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Michigan Soybean Performance Report 1977

Michigan State University Extension Service

Taylor J. Johnston, Zane R. Helsel, Darrell McIntyre, Crop and Soil Sciences

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# Michigan Soybean Performance Report — 1977

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TAYLOR J. JOHNSTON, ZANE R. HELSEL AND  
DARELL MCINTYRE<sup>1</sup>

THIS 1977 MICHIGAN SOYBEAN REPORT provides information to farmers on the relative performance of many varieties available in Michigan.

Variety trials were conducted at two locations, one in southeastern and one in central Michigan. The results of these trials, plus available information regarding seed quality, availability and price, should help farmers make appropriate selections of varieties for 1978 plantings.

## TESTING PROCEDURE

Commercial entries were obtained voluntarily from seed companies. Seeds of the public releases were supplied by the Michigan Foundation Seed Association.

The central Michigan test was located in Eaton County on a Parkhill loam (management group 2.5c). All entries were planted May 19. Group 0 maturity varieties were harvested on September 28 and the others on October 14. The fertility program consisted of 175 lb of 6-24-24 banded at planting.

The southeastern Michigan trial was conducted in Monroe County on a Toledo silty clay loam (management group 1c). All entries were planted on May 17. Group I soybean varieties were harvested October 7, and the remaining varieties on October 15. Two hundred pounds of a 14-14-14 fertilizer were applied at planting.

At both locations, each entry was a plot of four rows 20 feet long. Row spacing was 28 inches and the resulting final stand was seven plants per foot of row. Planting depth was 1½ inches. Each entry was replicated three times and randomized in the field. Weed control consisted of a preemergence herbicide treatment and two cultivations during the growing season. Sixteen feet of each of two center rows of a plot were harvested for yield determination at each location.

Trials in 1976 were conducted in Lenawee and Eaton Counties. In 1975, the trials were conducted

in Monroe and Ingham Counties. Testing procedures in these two previous years were similar to those in 1977.

## EVALUATION OF CHARACTERS

Descriptions of the varietal characteristics evaluated and importance of characteristics in varietal selections are discussed below. Results of 1977 varietal performances are listed in Tables 1 and 2. Values presented are averages of the three replications at each location.

**Yield**—Harvested seed was dried to a constant moisture. Yields were expressed in bushels per acre at 13% moisture. Yield is perhaps the most important criterion on which to select a variety. However, the following characters are important because they have the potential to affect overall varietal performance.

**Maturity Date**—An entry was considered mature when 95% of the pods had turned brown. Dates were recorded by month and day. It is important to select a variety that will mature just prior to the average date of the first killing frost. This will assure that the potential yield of the variety is attained and will decrease the possibility of harvesting losses and poor seed quality.

**Lodging**—Lodging ratings were as follows: 1 = all plants upright; 2 = slight lodging; 3 = plants lodged at 45° angle; 4 = severe lodging; 5 = all plants completely flat. The ratings were made just prior to harvest. If considerable lodging occurs, yield reductions are possible because of decreased light utilization, increased disease susceptibility and increased harvest losses.

**Height**—Plant height was measured in inches from the soil surface to the top node of the main stem that had at least one pod. The measurement was made in advance of harvest. Height is often associated with lodging; that is the taller the plant, the more lodging.

<sup>1</sup>Professor, Assistant Professor and Graduate Student, respectively, Crop and Soil Sciences Department, Michigan State University.

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Table 1 — Southeastern Michigan — 1977 Soybean Variety Performance Results\*  
(location: 1977-Monroe County; 1976-Lenawee County; 1975-Monroe County)

| Source                                           | Variety                          | 1977<br>Yield<br>(Bu/A) | 1975-77<br>Avg. Yield<br>(Bu/A) | Maturity<br>date | Lodging | Height<br>(inches) | Seed size<br>seeds/lb. |
|--------------------------------------------------|----------------------------------|-------------------------|---------------------------------|------------------|---------|--------------------|------------------------|
| Public Releases**                                | Amsoy                            | 39.5                    | 40.0                            | 9-22             | 1.0     | 34                 | 2490                   |
|                                                  | Beeson                           | 40.0                    |                                 | 9-25             | 1.4     | 34                 | 2140                   |
|                                                  | Coles                            | 33.4                    |                                 | 9-18             | 1.0     | 32                 | 2550                   |
|                                                  | Corsoy                           | 44.9                    | 42.8                            | 9-24             | 1.6     | 34                 | 2870                   |
|                                                  | Evans                            | 28.6                    | 30.0                            | 9-10             | 1.0     | 28                 | 2940                   |
|                                                  | Hark                             | 33.8                    | 35.9                            | 9-16             | 1.0     | 29                 | 2550                   |
|                                                  | Harosoy 63                       | 35.8                    | 36.6*                           | 9-19             | 1.5     | 36                 | 2490                   |
|                                                  | Hodgson                          | 35.1                    | 35.6                            | 9-15             | 1.0     | 32                 | 2550                   |
|                                                  | Swift                            | 29.1                    | 29.3*                           | 9-11             | 1.0     | 31                 | 3020                   |
|                                                  | Steele                           | 33.7                    | 34.4                            | 9-12             | 1.0     | 29                 | 2640                   |
| The Andersons                                    | APS 200                          | 47.0                    |                                 | 9-26             | 2.0     | 40                 | 2000                   |
| Farmers Forage<br>Research                       | FFR 225                          | 46.4                    |                                 | 9-27             | 1.5     | 36                 | 2440                   |
|                                                  | FFR 1050                         | 47.9                    |                                 | 9-27             | 1.5     | 33                 | 2410                   |
| W. Lafayette, IN                                 | FFR 2070                         | 36.6                    |                                 | 9-23             | 1.5     | 34                 | 2520                   |
|                                                  | FFR 2140                         | 41.7                    |                                 | 9-28             | 1.5     | 33                 | 2360                   |
|                                                  | FFR 2189                         | 51.0                    |                                 | 9-30             | 1.7     | 42                 | 2270                   |
| Ferry-Morse<br>Seed Co.<br>Geneseo, IL           | Gold Tag 1220                    | 36.6                    |                                 | 9-13             | 1.0     | 32                 | 2440                   |
|                                                  | McKay 1100                       | 26.3                    |                                 | 9-22             | 1.0     | 34                 | 2580                   |
| Funks Seed Int'l<br>Bloomington, IL              | Beechwood                        | 22.1                    |                                 | 9-10             | 1.0     | 29                 | 2550                   |
|                                                  | Nairn                            | 30.3                    |                                 | 9-12             | 1.0     | 30                 | 2700                   |
| Jacob Farms, Inc.<br>Blissfield, MI              | JFI 106                          | 34.0                    |                                 | 9-22             | 1.0     | 34                 | 2490                   |
|                                                  | JFI 106SB4                       | 40.6                    |                                 | 9-25             | 2.3     | 42                 | 2220                   |
|                                                  | JFI 110                          | 37.2                    |                                 | 9-24             | 1.0     | 32                 | 2550                   |
|                                                  | JFI 112                          | 45.5                    |                                 | 9-24             | 1.5     | 37                 | 2550                   |
|                                                  | JFI 114                          | 49.4                    |                                 | 9-28             | 2.0     | 42                 | 2310                   |
| Jacques Seed Co.<br>Prescott, WI                 | J 98                             | 39.5                    | 37.8                            | 9-24             | 2.0     | 39                 | 2870                   |
|                                                  | J 94A                            | 28.9                    |                                 | 9-15             | 1.0     | 31                 | 2770                   |
|                                                  | J 104                            | 40.7                    | 39.1*                           | 9-24             | 1.5     | 34                 | 2700                   |
| N. American<br>Plant Breeders<br>Ames, Iowa      | Agripro 14                       | 40.2                    |                                 | 9-15             | 1.0     | 30                 | 2390                   |
|                                                  | Agripro 18                       | 36.9                    | 35.9*                           | 9-23             | 1.5     | 36                 | 2640                   |
|                                                  | Agripro 20                       | 43.8                    | 40.5                            | 9-24             | 1.5     | 34                 | 2100                   |
|                                                  | NA Ex. 111                       | 39.4                    |                                 | 9-17             | 1.5     | 32                 | 2580                   |
| Northrup, King<br>and Company<br>Washington, IA  | Multivar 41                      | 31.5                    | 33.7*                           | 9-10             | 1.0     | 27                 | 2700                   |
|                                                  | ***Multivar 51                   | 44.9                    | 42.0*                           | 9-26             | 2.5     | 40                 | 2550                   |
|                                                  | ***S 1244                        | 28.8                    | 31.8                            | 9-11             | 1.0     | 28                 | 2640                   |
|                                                  | S 1346                           | 38.5                    | 36.6                            | 9-16             | 1.0     | 25                 | 2550                   |
|                                                  | ***S 1474                        | 44.4                    | 42.4                            | 9-25             | 2.0     | 38                 | 2640                   |
|                                                  | S 1492                           | 45.0                    | 40.3*                           | 9-22             | 1.0     | 25                 | 2700                   |
|                                                  | S 1578                           | 40.5                    |                                 | 9-25             | 1.5     | 37                 | 2410                   |
| Peterson Seed<br>Division<br>Grand Rapids, OH    | P-85                             | 22.5                    | 26.3*                           | 9-10             | 1.0     | 26                 | 2770                   |
|                                                  | P105-P                           | 44.5                    |                                 | 9-25             | 2.0     | 38                 | 2640                   |
|                                                  | P118-11                          | 31.1                    | 32.9*                           | 9-15             | 1.0     | 27                 | 2640                   |
|                                                  | P0877                            | 32.3                    |                                 | 9-10             | 1.0     | 29                 | 2670                   |
|                                                  | P1677                            | 44.0                    |                                 | 9-17             | 1.5     | 35                 | 3020                   |
|                                                  | P2477                            | 45.7                    |                                 | 9-24             | 2.0     | 32                 | 2700                   |
|                                                  | P2877                            | 31.5                    |                                 | 9-25             | 1.5     | 35                 | 2700                   |
|                                                  | P3100                            | 42.9                    |                                 | 9-24             | 1.4     | 37                 | 2580                   |
|                                                  | P3105                            | 45.6                    | 44.5*                           | 9-28             | 2.5     | 42                 | 2580                   |
|                                                  | Pride Co., Inc.<br>Glenhaven, WI | B186                    | 34.7                            | 35.6             | 9-15    | 1.5                | 34                     |
| ***B216                                          |                                  | 42.9                    | 42.9                            | 9-23             | 1.5     | 35                 | 2390                   |
| Soybean Research<br>Foundation<br>Mason City, IL | **SRF 150-P                      | 37.1                    | 37.5                            | 9-16             | 1.0     | 32                 | 2980                   |
|                                                  | **SRF 200                        | 44.2                    | 41.8                            | 9-24             | 2.0     | 40                 | 2640                   |
|                                                  | 72-3176                          | 44.8                    |                                 | 9-28             | 2.0     | 42                 | 2520                   |
|                                                  | 72-3299                          | 28.9                    |                                 | 9-29             | 1.5     | 40                 | 2490                   |
| Voris Seeds, Inc.<br>Windfall, IN                | VB 120                           | 34.0                    |                                 | 9-20             | 1.0     | 33                 | 2730                   |
|                                                  | VS 135                           | 35.8                    |                                 | 9-23             | 1.5     | 36                 | 2550                   |
|                                                  | VB 200                           | 43.4                    |                                 | 9-20             | 1.0     | 34                 | 2640                   |
|                                                  | VS 245                           | 38.8                    | 39.6*                           | 9-24             | 2.0     | 36                 | 2800                   |
| V.R. Seeds, Inc.<br>Flora, IN                    | Beam                             | 39.0                    |                                 | 9-21             | 1.5     | 32                 | 2670                   |
|                                                  | Buccaneer                        | 46.2                    |                                 | 9-23             | 1.5     | 38                 | 2520                   |
|                                                  | Burr                             | 44.0                    |                                 | 9-29             | 2.5     | 41                 | 2340                   |
|                                                  | Classic I                        | 43.5                    |                                 | 9-26             | 1.5     | 38                 | 2670                   |
|                                                  | Viking                           | 33.5                    |                                 | 9-24             | 1.0     | 34                 | 2900                   |

\*For explanation of characters listed, refer to text.

\*1976-1977 two year average yields only.

\*\*These varieties are currently on the "Recommended for Certification" list.

\*\*\*These varieties are currently on "Eligible for Certification" list.

Table 2—Central Michigan—1977 Soybean Variety Performance Results\*  
(location: 1977, 1976-Eaton County; 1975-Ingham County)

| Source                                               | Variety                                       | 1977 Yield (Bu/A) | 1975-77 Avg. Yield (Bu/A) | Maturity date | Lodging | Height (inches) | Seed size seeds/lb. |      |
|------------------------------------------------------|-----------------------------------------------|-------------------|---------------------------|---------------|---------|-----------------|---------------------|------|
| Public Releases**                                    | Amsoy 71                                      | 33.6              | 37.5                      | 9-23          | 2.0     | 37              | 2520                |      |
|                                                      | Beeson                                        | 34.9              |                           | 9-25          | 1.6     | 26              | 2160                |      |
|                                                      | Coles                                         | 37.3              |                           | 9-21          | 1.4     | 37              | 2440                |      |
|                                                      | Corsoy                                        | 33.6              | 39.3                      | 9-23          | 1.3     | 39              | 2730                |      |
|                                                      | Evans                                         | 30.8              | 33.3                      | 9-13          | 1.0     | 30              | 2520                |      |
|                                                      | Hark                                          | 28.2              | 33.4                      | 9-22          | 1.3     | 33              | 2640                |      |
|                                                      | Harosoy 63                                    | 32.1              |                           | 9-25          | 2.7     | 43              | 2470                |      |
|                                                      | Hodgson                                       | 37.2              | 41.2                      | 9-19          | 1.5     | 35              | 2360                |      |
|                                                      | Swift                                         | 23.4              | 27.5*                     | 9-20          | 2.2     | 38              | 2490                |      |
|                                                      | Steele                                        | 23.0              | 33.1                      | 9-18          | 1.0     | 30              | 2520                |      |
| The Andersons<br>Maumee, OH                          | APS 200                                       | 38.3              |                           | 9-25          | 1.5     | 36              | 2440                |      |
| Farmers Forage<br>Research Coop.<br>W. Lafayette, IN | FFR 225                                       | 34.6              |                           | 9-27          | 1.5     | 41              | 2490                |      |
|                                                      | FFR 1050                                      | 32.8              |                           | 9-30          | 2.7     | 42              | 2440                |      |
|                                                      | FFR 2070                                      | 37.3              |                           | 9-26          | 2.7     | 41              | 2360                |      |
|                                                      | FFR 2140                                      | 37.0              |                           | 9-27          | 1.5     | 33              | 2390                |      |
|                                                      | FFR 2189                                      | 23.7              |                           | 10-2          | 2.8     | 43              | 2470                |      |
| Ferry-Morse<br>Seed Co.<br>Geneseo, IL               | Gold Tag 1140                                 | 36.5              |                           | 9-22          | 1.5     | 37              | 2800                |      |
|                                                      | Gold Tag 1170                                 | 41.4              |                           | 9-24          | 1.7     | 38              | 2310                |      |
| Funks Seeds Int'l<br>Bloomington, IL                 | Beechwood                                     | 18.8              |                           | 9-15          | 2.0     | 35              | 2360                |      |
|                                                      | Nairn                                         | 32.2              |                           | 9-18          | 1.5     | 36              | 2600                |      |
| Jacques Seed Co.<br>Prescott, WI                     | J 98                                          | 43.7              | 41.8                      | 9-23          | 2.6     | 42              | 2700                |      |
|                                                      | J 94A                                         | 37.9              |                           | 9-22          | 1.5     | 42              | 2520                |      |
|                                                      | J 104                                         | 38.1              | 40.0                      | 9-26          | 2.8     | 42              | 2700                |      |
| N. American<br>Plant Breeders<br>Ames, IA            | Agripro 14                                    | 35.3              |                           | 9-22          | 2.0     | 36              | 2410                |      |
|                                                      | Agripro 18                                    | 36.0              |                           | 9-24          | 2.8     | 43              | 2770                |      |
|                                                      | Agripro 20                                    | 38.5              |                           | 9-24          | 1.2     | 35              | 2140                |      |
|                                                      | NAPB Ex. 111                                  | 35.2              |                           | 9-22          | 1.3     | 36              | 2670                |      |
| Northrup, King<br>and Company<br>Washington, IA      | Multivar 41                                   | 36.9              | 38.4*                     | 9-23          | 1.5     | 35              | 2520                |      |
|                                                      | ***Multivar 51                                | 30.6              | 33.6*                     | 9-24          | 1.5     | 35              | 2490                |      |
|                                                      | ***S 1244                                     | 31.5              | 39.1                      | 9-21          | 1.5     | 33              | 2290                |      |
|                                                      | S 1346                                        | 40.9              | 41.7                      | 9-22          | 1.2     | 34              | 2360                |      |
|                                                      | ***S 1474                                     | 38.8              | 42.0                      | 9-25          | 2.5     | 44              | 2470                |      |
|                                                      | S 1492                                        | 35.9              | 39.5*                     | 9-26          | 2.2     | 38              | 2550                |      |
|                                                      | S 1578                                        | 37.5              |                           | 9-28          | 2.5     | 38              | 2410                |      |
|                                                      | Peterson Seed<br>Division<br>Grand Rapids, OH | P 85              | 28.2                      | 33.1*         | 9-21    | 1.5             | 33                  | 2550 |
| P 105-P                                              | 37.3                                          |                   | 9-25                      | 2.5           | 40      | 2360            |                     |      |
| P 118-11                                             | P 118-11                                      | 40.7              | 38.3*                     | 9-22          | 1.5     | 34              | 2490                |      |
|                                                      | P 0877                                        | 30.5              |                           | 9-22          | 1.8     | 34              | 2290                |      |
|                                                      | P 1677                                        | 37.5              |                           | 9-18          | 1.0     | 28              | 3340                |      |
|                                                      | P 2477                                        | 31.1              |                           | 9-22          | 1.2     | 34              | 2640                |      |
|                                                      | P 2877                                        | 34.9              |                           | 9-28          | 2.8     | 42              | 2700                |      |
|                                                      | P 3100                                        | 36.0              | 39.5*                     | 9-22          | 1.2     | 34              | 2730                |      |
|                                                      | P 3105                                        | 38.6              | 38.4*                     | 9-29          | 2.8     | 42              | 2550                |      |
|                                                      | Pfizer Genetics<br>Inc.<br>Beaman, IA         | E 94-7            | 34.3                      |               | 9-28    | 2.8             | 41                  | 2080 |
|                                                      |                                               | CX 114            | 34.5                      |               | 9-25    | 2.7             | 40                  | 2580 |
| CX 155                                               |                                               | 35.8              |                           | 9-21          | 1.4     | 35              | 2980                |      |
| CX 175                                               |                                               | 33.9              |                           | 9-20          | 1.2     | 31              | 2910                |      |
| CB 188                                               |                                               | 33.8              |                           | 9-22          | 1.0     | 34              | 2670                |      |
| CX 276                                               | 36.2                                          |                   | 9-24                      | 1.9           | 35      | 2360            |                     |      |
| Pride Co., Inc.<br>Glenhaven, WI                     | B 186                                         | 29.0              | 35.4                      | 9-17          | 1.2     | 36              | 2520                |      |
|                                                      | ***B 216                                      | 35.5              | 40.4                      | 9-25          | 1.5     | 34              | 2640                |      |
| Soybean Research<br>Foundation<br>Mason City, IL     | **SRF 150P                                    | 37.8              | 39.2                      | 9-25          | 2.0     | 44              | 2770                |      |
|                                                      | **SRF 200                                     | 33.3              | 34.9                      | 9-26          | 2.2     | 42              | 2940                |      |
|                                                      | 72-3176                                       | 34.0              |                           | 10-2          | 2.6     | 47              | 2600                |      |
|                                                      | 72-3299                                       | 31.4              |                           | 10-2          | 2.5     | 46              | 2490                |      |
| Vorix Seeds, Inc.<br>Windfall, IN                    | VB 120                                        | 35.3              |                           | 9-24          | 1.8     | 35              | 2520                |      |
|                                                      | VS 135                                        | 31.6              |                           | 9-24          | 1.8     | 41              | 2730                |      |
|                                                      | VB 200                                        | 39.3              |                           | 9-25          | 2.0     | 42              | 2470                |      |
|                                                      | VS 245                                        | 35.3              | 37.0*                     | 9-25          | 2.8     | 41              | 2700                |      |
| V.R. Seeds, Inc.<br>Flora, IN                        | Beam                                          | 36.2              |                           | 9-25          | 1.5     | 37              | 2640                |      |
|                                                      | Buccaneer                                     | 33.2              |                           | 9-22          | 2.7     | 42              | 2470                |      |
|                                                      | Viking                                        | 38.2              |                           | 9-25          | 2.9     | 42              | 2670                |      |

\*For explanation of characters listed, refer to text.

\*\*1976-1977 two year average yields only.

\*\*\*These varieties are currently on the "Recommended for Certification" list.

\*\*\*\*These varieties are currently on the "Eligible for Certification" list.

**Seed Size**—The number of seeds per pound was determined as an expression of seed size. The smaller the seed, the more seeds per pound. The determination of seeds per pound was made on cleaned seed. Seed size is important in its effect on planting rate, depth, seed cleaning and other practices.

#### USE OF DATA

All data presented, except the 1975-1977 yield average, are of varietal performance in 1977. Order of data is alphabetical according to source, and in no

way implies superiority of one source over another.

The presentation of data for the entire tested does not suggest approval or endorsement of varieties by the authors or by those responsible and involved with conducting the performance trials.

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