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Project Title: Fusarium Head Blight Uniform Fungicide Trial - Maryland.

PROJECT 1 ABSTRACT

(1 Page Limit)

Uniform trials investigating fungicidal and biological management of Fusarium head blight (FHB) will be established in spring wheat/barley regions and in winter wheat regions of the United States. A core set of treatments will be tested by a number of cooperators throughout the wheat and barley producing states to allow evaluation of product efficacy and consistency in performance over a wide range of environments and across grain classes. This project, the Maryland component of the multi-state uniform trial, will be conducted on soft red winter wheat. FHB is difficult to ensure in experimental plots, as it does not occur every year in every location naturally. Thus having a uniform trial across multiple sites increases the chance of discovery of an effective disease management tool. The core set of treatments will be based on results from previous years, availability of new and existing materials and decided upon by participants at the USWBSI annual meeting. Promising biological control materials have been tested in past trials and may be included individually or in combination with chemical control agents. Additional treatments are included in the Maryland trial, when space permits. Similar to our trial in FY05 we also intend to compare the timing of applications just before and after flowering. The standard timing used in the uniform trial is at the initiation of flowering. However, the product Folicur, which has section 18 registrations in several states for FHB, is legally restricted to pre-flowering applications. Efficacy of products for FHB management appears to be dependent on timing and new products may perform optimally at the different application times. Furthermore, FHB is severe in rainy seasons that will often force producers to apply materials at non-optimal timings. It is thus important to know what if any reduction in efficacy may occur when applications cannot be made at initiation of flowering. Assessment of efficacy includes: reduction in disease incidence and severity, effect on yield, test weight, average kernel weight and DON toxin contamination of grain. The experimental protocol will include: inoculation with the disease-causal agent, mist irrigation to provide a disease-conducive environment, and twin-angled nozzles on a spray boom or twin-jet nozzles to improve application of control agents on wheat head.