

BEST MANAGEMENT PRACTICES FOR SUSTAINABLE POTATO PRODUCTION

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At times there are claims that university recommended production practices are not practical for whole farm implementation. However, there are many growers that, for the most part, manage their farms with practices that are mostly consistent with research based recommendations. The Best Management Practices (BMP) project highlights “model” growers in the Pacific Northwest that successfully utilize scientifically and economically proven management practices on a whole farm basis. This project was initiated with funding from the Idaho Potato Commission and continues with funding from WSARE-USDA.

Growers with a good reputation for producing respectable yields without excessive expenditures were selected to participate in the BMP demonstrations. To evaluate the effectiveness of the BMPs, Maximum Yield Management (MYM) plots were established within each field to compare this high input, one size fits all approach to BMPs. Extra fertilizer and pesticides (amounts similar to what “high input” growers would apply) were added to the MYM plots. The MYM approach is typified by growers that use a recipe approach for every field, every year (i.e. apply 400 lbs of phosphate to every field regardless of soil test or apply fungicides every seven days regardless of disease forecasting and field history). The BMPs involve judicious inputs based on scouting and sampling for a maximum economic yield approach. Six fields were evaluated over the two year period.

Yield results were mixed, with the Maximum Yield Management (MYM) practices resulting in significantly increased yields in three of the six fields and BMPs resulted in significantly increased yields in two fields. Overall, the average yield increase for the MYM plots was only 10 cwt. per acre total yield and 3 cwt. per acre U.S. No. 1 yield (Fig. 1).

Although yield results were mixed, the economic evaluation was not. The results of the demonstration thus far show that net returns were greater in five of the six fields using BMPs, with an average estimated net increase for the six fields of \$103 per acre for a process contract or \$120 per acre for a fresh market contract. The sixth field showed no advantage for MYM. The bottom-line . . . more money was spent to grow a similar crops.

This project will continue on five fields each year for two more years.

BMPs vs. Maximum Yield Management

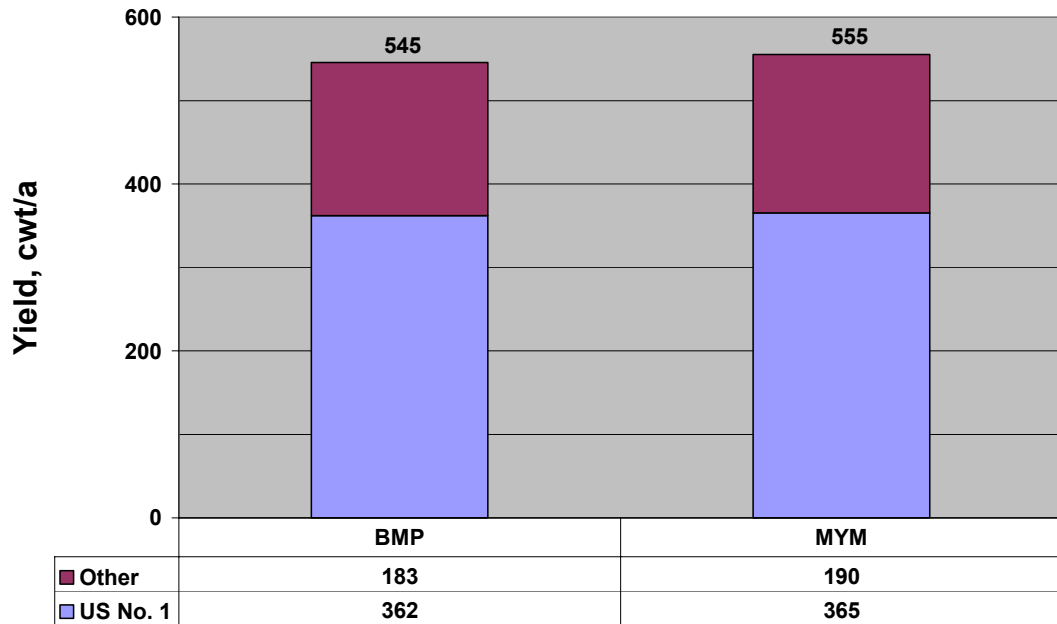


Fig. 1. Potato yield results comparing Best Management Practices with Maximum Yield Management approaches. These results represent the average of six fields over two years. Differences were not statistically significant.



Fig. 2. Early harvest results from the Rexburg, ID Best Management Practices (BMP) field in 2003. Early set was less for the Maximum Yield Management (MYM) plots shown on the left as compared to the tuber count for the BMP plots shown on the right.