

# Primo MAXX and Astron: *What are the Facts?*

## Introduction

There have been conflicting stories in the field regarding the compatibility of Primo MAXX and Astron, a micro-nutrient fertilizer from Floratine. The stories alleged an antagonistic effect between the two products, whereas Astron may counteract the growth regulating and improved turf health properties of Primo MAXX. There was no Canadian research to address this matter and as a consequence, no data to substantiate or refute the issue. Therefore, Syngenta initiated trials at Diamondback, Westmount and Victoria Park East to evaluate the performance of Primo MAXX in a tank mix with Astron under golf course conditions. The objective was to give superintendents a straight answer on this issue based on research done under Canadian golf course conditions.

## Treatment List

1. Untreated
2. Astron @ 45 mL of product/100 m<sup>2</sup>
3. Primo MAXX @ 8 mL of product/100 m<sup>2</sup>  
+ Astron @ 45 mL of product/100 m<sup>2</sup>
4. Primo MAXX @ 8 mL of product/100 m<sup>2</sup>

## Method

At Diamondback, the treatments were applied to established golf course turf on June 11, July 14, and August 8, 2003 in a water volume of 40 gallons/Acre. One 5.5 m application was made the entire length of the fairway for each treatment. Each plot covered 912 m<sup>2</sup>. Clipping fresh weight evaluations were conducted in the ranges of 9 to 14 days after application (DAA). Three samples were collected and weighed on site from each plot. Plant height evaluations were conducted prior to the fresh weight evaluations using a prism. 10 individual plants were randomly sampled within each plot. Turf colour was also evaluated at each evaluation.

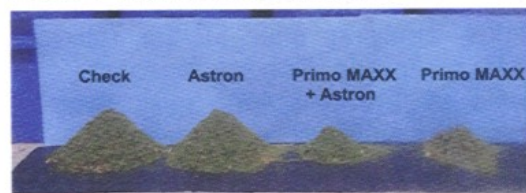
At Westmount and Victoria Park East, four applications were made in total, 14 days apart, starting from May 30<sup>th</sup> in a water volume of 32 gallons/Acre. Plot design was a randomized complete block, with plot size 2.5 m X 6 m. Four replicates of each treatment were applied with a 2.5 m CO<sub>2</sub> belt sprayer, flat fan nozzles at a 90° spray angle at a pressure of 206 Kpa. Four

assessments were made at 2 weeks after each application. At each evaluation date, clippings were collected and fresh weight measurements were made.

## Results at Diamondback

During the trial, Primo MAXX, when applied at 8 mL/100 m<sup>2</sup>, reduced the clippings fresh weight biomass with an average of 74.2% when compared to the untreated check at 13-14 DAA. Astron, when applied at 45 mL/100 m<sup>2</sup>, increased the clippings fresh weight biomass with an average of 8.8% compared to the untreated check. When Primo MAXX at 8 mL/100 m<sup>2</sup> and Astron at 45 mL/100 m<sup>2</sup> were applied in a tank mix the clippings fresh weight biomass was reduced by an average of 68.2% (See photo 1). No colour differences were observed. During the trial, Primo MAXX, when applied at 8 mL/100 m<sup>2</sup>, provided an average plant height of 0.82 cm at 13-14 DAA. Astron, when applied at 45 mL/100 m<sup>2</sup> provided an average plant height of 1.24 cm. When Primo MAXX at 8 mL/100 m<sup>2</sup>, and Astron at 45 mL/100 m<sup>2</sup> were applied in a tank mix an average plant height of 0.86 cm was recorded. The untreated check measured 1.17 cm.

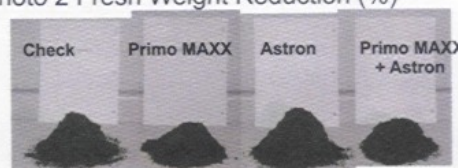
Photo 1 Evaluation #2 14 DAA



## Results at Westmount and Victoria Park East

Data collected from both golf courses indicated an average 24.5% fresh weight clipping reduction for plots treated with Primo MAXX and Primo MAXX plus Astron when compared to the untreated check. There was a 2% clipping reduction from the Astron plots alone when compared to the check (See Photo 2).

Photo 2 Fresh Weight Reduction (%)



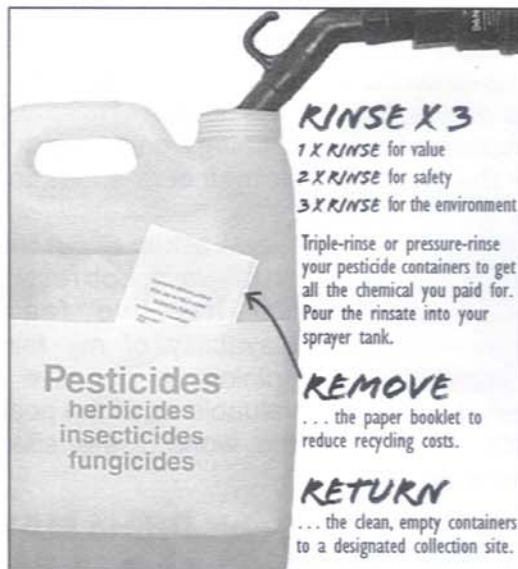
# Research & Development

1:

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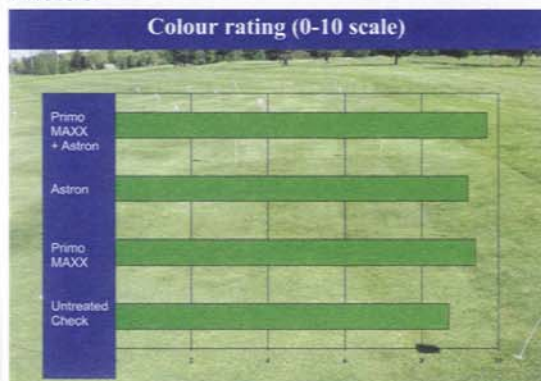
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Colour ratings on a scale of 1-10 (1 = not green to 10 = dark green) resulted in Primo MAXX alone and Primo MAXX plus Astron showing higher colour ratings at 9.4 and 9.6, respectively, with Astron alone at 9.1 and untreated check at 8.9. (see Photo 3)

Photo 3



### Conclusion

Primo MAXX alone at 8 mL/100 m<sup>2</sup> and tank mixing Primo MAXX at 8 mL/100 m<sup>2</sup> and Astron at 45 mL/100 m<sup>2</sup> provided excellent growth regulation. Therefore, Astron does not appear to have a significant affect on the growth regulation characteristics of Primo MAXX when applied at the rates set out in this trial.

### Thanks

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~ Aca Bosnic, Field Biologist, Syngenta