Objective
To evaluate performance of four russet potato varieties for adaptability to Southwest Michigan growing conditions.

Summary
Russet Burbank and Blazer Russet were the best overall performers in this trial as measured by total yield and yield of number one tubers. Rio Grande Russet was also similar in yield of number one tubers. Blazer Russet stood alone in average number one tuber weight at 8.6 ounces, indicating it probably should have been harvested earlier.

Methods

**Fertilizer**
Prior to planting, 33-0-0, 0-0-61, 95% sulfur and Granubor were broadcast and incorporated at 150, 100, 28 and 15 pounds/acre, respectively. Two additional applications of 150 pounds/acre of 33-0-0 were made prior to hilling and again shortly after bloom. The second and third nitrogen applications were followed with 0.5 inches of irrigation.

**Weed control**
Weeds were controlled through cultivation and hoeing.

**Planting**
Seed pieces were prepared 2 May and planted 25 May. Seed pieces were placed 18 inches apart in the row in plots 15 feet long with between row spacing of 5.5 feet. The wide between row spacing was due to equipment restrictions. The trial was planted and analyzed as a completely randomized design.

**Plant care**
Irrigation was applied as needed using an overhead system. Disease and insect pests were controlled using standard commercial practices. Hilling was done when most plants were approximately 8 inches tall.

**Harvest and data collection**
Plots were harvested 11 September and graded into Number 1, Number 2 and Cull tubers.
Results

Russet Burbank is the long-accepted standard for russet-type potatoes. It is widely adapted and has generally good yield and quality for intended use. However, it tends to have a higher than desired rate of “knobs” on the tubers occurring even under the best conditions. Rio Grande Russet was included because it has fewer knobs and has performed well in previous trials. Blazer Russet and Clearwater Russet are two potatoes McDonalds has recently agreed to use in their French fries. This trial evaluates these four potato varieties for their production potential under Southwest Michigan growing conditions.

Total yield for the entries ranged from 145 to 302 hundred weight/acre, with Russet Burbank and Blazer Russet having statistically similar total yield at 302 and 279 hundred weight/acre, respectively (Table 1). Russet Burbank, Blazer Russet and Rio Grande Russet had statistically similar yield of number one tubers, While Blazer Russet stood alone in average number one tuber weight at 8.6 ounces (Table 1). The greater tuber weight for Blazer Russet indicates an earlier harvest date than the other entries. Harvesting earlier would certainly change its yield characteristics. Blazer Russet also does not have the typical russet-type skin of the other entries. It is much smoother in texture and appearance.

From this trial, Russet Burbank continues to be a leader in total yield and yield of number one tubers. It was also a leader in cull tubers, primarily due to its higher number of knobby tubers. Blazer Russet and Rio Grande Russet were also good performers in number one tuber yield while Clearwater Russet was in the bottom for both total yield and yield of number one tubers.

Table 1. Yield in hundredweight per acre (cwt/a) of four russet potato cultivars grown in 2017 at the Southwest Michigan Research and Extension Center, Benton Harbor, Michigan. Plant spacing was 5.5 feet between rows and 1.5 feet in the row. Numbers in bold are not statistically different from the highest number in that column.
Figure 1. Number one grade russet potatoes grown at the Southwest Michigan Research and Extension Center in 2017. Left to right: Russet Burbank, Rio Grande Russet, Blazer Russet, and Clearwater Russet.

Figure 2. Russet Burbank, left and Blazer Russet, right.
Figure 3. Rio Grande Russet, left and Clearwater Russet, right.