

Application of Metalosate® Products to Field Corn

by *Jeremy O'Brien*

INTRODUCTION

In 2008, Albion Plant Nutrition conducted a trial on field corn (*Zea mays*) to determine if the application of some Metalosate® products to the crop could lead to improved ethanol production. This trial was initiated because of the significant increase in the price of oil and ethanol was being studied as an alternative source of fuel. At the time of the trial, growers were paid by yield of dry corn not by quantity of resulting ethanol. Albion wanted to determine if Metalosate products could increase dry-corn yield and also provide a future advantage to producers by enabling them to grow corn containing higher levels of carbohydrates which would lead to increased ethanol production. In research with other crops, applications of Metalosate Potassium have shown increased levels of sugars within the crop.

MATERIALS AND METHODS

This trial was set up as a split-field trial consisting of a treated half and a control half. The grower's standard spray program for insect and disease control as well as fertility was performed on the entire field. The treated half of the field received two applications of Metalosate products. Tissue samples were collected from the treated side

and sent to Albion for analysis and T.E.A.M.® recommendations. The first application was made approximately 70 days after planting and consisted of 24 fl. oz./acre (1.75 liters/hectare) of Metalosate Iron and 16 fl. oz./acre (1.17 liters/hectare) of Metalosate Zinc. The second application was made at the grain-fill stage and consisted of 64 fl. oz./acre (4.67 liters/hectare) of Metalosate Potassium and 8 fl. oz./acre (0.58 liters/hectare) of Metalosate Zinc. Both of the applications were sprayed by airplane. The field was harvested using a combine equipped with an electronic yield monitor to keep track of the productivity of the field.

RESULTS AND DISCUSSION

Figure 1 shows the increase in yield when the control is compared to the Metalosate-treated side. The treated side consisted of 32.23 acres (13.04 hectares) and the control side measured 31.45 acres (12.72 hectares). As can be seen in the figure, there was a large increase in the yield on the Metalosate-treated side of the field when compared to the control (grower's standard practice) side. The increase the grower realized was 16.62%.

The grain from the dried corn was analyzed to determine if it contained increased levels of carbohydrates. The analysis indicated no significant difference between the treated and control sides of the field. More work will have to be done in the future to determine appropriate nutrient application as well as correct timing to determine if it is possible to increase the carbohydrate content of the corn.

The grower in this trial was able to increase the overall yield by applying Metalosate products based on T.E.A.M. recommendations. For more information on how the Metalosate products can benefit you, please contact your local Albion Plant Nutrition representative. ☞

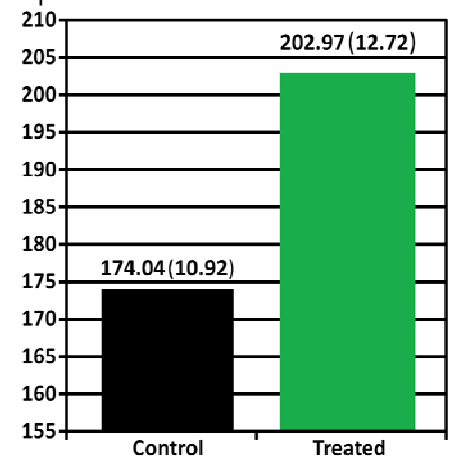


Figure 1. Dry Corn Yield bu/acre (MT/Ha)