Technical Data Report

Multicolor Ecological Agriculture Group Inc.

Results of Multicolor Crop on Production of Apples

(Chile)

Objective

To evaluate the effects of Multicolor Crop on production and quality of apples.

Materials and Methods

A field trial was conducted in a commercial apple orchard at Predio la Piedad, Longaví, in the major apple producing region of Chile. The orchard was planted in 1998 with trees grafted on MM 106 root stock, pollinated with Granny Smith at 11%. Two uniform, one-hectare sections of the orchard were selected for the trial. One section was treated with Multicolor Crop manufactured by Multicolor Ecological Agriculture Group Inc., applied at 1.5 liter/ha in 1,500 liters of water at 80-100% bloom, 7-10 days later, and 15 days after the second application. The other section was left untreated as a control. Cultural practices, including fertilization and pest management, followed local practices and were the same for the treated and the control sections. Fruits were harvested separately from the treated and control sections using standard practices. At harvest, 1,000 fruits were collected randomly from each control and treated section and fruit mass and diameter were measured and recorded for each individual fruit. Fruits from the treated and untreated areas were also graded using three-size and a five- size grading system. The three-size grading system used 18 kg of apples and separated fruits into three categories: small (<126 g), medium (≥126<194 g) and large (≥194 g). The five-size grading system used 19 kg of apples and separated fruits into five categories: extra small (<92 g), small (≥92<145 g), medium (≥ 145<203 g), large (≥203<318 g) and extra-large (≥318 g). The data were analyzed statistically using Stat graphics Plus.

Results

Multicolor Crop increased the average mass of apples from 171 to 195 grams, an increase of 14%, and the average diameter from 71.8 to 75.2 mm, an increase of 4.7% over the control (Table 1). Both increases were highly significant statistically.

Table 1. Effects of Multicolor Crop on fruit mass and diameter of Royal Gala apples. Longavi, Chile. Means of 1,000 fruits.

Treatment	Mean Mass/Fruit (grams)	Mean Diameter/Fruit (mm)
Multicolor Crop	195.1 a	75.2 a
Control	171.1 b	71.8 b

Numbers followed by different letters are statistically different (p< 0.05).

Both fruit grading systems showed that Multicolor Crop substantially increased the percent of large size fruits over control. In the three-size grading system, large fruits increased from 16% to 49% (Figure 1) and in the five-size grading system from 10% to 33% (Figure 2). Multicolor Crop also decreased the percent of small fruits compared to the control: from 3% to 0% in a three-size grading system and from 15% to 1% in a five-size grading system.

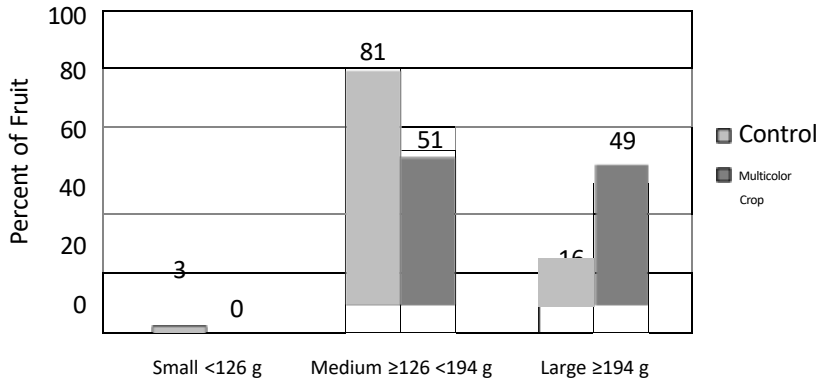

Figure 1. Effects of Multicolor Crop on fruit size distribution of Royal Gala apples in the three-size grading system. Longaví, Chile. Distribution measured in 18 kg of fruit.

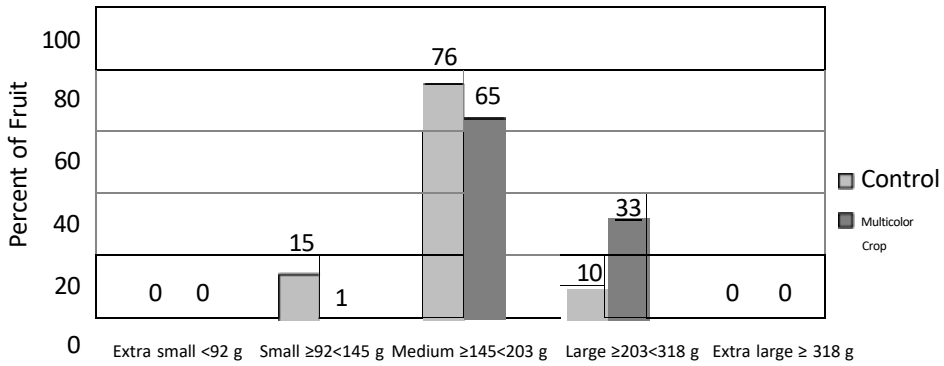

Figure 2. Effects of Multicolor Crop on fruit size distribution of Royal Gala apples in the five-size grading system. Longaví, Chile. Distribution measured in 19 kg of fruit.

Conclusions

Multicolor Crop increased the average fruit mass of Royal Gala apples by 14% and the average fruit diameter by 4.7% over the control.

Multicolor Crop substantially increased the percent of Gala apples in the large category in two grading systems.