^a | 3.6 |
| Black Adder | 94.5 | 70.3 ^a | 4.5 | 4.1 ^a |
| Silhouette | 92.1 | 71.5 ^a | 4.9 | 3.8 |
| Pinto | 91.1 | 64.6 | 4.3 | 4.6 ^a |
| Kryptonite | 90.9 | 73.3 ^a | 5.2 ^a | 3.6 |
| Cutwell | 90.0 | 73.5 ^a | 4.8 | 3.8 |
| Classic | 86.6 | 75.7 ^a | 5.1 ^a | 3.4 |
| Banquet | 84.6 | 68.2 ^a | 4.6 | 3.8 |
| Armarda | 82.6 | 62.6 | 4.8 | 3.7 |
| Tara | 82.3 | 51.0 | 3.7 | 4.5 ^a |
| Prado | 78.7 | 53.5 | 4.2 | 3.7 |
| Bundy | 77.0 | 54.5 | 4.3 | 4.0 ^a |
| Barossa | 76.7 | 63.5 | 5.5 ^a | 3.1 |
| Average | 88.1 | 67.3 | 4.7 | 3.9 |

1. "a's" are the best performing varieties for each trait. 2. Market Yield - fruit larger than 4 kilograms.

There were no statistical differences between varieties for the total yield results (see Table 2). Arwok, Nightshade, Classic, Cutwell, Kryptonite, Red Back, Silhouette, Black Adder and Banquet had the highest market yields. Barossa, Arwok, Kryptonite and Classic had the largest fruit size. Red Back, Pinto, Tara, Nightshade, Black Adder and Bundy had the greatest number of fruit per plant. For further information, please contact Stephen Wade at Bathurst on (02) 6330 1216 or Greg Kocanda at Canowindra on 0428 442 349.