

Field Trial Findings: SOP Delivers Higher Quality and Yield

A 2013 field trial near Pasco, Washington compared common potash sources to determine the impact on potato yield and quality. Trial results clearly showed Sulfate of Potash produced bigger yields and higher quality potatoes.

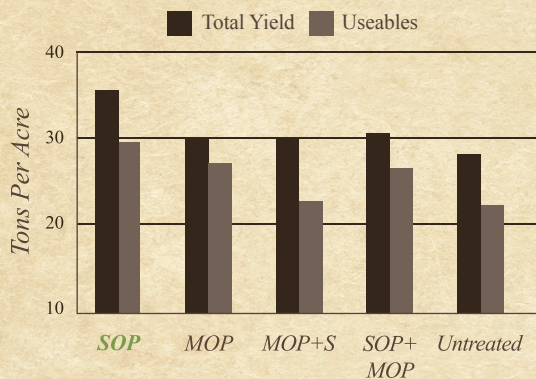
SOP delivered a 5.1 ton (100 cwt) increase per acre and more U.S. #1s than other K sources.

1.1 | Proof is in the Potash

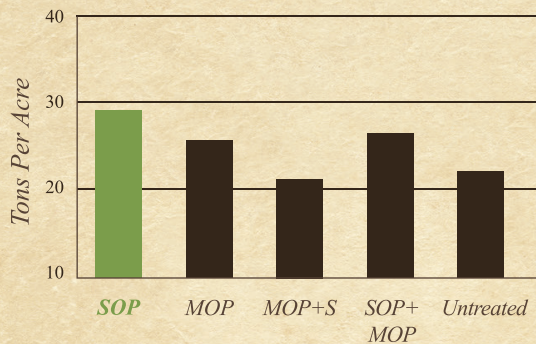
Four replications and in each one, plants treated with 100 percent SOP significantly outperformed the other K sources. SOP yielded:

- 5.1 tons more potatoes per acre vs. MOP
- More #1 grade potatoes (3.2 tons more than MOP)
- More tons of 6-10 oz #1 grade potatoes.

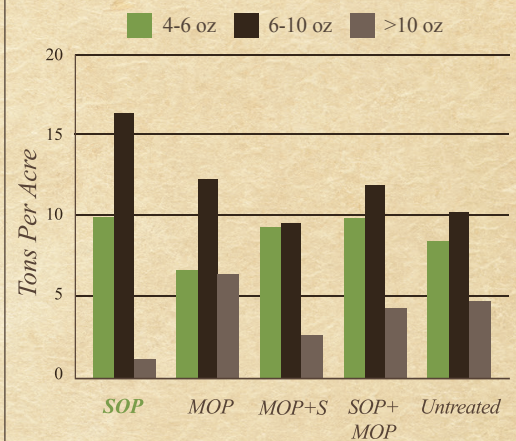
Total Yield and Useables



Total U.S. #1s



Total U.S. #1s by Size Group



1.2 | Methodology

The trial was conducted in a commercial field using 10' x 30' plots and included four replications. Five treatment variations were tested. These included:

- 200 lb. of K_2O as SOP (sulfate of potash) per acre
- 200 lb. of K_2O as MOP (muriate of potash) per acre
- 200 lb. of K_2O as MOP+ sulfur (equal to the amount in SOP) per acre
- 200 lb. of K_2O (50% as MOP, 50% as SOP) per acre
- 0 lb. of K_2O (control)



SULFATE OF POTASH



Fig. 1a | Trial plot near Pasco, Washington

1.3 | The Field Trial

Holland Agricultural Services conducted the field trial with the goal to focus on potassium source and eliminate as many variables as possible that impact yield and quality. This was accomplished in a commercial growers field using simulated growing conditions in an actual field, with:

- Whole 2 ¼-2 ½ oz seed potatoes – to help eliminate seed decay and reduce pathogen entry
- Hand selecting and planting – ensured consistent seed weight and spacing
- Broadcast applications prior to hilling – allowed fertilizer to be near the roots for easy uptake.

1.4 | Results & Conclusion

Across all four replications, the SOP treated potato plants showed early vigor and significant increased yields at harvest over the other treatment options.

From the results of the trial, it can be easily concluded that the high chloride found in MOP contributed to lower yields and

quality. Chloride and a high salt index like that found in MOP, contributes to:

- Poor germination
- Nutritional imbalances
- Seedling injury
- Leaf burn
- Stunted root and shoot growth

And while storage analysis of the Pasco trial are not yet completed, excessive chloride has been shown to decrease specific gravity and increase storage loss due to shrinkage.¹

Sulfate of Potash is virtually chloride free and has the lowest salt index per unit of K₂O among all major sources of potassium. Plus, SOP contains 17 percent sulfur in the sulfate form, which is readily available for uptake and helps support a variety of plant functions. The results of the field trial clearly show that choosing SOP as a potassium source contributes to greater revenue for growers.

To learn more about how SOP benefits your potatoes and your bottom line, please visit www.textbookpotatoes.com.

Calculate your revenue benefit of SOP for an established stand. →

Your Sample Revenue Calculation

Enter # of potato acres	_____
X	
Increased tons per acre from using SOP vs. MOP	5.1
Total ton increase using from SOP vs. MOP	<input style="width: 100px;" type="text"/>
X	
Enter current market price per ton	\$ _____
Your increased gross revenue opportunity from SOP vs. MOP	\$ <input style="width: 100px;" type="text"/>

Disclaimer: Field trial results were achieved through accurate and controlled methodologies. Soil type, weather, and growing strategies may impact future results.

¹ Colorado State University Potato Study, S. Essah, 2009.