Field Evaluation of BioFlora's Markout Product

Technical Report
submitted by:

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Executive Summary:

This report contains the findings of a field evaluation of the BioFlora markout Product as compared to a "standard" or "traditional" markout blend. Dr. Bryan Hopkins of the University of Idaho provided oversight for this project in cooperation with BioFlora, Inc and nine growers from Mud Lake to Oakley, ID (one grower had two trials in his field). A separate, small plot research trial with similar comparison is also reported in herein. The findings of the small plot trial conducted on a grower's field near Blackfoot showed no significant differences between the markout treatments. However, the findings of the split field study show overall improvement in both tuber yield and quality for a majority of the BioFlora treated strips in each field evaluated. The average total yield improvement was 42 cwt/a when the BioFlora product was applied. When adjustments were made for quality parameters, the BioFlora treated plots exhibited a 38 cwt./a difference. Seven of the ten fields showed increases in total tuber yield, with total tuber yield differences across these fields ranged from 40 to 131 cwt/a increases with BioFlora treatment. Nine of the ten fields showed increases in tuber quality, with quality adjusted tuber yield differences across responsive fields ranged from 4 to 98 cwt./a with BioFlora treatment. One of the three non-responsive fields seemed to have other limiting factors that might have caused the relatively poor yield or quality in both the BioFlora and standard markout strips. It is also important to realize that the reason(s) for the differences in yield and quality have not been elucidated and cannot be isolated with a study of this nature. This study simply compares the BioFlora markout program with traditional markout programs, with the BioFlora product appearing to be superior in most cases. Although this study only represents one year of data, it is interesting to note that similar studies showed analogous results in eight other fields over the previous two years. The most substantial conclusion is that the BioFlora markout performed better than the "standard" markout in fifteen of nineteen fields evaluated over the three years of this overall study. It is important to point out that conclusions can not be drawn from any single field evaluation that is in a split field or single strip design, such as those in this study. This is due to the fact that the plots are not randomized and there is quite possibly a location bias. In other words, the soil, microclimate, or management factors may result in drastically different yields on one side of a field vs. another. However, the strength of this study is in the number of fields evaluated. Each field becomes a replication in the overall study, thus providing adequate experimental design for judging this product.