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LEEK VARIETY TRIALS 2012

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Leek Variety Trials, 2012

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The 2012 leek trial included 28 varieties, ranging from new F1 hybrids to traditional heirloom varieties. The leeks were seeded in the greenhouse March 17-30, and transplanted to the field April 17. In the field spacing was 15" between rows, and 5" between plants in the row. Leeks were hilled every few weeks with the hiller/furrower attachment on the walk-behind rototiller. Weeds were controlled by hand cultivation; fertilizer was incorporated at transplanting and irrigation was from overhead sprinklers. The trial developed Purple Blotch, caused by *Alternaria porri*, in early August. The disease continued to be problematic into September, despite repeated fungicide applications. Leeks were harvested beginning September 20th. Harvested plants were trimmed, counted, and weighed to determine average size. One plot of each variety was left in the field to evaluate the overwintering potential. The overwintered leeks were not mulched. Survival was rated on January 14th after repeated exposure to temperatures below freezing, and scattered overnight lows below 10°F.

The top-performing varieties in the trial were DP-12-02, Megaton, and Tadorna. DP-12-02 was an outstanding leek for fall harvest, but did not overwinter. Megaton and Tadorna were similar, except that Megaton was larger and more uniform, while Tadorna had better overwintering quality. Belton also did well, except for poor establishment.

Establishment ratings measured the survival of transplants in the field; it does not reflect percent seed germination. The variety Carentan had the best establishment, 100%, but extremely poor seed germination such that it had to be replanted in the greenhouse, and was not put into the field until mid-May. Tadorna, DP-12-02, and Megaton had the best establishment of the varieties transplanted in April.

Average size varied widely, from 5.6 oz. for Belton down to 0.7 oz. for Matisse. Data were not available for Matejko, as the harvested leeks were misplaced prior to trimming and weighing. Belton produced very large leeks, but it had poor seed germination and poor transplant survival, so the actual yield was low. Megaton and DP-12-02 had the highest yields due to the combination of large leeks and good establishment. DP-12-02 and Striker had the most uniformity among the leeks, but any variety with a score above 3.0 was statistically similar.

Vertical leaves are desirable in leeks as they decrease the amount of soil that accumulates in the leaf axils and thus give cleaner leeks. However, tight leaf axils can also provide a haven for thrips, and exacerbate damage. Runner, Surfer, and Megaton had the most upright leaves. Leaf color can also be important, as waxy, blue leaves are more attractive to thrips, but may be less susceptible to fungal diseases and more tolerant of freezing. Tadorna, 0050 TZ, Electra, and Lexton had very blue leaves, while DP-12-02 had glossy green leaves similar to many of the heirloom varieties. Tadorna had the best quality after overwintering in the field – the healthy blue plants were visible from a significant distance. Autumn Giant and Bandit also held well in the field. In general the varieties that survived overwintering had blue foliage, while those that were killed by hard freeze had glossy green foliage. Overwintering

data was not available for Belton, as the plot in the row that was left unharvested failed to establish. There were no differences among the varieties in the amount of damage from purple blotch.

Leek variety performance data

| Variety | Source | Establish. ^a | Size (oz.) ^b | Uniformity ^c | Leaf Angle ^d | Color ^e | Purple Blotch ^f | Over-wintering ^g |
|------------------|-------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------|----------------------------|-----------------------------|
| 0050 TZ | Siegers | 88% | 2.4 | 3.0 | 2.3 | 4.0 | 1.3 | 3 |
| 98118 TZ | Siegers | 83% | 1.9 | 3.0 | 3.0 | 3.3 | 2.7 | 2 |
| Autumn Giant | Baker Creek | 94% | 2.1 | 2.0 | 2.3 | 3.7 | 1.7 | 4 |
| Bandit | High Mowing | 65% | 2.3 | 2.0 | 2.7 | 3.3 | 1.7 | 4 |
| Belton | Siegers | 42% | 5.6 | 2.5 | 3.0 | 3.5 | 2.0 | |
| Bleu de Solaize | Fedco | 52% | 1.1 | 1.7 | 2.0 | 3.3 | 2.0 | 2 |
| Bulgarian Giant | Baker Creek | 63% | 2.0 | 1.7 | 1.7 | 2.0 | 2.0 | 1 |
| Carentan | Baker Creek | 100% | 1.1 | 2.7 | 2.7 | 2.7 | 1.7 | 1 |
| Conway | Siegers | 83% | 2.5 | 3.3 | 3.0 | 3.0 | 2.0 | 2 |
| DP-12-02 | dp seeds | 97% | 4.0 | 3.7 | 2.3 | 1.7 | 1.7 | 1 |
| Electra | Harris | 81% | 2.9 | 3.0 | 2.0 | 4.0 | 2.3 | 2 |
| Gevaria | Siegers | 37% | 2.9 | 1.7 | 2.0 | 3.0 | 1.7 | 2 |
| Giant Musselburg | Baker Creek | 92% | 2.0 | 2.3 | 2.3 | 2.3 | 1.7 | 1 |
| King Richard | Fedco | 73% | 1.2 | 2.0 | 2.7 | 3.0 | 2.7 | 3 |
| King Sieg | Fedco | 66% | 3.7 | 2.7 | 2.0 | 2.3 | 1.3 | 1 |
| Lancelot | JSS ^h | 82% | 2.7 | 2.3 | 2.7 | 3.7 | 1.7 | 2 |
| Lexton | JSS | 42% | 2.3 | 2.3 | 2.3 | 4.0 | 1.0 | 3 |
| Lincoln | Fedco | 53% | 3.7 | 3.0 | 2.7 | 2.0 | 1.3 | 2 |
| Matejko | Siegers | 64% | | 2.0 | 3.0 | 3.7 | 1.7 | 2 |
| Matisse | Siegers | 49% | 0.7 | 1.7 | 2.3 | 3.3 | 1.3 | 3 |
| Megaton | Siegers, JSS | 97% | 4.7 | 3.0 | 3.3 | 3.3 | 1.7 | 3 |
| Oarsman | Siegers | 61% | 2.9 | 1.7 | 2.7 | 3.0 | 1.3 | 2 |
| Pandora | JSS | 40% | 2.9 | 2.7 | 3.0 | 3.0 | 2.0 | 1 |
| Runner | High Mowing, Bejo | 75% | 1.3 | 2.7 | 4.0 | 2.3 | 2.3 | 2 |
| Striker | Bejo | 92% | 2.9 | 3.7 | 3.0 | 3.3 | 1.7 | 2 |
| Surfer | Bejo | 58% | 1.5 | 2.7 | 3.7 | 3.7 | 2.0 | 2 |
| Tadorna | Siegers, JSS | 97% | 3.3 | 3.3 | 2.7 | 4.0 | 2.0 | 5 |
| Tornado | Siegers | 44% | 3.9 | 1.3 | 2.0 | 3.0 | 1.7 | 2 |

^a Establishment refers to the % of transplants that established in the field.

^b Size is the average weight after trimming and cleaning.

^c Uniformity was rated on a scale of 1-4 with 4 indicating that the plants were highly uniform for size and color. Average of 3 reps; LSD = 1.7

^d Leaf angle was rated on a scale of 1-4 where 1 indicates a leaf angle close to horizontal at the stem, and 4 indicates vertical leaves. Average of 3 reps; LSD = 0.9

^e Foliage color ranged from glossy green (1) to blue (4). Average of 3 reps; LSD = 1.0

^f Purple blotch was rated on a scale of 1-4 with 4 indicating heavy disease. There were no significant differences among varieties.

^g Overwintering was evaluated in January 2013 after exposure to temperatures below 10°F. A score of 1 indicates that plants were completely dead, while a score of 5 indicates minimal damage.

^h JSS is Johnny's Selected Seeds

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