

ALBION®

Metalosate® Plant Nutrition News

A Compilation of Technical Information and Essential Plant Research Projects

NOVEMBER 2005

VOLUME 6, No. 11

Metalosate Trial on Bud Formation in Nordmann Fir

by Winnie W. Olsen, Edited by Jeremy O'Brien

Introduction

A major challenge that commercial Christmas tree producers face is limited or no bud production on the central leader and lateral branches on species such as Noble Fir and Nordmann Fir. When the trees don't produce buds it means a significant increase in labor costs to culture the tree to compensate for the lack of buds, or the trees must be sold at a lower grade which means less money. Generally speaking, if more buds can be produced on the central leader and lateral branches of the tree, less culturing must be performed on the tree and a better grade will result with reduced labor costs.

This trial was carried out by Winnie W. Olsen of Brenntag Nordic Agro in Denmark. It was initiated to study the possibility of being able to cause Nordmann Fir trees to produce more buds. The basis of this work was taken from previous work performed on a smaller scale in Washington State where we determined that by applying a combination of Metalosate® Zinc and Metalosate Boron to Noble Fir trees, we were able to increase the number of both primary and secondary buds on the central leader of the trees.

Materials and Methods

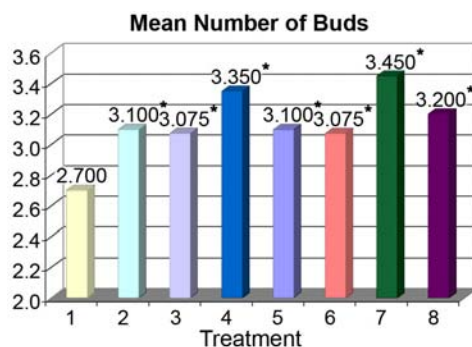
The trees in this trial were Nordmann Fir trees. There were seven different treatments in the trial which were all compared to an untreated check. The treatments consisted of different rates of Metalosate Zinc and Metalosate Boron and can be seen in Table 1. One application was made on 11 June. Buds were counted on 7 August. A statistical analysis was performed on the data.

Table 1. Treatment Descriptions

Treat. #	Description
1	Untreated
2	Metalosate Zinc 6.8 oz/acre (0.5 liter/ha)
3	Metalosate Boron 5.5 oz/acre (0.4 liter/ha)
4	Metalosate Boron 1.4 oz/acre (0.1 liter/ha) + Metalosate Zinc 3.4 oz/acre (0.25 liter/ha)
5	Metalosate Boron 4.1 oz/acre (0.3 liter/ha) + Metalosate Zinc 10.3 oz/acre (0.75 liter/ha)
6	Metalosate Boron 6.8 oz/acre (0.5 liter/ha) + Metalosate Zinc 17.1 oz/acre (1.25 liter/ha)
7	Metalosate Boron 2.7 oz/acre (0.2 liter/ha) + Metalosate Zinc 6.8 oz/acre (0.5 liter/ha) + Latex 68.4 oz/acre (5 liter/ha)
8	Metalosate Boron 5.5 oz/acre (0.4 liter/ha) + Metalosate Zinc 13.7 oz/acre (1 liter/ha) + Latex 68.4 oz/acre (5 liter/ha)

Results

The statistical analysis of the data revealed that the treatment with the greatest mean number of buds per tree was Treatment 7: Metalosate Boron applied at a rate of 2.7 oz/acre (0.2 liter/hectare) and Metalosate Zinc at 6.8 oz/acre (0.5 liter/hectare) with a latex spreader added at a rate of 68.4 oz/acre (5 liter/hectare). Every treatment when compared to the check showed a statistically significant increase in the mean number of buds per tree. This data is summarized in Figure 1.



*Indicates statistical significance at $p < 0.05$ when compared to the untreated check.

Figure 1: Mean Number of Buds

Application of Metalosate Zinc and Metalosate Boron in this trial proved to be successful at increasing the number of buds on very young Nordmann Fir trees grown for Christmas trees in Denmark.

We have also seen similar results with the combination of Metalosate Zinc and Metalosate Boron applied when there is 1-2 inches (3-5 cm) of new growth in the Spring. The rates used in the Pacific Northwest with the most success are Metalosate Zinc at 32 oz/acre (2.3 liter/ha) and Metalosate Boron at 16 oz/acre (1.2 liter/ha).

Consult with your local Albion representative for application rates specific to your growing region.

The full text of this trial is available from Albion Advanced Nutrition. Talk to your local representative to obtain a copy. ☺