

2021 Agronomic Trial

- In the K field
- 16 advanced breeding lines or varieties including russets, reds, and yellows
- Two nitrogen rates: 150 and 300 lb N/acre
- All grown as full-season, emergence on May 12, vine kill on August 31, so 111 days

| Fresh market russets | Yellows | Reds |
|----------------------|------------|------------------|
| W13008-1rus | W13103-2Y | W15268-89R |
| W13A11229-1rus | W15240-2Y | Dark Red Norland |
| Caribou Russet | W15248-16Y | Red Prairie |
| Plover Russet | W15248-17Y | |
| Reveille Russet | Agata | |
| Silverton | Colomba | |
| | Soraya | |

| Treatment ID | Planting | Emergence (hilling) | Tuber Initiation | Side-dressing | | Seasonal total N (lb/a) | Notes |
|--------------|-------------------------------------|---------------------|------------------|---------------|------|-------------------------|--------|
| | 4/22 | 5/17 | 6/8 | 7/3 | 7/17 | | |
| | ----- lb N acre ⁻¹ ----- | | | | | | |
| 1 | 40 | 70 | 40 | - | - | 150 | Rate 1 |
| 2 | 40 | 70 | 70 | 60 | 60 | 300 | Rate 2 |

- The only significant nitrogen effect was found on yellow varieties, where 300 lb N/acre yielded 476 cwt/acre and 150 lb N/acre yielded 413 cwt/acre
- Nitrogen effects were not significant on reds and russets

For fresh market russets

| Variety | Total Yield | 0-4 oz yield | 4-6 oz yield | 6-10 oz yield | 10-16oz yield | >16 oz yield | Specific Gravity |
|------------------------|-------------|--------------|--------------|---------------|---------------|--------------|------------------|
| Cwt / acre | | | | | | | |
| Caribou Russet | 574 a | 57 a | 96 b | 203 ab | 159 a | 59 a | 1.0623 b |
| Plover Russet | 499 ab | 89 abc | 111 ab | 196 ab | 87 bc | 16 b | 1.0605 b |
| Reveille Russet | 411 b | 123 ab | 131 ab | 134 b | 24 c | 0 b | 1.0588 b |
| Silverton | 521 ab | 134 a | 146 a | 195 ab | 44 bc | 2 b | 1.0583 b |
| W13008-1rus | 469 ab | 70 c | 116 ab | 212 ab | 65 bc | 5 b | 1.0625 b |
| W13A11229-1rus | 614 a | 85 bc | 147 a | 271 a | 106 ab | 5 b | 1.0772 a |

For red varieties

| Variety | Total Yield | Yield of tubers >3.5'' | A size yield | B size yield | C size yield | Specific Gravity |
|------------------|-------------|---------------------------|-----------------|-----------------|-----------------|---------------------|
| | Cwt / acre | | | | | |
| Dark Red Norland | 462 b | 32 b | 329 a | 89 b | 43 a | 1.0527 b |
| Red Prairie | 601 a | 120 a | 393 a | 81 b | 7 a | 1.0588 a |
| W15268-89R | 398 b | 42 b | 165 b | 176 a | 15 a | 1.0595 a |

For yellow varieties

| Variety | Total Yield | A size yield | B size yield | Specific gravity |
|------------|-------------|--------------|--------------|------------------|
| | Cwt / acre | | | |
| Agata | 302 b | 104 b | 192 b | 1.0552 b |
| Colomba | 419 ab | 233 a | 296 a | 1.0497 bc |
| Soraya | 540 a | 298 a | 195 b | 1.0545 bc |
| W13103-2Y | 490 ab | 217 ab | 251 ab | 1.0508 bc |
| W15240-2Y | 534 a | 262 a | 237 ab | 1.0512 bc |
| W15248-16Y | 381 ab | 99 b | 261 ab | 1.0700 a |
| W15248-17Y | 447 ab | 189 ab | 243 ab | 1.0475 c |

| Variety | N rate | Total yield |
|------------|---------|-------------|
| | lb/acre | cwt/acre |
| Agata | 150 | 308 |
| | 300 | 296 |
| Colomba | 150 | 295 |
| | 300 | 542 |
| Soraya | 150 | 503 |
| | 300 | 578 |
| W13103-2Y | 150 | 469 |
| | 300 | 512 |
| W15240-2Y | 150 | 506 |
| | 300 | 562 |
| W15248-16Y | 150 | 352 |
| | 300 | 409 |
| W15248-17Y | 150 | 461 |
| | 300 | 434 |