Farm Survey

Type of Farming System

Conventional.

Products used in trial

Bactivate

Bactivate BioBoost+

Bactivate SeaweedSolution+

Background

Monbulk Nursery was approached for the trial in order to establish a successful propagation regime. The owner wanted to compare the strike rates between two seaweed solutions (one was Bactivate seaweed solution).

The aim of the trial include:

- Improve on the quality of stock
- Suppress pathogens to reduce and eliminate attrition
- Increase root system and overall growth
- Decrease input costs

Three separate trials were designed to evaluate the effectiveness of Bioactive Soil Solution program:

Business Name: Nursery (Monbulk)

Crops grown: Buxus, Liriope, Diosma

Farm Data

Location: Monbulk, VIC

Fig 2. Diosma batch treated with the full Bioactive program

Trial 1

New Buxus cuttings experiment where treatments were:

1. Buxus cuttings dipped in Seaweed solution 'X' and potted.
2. Buxus cuttings dipped in Bactivate Seaweed Solution and potted. Media contains Bactivate and Bioboost.

Trial 2

Liriope Batch trial had the following treatments in media:

1. Seaweed solution 'X' + slow release chemical fertiliser
2. Control, slow release chemical fertiliser
3. Bactivate + slow release chemical fertiliser
4. Bactivate + Bioboost + Bactivate Seaweed solution + slow release chemical fertiliser
5. Bactivate + Bioboost + Bactivate Seaweed solution + slow release chemical fertiliser

Note: Treatment 4 and 5 were identical. During the trial, Bactivate was top dressed and not prepared at the propagation stage.

Trial 3

Diosma Trial used the full program (Bactivate + Bioboost + Bactivate Seaweed solution) to combat needle drop in humidity caused by pathogen.

Bactivate applied to the potting media at rate of 6.25Kg per m3. BioBoost+ applied at 350ml per m3 and Seaweed Solution applied at 200ml per m3 as a foliar spray mixed in together.

Observed benefits

Over three weeks, the Buxus cuttings had already shown a distinct difference between the treatments. The treated pots were top dressed well after they were transplanted into larger pots.

For the Liriope batch trial, the Bioactive Soil Solution program was displaying advanced growth compared to the control and the batch treated with seaweed solution 'X' (Treatment 1). Two Liriope plants from the treated stock and two from the untreated stock were randomly chosen for inspection (Fig 1). There was clear evidence that the treated stock displayed more advanced root systems and had no signs of pathogen damage.

Trial 1

Over 3 weeks, the Bactivate Seaweed Solution treated buxus displayed a distinct increase in growth. Top dressing of fertiliser was also not required in the Bactivate Seaweed Solution pots, while the other seaweed treatment pots required top dressing.

Trial 2

Two liriope plants from treatment 4 & 5 stock and two from the untreated stock (treatment 2)….

After the last line add "…pathogen damage, while the two from treatment 2 displayed brown, stunted root systems, indicating pathogen attack."

Fig 2. Bactivate treated (left) conventional (right)

Trial 3

When the diosma were ready for sale, the Bactivate Program treated stock displayed no needle drop at all. The untreated stock continued to drop needles. This is a clear indication that the Bactivate Program has achieved success by strengthening the root system and developing a healthier, stronger plant.

Fig 1. Liriope untreated displaying pathogen attack (left) and Liriope treated with Bioactive Solution program displaying healthier root system (right)

By adding the Bactivate Program into various types of potting media all across Australia, we are seeing greater developed root systems, improved growth, greater control of pests and insects and a reduction in pathogens at the root zone. By adding in the specific forms of bacillus bacteria in Bactivate, we are able to improve the quality of the media and develop the desired bacteria to proliferate in a control environment such a pot.

This provides the plant the ability to strengthen its own immune system and develop a healthier root structure, readying it for plant out and giving it a greater chance of survival.