

# Crystal Green Grower Trials



NDSU EXTENSION SERVICE

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EXTENSION

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## Introduction

**Background:** Crystal Green is a struvite-based, registered fertilizer. Due to the citrate soluble properties of this mineral, nutrients are only released when in the presence of actively growing roots. Grower trials were conducted in 2015 and 2016 to evaluate the effectiveness of a struvite product, Crystal Green on irrigated Russet Burbank, Umatilla Russet, and Bannock Russet potatoes in Minnesota and North Dakota. In general, there was a positive response to Crystal Green when potatoes were grown in alkaline or acidic soils. Potatoes grown in neutral pH did not have a positive response to Crystal Green.

**Objective:** To determine the effect of Crystal Green on the graded yield of russet-skinned potatoes grown in soils of varying pH values.

## Methods

### Experimental procedure:

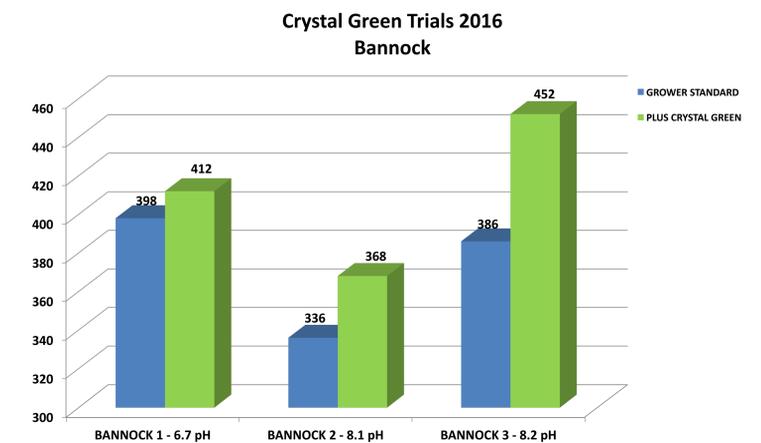
- Strip test paired sampled
- Location: 10 commercial fields (North Dakota and Minnesota)
- Cultivars: Russet Burbank, Umatilla Russet and Bannock Russet.
- 40 row feet were harvested and graded prior to harvest.
- Data was analyzed using t-test for each field location at  $P \leq 0.05$ .



## Results

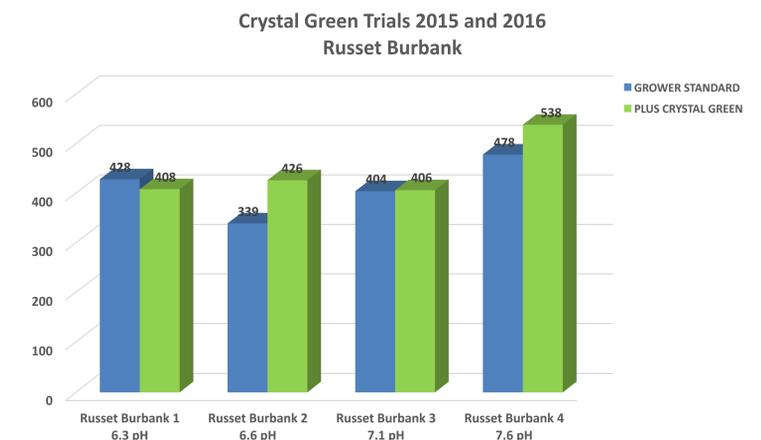
### Bannock

- Crystal Green consistently improved Bannock total yield.
- More benefit from Crystal Green was found in soils with higher pH values



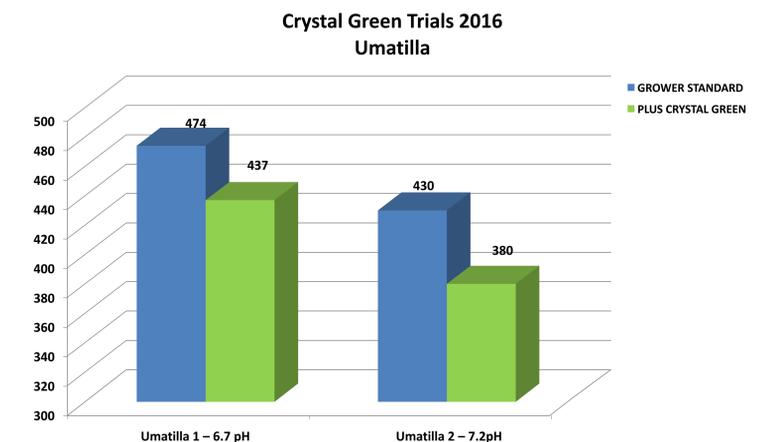
### Russet Burbank

- Russet Burbank yield response to Crystal Green was best at soil pH of 6.6 and 7.6.
- At neutral and lower soil pH there was not a positive response to Crystal Green.



### Umatilla

- No yield improvement was found in Umatilla, but pH values were close to neutral.



## Take Home Message

- Response to Crystal Green was always greater when soil pH values were above 7.6.
- Bannock responded positively to Crystal Green treatment in all tests.