

## Seeded Watermelon Cultivar Trials for Southwestern Indiana, 2002

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Indiana remains a major watermelon producer for the Midwest. With the proliferation of new varieties, the increased competition and the need to maximize profitability/unit area, the identification of new varieties that are of high quality, high yielding and disease resistant as well as meet market expectations, is of importance to commercial growers. This trial, along with the seedless watermelon variety trial provides an objective and independent comparative assessment of new watermelons for the commercial industry. This year's study included 22 seeded watermelons, with 21 named varieties, and 1 experimental line.

### Methods:

Twenty two seeded melon cultivars were evaluated in a randomized complete block design with three replications. Each entry was first direct seeded in the greenhouse on April 16, 2002 and transplanted into the field on May 29. Plots consisted of 55-foot long single rows, covered with 4 ft. black plastic mulch, with rows centered eight feet apart, 11 plants per row and 5 feet between plants. Each trial was grown in accordance with the recommendations outlined in the Midwest Vegetable Production Guide for Commercial Growers (ID-56, 2001). Trickle irrigation lines placed beneath the plastic mulch provided water as needed. Fruits were harvested from July 23 through August 6. Data was analyzed with the Statistical Analysis Software (SAS) package (SAS Institute, Cary, NC).

### Results:

Yields and Quality. Yields ranged from 19.9 to 26.2 tons/acre with 1881 to 2508 fruit/acre harvested across all the entries (Table 1). Yields were generally lower in this years trial, compared to the 2001 trial. The average fruit weight was 20.5 lbs/fruit, with a range of 18.8 to 23.2 lbs/fruit. Highest yielding cultivars were; RWM 8036, Stars and Stripes, Mardi Gras, Regency and Pinata. Most of the fruit in this trial was oblong in shape with medium or thick rinds. All Sweet was noted to have slightly tapered ends. Festival, Gold Strike, and Summer Gold showed slight cracking. The best tasting melons in the trial were: All Sweet and Rojo Grande, which also had the highest percent soluble solids. Seeded watermelon selection should be in large part based upon the size, shape and class of fruit to which your market is focused.

Table 1. Comparison of Yield and Quality of Seeded Watermelon in Southwestern Indiana, 2002.

| Cultivar          | Seed Source | Yield Cwt.Lb/A | Yield <sup>s</sup> Tons/A | Fruit No./A | Ave fruit weight Lbs | %SS <sup>t</sup> | Flavor <sup>u</sup> | Uniformity <sup>v</sup> | Rind <sup>w</sup> | Size <sup>x</sup> | Shape <sup>y</sup> | Flesh <sup>z</sup> |
|-------------------|-------------|----------------|---------------------------|-------------|----------------------|------------------|---------------------|-------------------------|-------------------|-------------------|--------------------|--------------------|
| RWM 8036          | NV          | 523.4          | 26.2 a                    | 2376        | 22.0                 | 11.0             | 4                   | 2                       | Th                | L                 | Ob                 | P                  |
| Stars and Stripes | RU          | 521.1          | 26.1 ab                   | 2508        | 20.6                 | 11.0             | 3                   | 3                       | Th                | L                 | Ob                 | DP                 |
| Mardi Gras        | NV          | 508.8          | 25.5 abc                  | 2508        | 22.5                 | 11.4             | 3                   | 3                       | Th                | L                 | Ob                 | DP                 |
| Regency           | RU          | 509.2          | 25.5 abc                  | 2541        | 20.0                 | 10.4             | 3                   | 2                       | Th                | M-L               | Ov                 | P                  |
| Pinata            | WI          | 509.2          | 25.4 abc                  | 2343        | 21.7                 | 10.6             | 3                   | 2                       | Th                | M                 | Ov                 | R                  |
| Royal Sweet       | RU          | 504.1          | 25.2 abc                  | 2442        | 20.6                 | 10.8             | 3                   | 2                       | Th                | M                 | Ov                 | P                  |
| Starbrite         | RU          | 500.9          | 25.0 abcd                 | 2277        | 21.9                 | 11.0             | 3.5                 | 3                       | Th                | L                 | Ov                 | DP                 |
| Festival          | WI          | 478.7          | 23.9 abcde                | 2079        | 23.0                 | 10.4             | 4                   | 2                       | Th                | L                 | Ob                 | R                  |
| Gold Strike       | WI          | 475.7          | 23.8 abcde                | 2541        | 18.8                 | 10.8             | 4                   | 2                       | M                 | M                 | Ob                 | Y                  |
| # 420             | AC          | 472.3          | 23.6 abcde                | 2442        | 19.1                 | 11.0             | 3                   | 2                       | M                 | L                 | Ov                 | P                  |
| Crimson Sweet     | RU          | 469.3          | 23.5 abcde                | 2442        | 19.1                 | 11.0             | 4                   | 2                       | M                 | M                 | Rd                 | P                  |
| All Sweet         | RU          | 464.1          | 23.2 abcde                | 2244        | 20.7                 | 12.0             | 4                   | 2                       | M                 | L                 | Ob                 | DP                 |
| # 400             | AC          | 461.6          | 23.1 abcde                | 2244        | 20.5                 | 11.0             | 4                   | 2                       | Th                | L                 | Ov                 | DP                 |
| Sangria           | NV          | 445.6          | 22.3 abcde                | 2178        | 20.4                 | 11.8             | 4                   | 2                       | Th                | L                 | Ob                 | P                  |
| Montreal          | SS          | 444.5          | 22.2 abcde                | 2244        | 19.7                 | 11.0             | 4                   | 3                       | Th                | M-L               | Ov-Ob              | P                  |
| 790               | AC          | 443.5          | 22.2 abcde                | 2343        | 19.0                 | 11.0             | 4                   | 1                       | M                 | L                 | Ob                 | R                  |
| Fiesta            | NV          | 434.6          | 21.7 bcde                 | 2310        | 18.8                 | 11.6             | 4                   | 2                       | Th                | M                 | Ob                 | P                  |
| Summer Gold       | WI          | 434.6          | 21.7 bcde                 | 1881        | 23.2                 | 11.5             | 4                   | 1                       | Th                | L                 | Ov-Ob              | O-Y                |
| Celebration-VP    | NV          | 431.7          | 21.6 cde                  | 2112        | 20.3                 | 10.4             | 3                   | 1                       | M-Th              | M-L               | Ob                 | R                  |
| Ole               | WI          | 427.0          | 21.4 cde                  | 1947        | 22.0                 | 10.5             | 4                   | 2                       | M                 | L                 | Ob                 | R                  |
| Raspa             | WI          | 414.0          | 20.7 de                   | 2046        | 20.2                 | 10.8             | 3                   | 3                       | M                 | M                 | Ov                 | P                  |
| Rojo Grande       | WI          | 397.0          | 19.9 e                    | 2112        | 18.8                 | 12.0             | 4                   | 2                       | M                 | M                 | Ob                 | R                  |
| Grand mean        |             | 466.9          | 23.3                      | 2280        | 20.5                 |                  |                     |                         |                   |                   |                    |                    |
| LSD (5%)          |             | 88.6           | 4.4                       | 401         | 2.2                  |                  |                     |                         |                   |                   |                    |                    |
| C.V. (%)          |             | 11.5           | 11.5                      | 11          | 6.5                  |                  |                     |                         |                   |                   |                    |                    |

Randomized complete block design: 3 replications.

<sup>s</sup> Yield wt. (tons) averages spanned by the same letter are not significantly different.

<sup>t</sup> %SS = Percent soluble solids: the higher the value, the greater the amount of total sugar.

<sup>u</sup> Flavor (1 to 5): 1=very poor, 3=acceptable, 5=great.

<sup>v</sup> Uniformity (1 to 3): 1=lacks uniformity/variable, 2=average, 3=very uniform.

<sup>w</sup> Rind: T=thin, M=medium, Th=thick.

<sup>x</sup> Size: S=small, M=medium, L=large, VL=very large.

<sup>y</sup> Shape: Rd=round, Ov=oval, Ob=oblong.

<sup>z</sup> Flesh: LR=light red, RO=red-orange, R=red, LP=light pink, P=pink, DP=dark pink.