

**Maize Dwarf Mosaic Ratings  
of Corn Strains Grown Near  
Portsmouth, Ohio, in 1970 and 1971**

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# Maize Dwarf Mosaic Ratings of Corn Strains Grown Near Portsmouth, Ohio, in 1970 and 1971<sup>1</sup>

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## INTRODUCTION

Corn strains were grown and evaluated for resistance to maize dwarf mosaic virus (MDMV) on the farm of Maurice and Ferrell Vaughters in 1970 and 1971. The test site is located along the Ohio River near Portsmouth. A high incidence of MDM disease has occurred at this location each year since 1964.

Cooperative MDM tests between the Ohio Agricultural Research and Development Center and the Agricultural Research Service, U. S. Department of Agriculture, have been conducted at this location each year since 1964. MDM ratings for corn strains tested in 1970 and 1971 are reported in this circular.

## MATERIALS AND METHODS

### 1970 Tests

Weather was favorable for corn growth throughout the 1970 season. High humidity was common during the last 10 days of July and during August and September.

The seeds were hand-planted on May 21 and 22, 1970. The hybrid yield trial was grown in four replications of two-row plots thinned to 60 plants per plot. All strains except hybrids in the yield trial were grown in two-replicate single-row plots. Fifteen seeds of 700-800 and 900 maturity inbreds were individually planted in a plot. Twenty-five seeds of all other corn strains were similarly planted.

Ratings of southern corn leaf blight caused by *Helminthosporium maydis* were made on hybrids grown for yield data. The ratings were based on a 0 to 5 scale. A 0 rating indicated no infection and a 5 rating indicated heavy blighting on all leaves.

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<sup>1</sup>Cooperative investigations of the Plant Science Research Division and Entomology Research Division, Agricultural Research Service, U. S. Dept. of Agriculture, and the Ohio Agricultural Research and Development Center, Wooster.

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### 1971 Tests

The 1971 growing season was characterized by frequent heavy showers and cool night temperatures. The frequent rains contributed to a reduced population of aphids early in the growing season and resulted in wet soil conditions. Previous experience has shown that wet soil conditions put additional stress on plants and increase disease severity.

The seeds were hand-planted on May 20 and 21, 1971. The inbred lines were grown in two-replicate single-row plots. Twenty-five seeds were planted in each plot. The single-cross hybrids were grown in four-replicate single-row plots and thinned to 30 plants per plot.

The plots were maintained free of weed competition throughout both the 1970 and 1971 growing seasons.

### Disease Ratings

Plants were rated for disease severity on a plot basis in both years. MDM ratings were made using the 1 to 9 scale, with a 1.0 rating indicating no visible virus symptoms and a 9.0 rating indicating complete susceptibility. Symptoms associated with MDM susceptibility are chlorosis or loss of green color and height reduction.

Plant height reduction was not associated with a rating of 3.0 or less. Plants rated 2.0 were faintly chlorotic while those rated 3.0 were distinctly chlorotic in the upper leaves. Height was reduced from a slight amount to one-fourth to one-half in plants rated 4.0 to 6.0. Moderate to heavy chlorosis ranged from the upper leaves in plants rated 4.0 to as much as the entire plant in plants rated 6.0. In plants rated 7.0 to 9.0, the height was reduced two-thirds to three-fourths. Ear shoot development was noticeably affected in plants rated 5.0 to 9.0. Plants rated 9.0 had essentially no ear shoot development and were usually dead when late ratings were made. Mean plot ratings are reported.

## DISEASE INCIDENCE

### 1970 Tests

Initial occurrence of MDM at Portsmouth in 1970 began in May and reached highest detectable levels in late July and during August. By July 20, disease potential of MDM was high, resulting in 94% infection of susceptible seedling trap plants (14-day-old WF9 x Oh51A seedlings). These trap plants were reared in the greenhouse and exposed successively in the field during a 7-day period.

MDM spread was not as uniform as in previous years. Occasionally, susceptible plants were seen throughout the planting which were either infected late or appeared healthy.

The incidence of MDMV strain B, the strain which does not in-

fect Johnsongrass, was 16% in trap plants. In previous years, the occurrence of this strain was at a very low level.

#### **1971 Tests**

Initial occurrence of MDM at Portsmouth in 1971 began in mid-May and reached highest detectable levels from mid-July through September. By July 21, disease potential of MDM resulted in 100% infection of susceptible trap plants.

Early MDM infection in susceptible plants was somewhat erratic. Occasional plants known to be susceptible still appeared free of MDM symptoms in late July. Essentially all susceptible plants showed MDM symptoms by mid-August.

Some plants of some inbred lines appeared to be more severely affected with MDM than in previous years. Evidence from test plants indicated that a corn-stunt-like disease, transmissible by leafhoppers but not by aphids, was occurring in low frequency.

In 1971, occurrence of MDM virus strain B, the non-Johnsongrass strain, was negligible.

## **RESULTS**

#### **1970 Tests**

Early MDM ratings of all corn strains were made on July 28. Late MDM ratings of the sweet corn hybrids were made on August 28 and the remaining entries were rated on September 2.

MDM ratings of inbred lines entered by the Ohio Agricultural Research and Development Center are reported in Table 1. Disease ratings of uniform inbred tests sponsored by the North Central Corn Breeding Research Committee of 400-600, 700-800, and 900 maturity groups are reported in Tables 2, 3, and 4, respectively. Ratings of open-pedigree and commercial hybrids grown for MDM ratings only are reported in Table 5. MDM ratings of commercial and open-pedigree hybrids grown for performance data are shown in Table 6. Sweet corn hybrid MDM ratings are reported in Table 7.

Included among the inbred lines in Table 1 are 10 lines, H55, E38-11-11-5, B37, Mo5, Mo18W, N6J, Oh7B, Pa405, Tx601, and Va35, which were part of a uniform MDM test sponsored by the North Central Corn Breeding Research Committee. Inbred lines which were part of a uniform virus test sponsored by the Southern Corn Improvement Conference are identified with a footnote.

Where comparisons could be made, MDM ratings of corn strains in 1970 were generally consistent with ratings in other years. Certain strains, however, were rated more susceptible than in previous years. Possibly this was due to prevalence of MDMV-B, which occurred at an inconsequential level in previous years.

All of the inbred lines in Texas male-sterile cytoplasm (Table 1 with the designation Cms-T) were severely infected with southern corn leaf blight when the September virus ratings were made.

### 1971 Tests

Early MDM ratings were made on July 20, 21, or 29 and late MDM ratings were made on August 17, 18, or 24.

MDM ratings of inbred entries by the Ohio Agricultural Research and Development Center and inbred entries which were part of an "open-end" test sponsored by the Southern Corn Improvement Conference are reported in Table 1. Lines in the "open-end" test are identified with a footnote. Disease ratings of uniform inbred tests sponsored by the North Central Corn Breeding Research Committee of 400-600, 700-800, and 900 maturity groups are reported in Tables 2, 3 and 4, respectively. Ratings of diallel crosses involving five MDM resistant and five susceptible inbreds are reported in Table 8.

### Comparison of Ratings

In general, MDM ratings of inbred lines were consistent between years. Some inbred lines such as Ky226, Pa405, and Va35 were rated more susceptible during the past 2 years. Occurrence of other strains of the MDM virus and virus-like diseases is believed to be the reason.

Inbred lines with late MDM ratings of 3.0 or less in 1970 and 1971 are listed below with their ratings.

| 1970  |     | 1971                              |     |
|-------|-----|-----------------------------------|-----|
| GA209 | 3.0 | GA209                             | 3.0 |
| A239  | 3.0 | R168Ht <sub>1</sub> A             | 2.5 |
| Mo18W | 2.0 | H95                               | 2.5 |
| N7B   | 3.0 | Ky61-2335                         | 2.0 |
| SC333 | 2.0 | A509                              | 3.0 |
| T232  | 3.0 | F-0391                            | 3.0 |
| Tx601 | 2.0 | Mo18W                             | 3.0 |
|       |     | Mo20W                             | 2.5 |
|       |     | N6J                               | 2.5 |
|       |     | o <sub>2</sub> xOh7B <sup>5</sup> | 1.5 |
|       |     | Oh514                             | 2.5 |
|       |     | T232                              | 2.0 |
|       |     | T.61W.C.                          | 2.0 |

**TABLE 1.—Maize Dwarf Mosaic Ratings of Inbred Lines at Portsmouth, Ohio, in 1970 and 1971.\***

| Inbred       | 1970            |               |               | 1971            |               |               |
|--------------|-----------------|---------------|---------------|-----------------|---------------|---------------|
|              | Total<br>Plants | MDM<br>Rating | MDM<br>Rating | Total<br>Plants | MDM<br>Rating | MDM<br>Rating |
|              | No.             | 7-28          | 9-2           | No.             | 7-21          | 8-17          |
| Ab28A†       | 26              | 6.0           | 7.0           | 51              | 7.0           | 8.5           |
| AKh-42†      | 30              | 4.5           | 7.0           |                 |               |               |
| CG1          | 40              | 3.5           | 4.0           | 30              | 4.5           | 5.0           |
| C103         | 27              | 5.5           | 6.0           | 23              | 3.5           | 5.0           |
| C103 Cms-T‡  | 42              | 5.5           | 6.5           |                 |               |               |
| C103 Cms-TRf | 37              | 5.0           | 8.5           |                 |               |               |
| GA209†       | 88              | 2.5           | 3.0           | 38              | 3.0           | 3.0           |
| GT3          | 43              | 4.0           | 5.0           | 26              | 1.5           | 4.0           |
| GT106        | 41              | 5.5           | 6.0           |                 |               |               |
| GT112        | 34              | 4.0           | 4.5           | 33              | 2.5           | 5.5           |
| M14          |                 |               |               | 37              | 8.0           | 8.0           |
| R168         |                 |               |               | 39              | 4.5           | 4.5           |
| A            | 38              | 7.0           | 9.0           |                 |               |               |
| WF9          | 35              | 5.5           | 7.0           |                 |               |               |
| WF9 Cms-T    | 34              | 5.5           | 8.5           |                 |               |               |
| 33-16        | 41              | 4.0           | 6.0           | 34              | 6.0           | 6.5           |
| H55          | 31              | 6.0           | 8.0           |                 |               |               |
| H55 Cms-TRf  | 25              | 8.0           | 9.0           |                 |               |               |
| H73          | 46              | 6.5           | 9.0           |                 |               |               |
| H73 Cms-TRf  | 36              | 7.0           | 9.0           |                 |               |               |
| H84          |                 |               |               | 24              | 7.5           | 8.0           |
| E14-2-9      | 48              | 5.0           | 9.0           |                 |               |               |
| E38-11-11-5  | 42              | 5.0           | 6.0           |                 |               |               |
| L317         | 37              | 6.5           | 9.0           |                 |               |               |
| L317 Cms-TRf | 35              | 6.5           | 9.0           |                 |               |               |
| B14          | 32              | 5.0           | 8.0           | 13              | 7.0           | 8.0           |
| B14 Cms-TRf  | 39              | 5.0           | 9.0           |                 |               |               |
| B14A         | 39              | 5.0           | 7.5           | 36              | 5.5           | 7.0           |
| B37          | 80              | 5.0           | 6.0           | 36              | 5.5           | 7.5           |
| O.P. X B37†  | 45              | 5.0           | 8.5           |                 |               |               |
| B54          | 41              | 3.5           | 4.0           |                 |               |               |
| B69          | 40              | 5.0           | 5.0           | 25              | 5.5           | 8.0           |
| Ia65:1269    | 43              | 6.5           | 8.5           |                 |               |               |
| K61-1        | 18              | 3.5           | 4.0           |                 |               |               |
| K64          |                 |               |               | 36              | 8.5           | 8.5           |
| K150         | 31              | 4.5           | 5.5           | 25              | 6.5           | 7.5           |
| Ky128        | 40              | 4.0           | 4.5           | 40              | 2.0           | 5.0           |
| Ky135        | 33              | 5.5           | 8.5           |                 |               |               |
| Ky226        | 28              | 3.0           | 4.0           | 19              | 3.5           | 4.0           |
| Ky61-2335    | 71              | 3.0           | 4.5           | 25              | 1.5           | 2.0           |

\*Missing data indicate inbred lines were not tested that year.

†Included in "open-end" inbred test sponsored by Southern Corn Improvement Conference.

‡Texas male-sterile cytoplasm.

**TABLE 1 (Continued).—Maize Dwarf Mosaic Ratings of Inbred Lines at Portsmouth, Ohio, in 1970 and 1971.\***

| Inbred      | 1970         |            |            | 1971         |            |            |
|-------------|--------------|------------|------------|--------------|------------|------------|
|             | Total Plants | MDM Rating | MDM Rating | Total Plants | MDM Rating | MDM Rating |
|             | No.          | 7-28       | 9-2        | No.          | 7-21       | 8-17       |
| Ky63-55     | 63           | 4.0        | 5.5        |              |            |            |
| Ky63-56     | 64           | 4.0        | 5.0        |              |            |            |
| Ky66-2500   | 48           | 4.0        | 4.5        |              |            |            |
| MS129       | 37           | 4.5        | 7.0        |              |            |            |
| MS1334      |              |            |            | 24           | 7.0        | 7.0        |
| A73         | 43           | 5.0        | 5.0        | 28           | 3.5        | 4.0        |
| A96         | 40           | 3.5        | 4.0        |              |            |            |
| A239        | 45           | 4.0        | 4.5        | 26           | 1.0        | 4.0        |
| A509        |              |            |            | 31           | 2.0        | 3.0        |
| A554        |              |            |            | 27           | 8.0        | 8.0        |
| A632        |              |            |            | 23           | 7.0        | 9.0        |
| A634        |              |            |            | 25           | 6.0        | 6.5        |
| A635        |              |            |            | 12           | 6.5        | 8.0        |
| Mp339†      | 30           | 5.0        | 6.0        | 37           | 2.0        | 5.0        |
| Mp412†      |              |            |            | 37           | 2.0        | 4.5        |
| Mp420†      |              |            |            | 37           | 7.5        | 8.0        |
| Mp490†      | 82           | 4.0        | 5.0        | 24           | 4.5        | 5.0        |
| F-0391†     | 31           | 2.0        | 4.5        | 21           | 2.5        | 3.0        |
| B2          | 36           | 6.0        | 8.0        |              |            |            |
| Mo5         | 36           | 7.0        | 9.0        |              |            |            |
| Mo12        | 80           | 3.0        | 4.0        | 35           | 3.0        | 3.5        |
| Mo13        | 42           | 5.0        | 7.0        |              |            |            |
| Mo14W       | 42           | 4.5        | 5.0        |              |            |            |
| Mo18W       | 87           | 2.5        | 3.5        |              |            |            |
| N6          | 16           | 4.0        | 7.0        | 38           | 2.5        | 3.5        |
| N6J         | 78           | 3.0        | 5.5        | 32           | 2.5        | 2.5        |
| N7B         | 43           | 3.5        | 3.5        | 38           | 3.5        | 5.0        |
| N7B Cms-TRf | 88           | 4.0        | 7.0        |              |            |            |
| N20         | 41           | 5.5        | 7.5        |              |            |            |
| NC7†        |              |            |            | 35           | 8.0        | 9.0        |
| NC230†      |              |            |            | 34           | 3.5        | 7.5        |
| NC2A7†      |              |            |            | 6            | 1.5        | 4.0        |
| NC2A12†     |              |            |            | 8            | 2.5        | 6.0        |
| NCG2H1†     |              |            |            | 41           | 3.0        | 7.0        |
| NCG2HN†     |              |            |            | 46           | 3.0        | 6.0        |
| NCG5D15†    |              |            |            | 36           | 4.0        | 7.0        |
| NCK5Y2-3†   |              |            |            | 41           | 3.5        | 5.5        |
| JSA52-2     | 37           | 5.0        | 5.0        |              |            |            |
| J62-318     | 38           | 4.5        | 8.0        |              |            |            |
| J62-392     | 39           | 5.5        | 8.0        |              |            |            |

\*Missing data indicate inbred lines were not tested that year.

†Included in "open-end" inbred test sponsored by Southern Corn Improvement Conference.

‡Texas male-sterile cytoplasm



**TABLE 1 (Continued).—Maize Dwarf Mosaic Ratings of Inbred Lines at Portsmouth, Ohio, in 1970 and 1971.\***

| Inbred                              | 1970            |               |               | 1971            |               |               |
|-------------------------------------|-----------------|---------------|---------------|-----------------|---------------|---------------|
|                                     | Total<br>Plants | MDM<br>Rating | MDM<br>Rating | Total<br>Plants | MDM<br>Rating | MDM<br>Rating |
|                                     | No.             | 7-28          | 9-2           | No.             | 7-21          | 8-17          |
| Oh5                                 |                 |               |               | 31              | 3.5           | 5.5           |
| o <sub>2</sub> xOH5 <sup>5</sup>    |                 |               |               | 19              | 5.0           | 7.0           |
| Oh07                                | 87              | 3.0           | 3.5           | 73              | 1.0           | 3.5           |
| Oh07 Cms-T                          | 45              | 3.0           | 4.0           |                 |               |               |
| Oh07 Cms-TRf                        | 44              | 3.0           | 4.0           |                 |               |               |
| Oh7B†                               | 113             | 3.0           | 3.5           | 33              | 1.5           | 3.5           |
| o <sub>2</sub> xOh7B <sup>5</sup>   |                 |               |               | 14              | 1.0           | 1.5           |
| Oh7B X Oh07Cms-TRf                  | 46              | 2.5           | 2.5           |                 |               |               |
| Oh7K                                | 44              | 6.0           | 8.0           | 31              | 6.0           | 7.0           |
| Oh7K Cms-TRf                        | 46              | 5.5           | 9.0           |                 |               |               |
| Oh7N                                | 40              | 6.0           | 7.0           | 26              | 6.0           | 7.5           |
| Oh7N Cms-T                          | 36              | 5.0           | 8.0           |                 |               |               |
| Oh26                                |                 |               |               | 31              | 6.0           | 8.0           |
| fl <sub>2</sub> xOH26 <sup>6</sup>  |                 |               |               | 33              | 6.0           | 8.0           |
| Oh26F                               |                 |               |               | 34              | 7.0           | 7.5           |
| fl <sub>2</sub> xOh26F <sup>7</sup> |                 |               |               | 38              | 7.0           | 7.5           |
| Oh28                                | 18              | 7.0           | 9.0           |                 |               |               |
| Oh40B                               |                 |               |               | 22              | 9.0           | 9.0           |
| fl <sub>2</sub> xOH40B <sup>5</sup> |                 |               |               | 29              | 9.0           | 9.0           |
| o <sub>2</sub> xOh40B <sup>6</sup>  |                 |               |               | 24              | 9.0           | 9.0           |
| Oh41                                |                 |               |               | 24              | 6.5           | 8.0           |
| o <sub>2</sub> xOh41 <sup>6</sup>   |                 |               |               | 29              | 5.0           | 8.0           |
| Oh43                                | 69              | 5.0           | 6.5           | 6               | 7.0           | 8.0           |
| Oh45                                | 42              | 6.5           | 9.0           | 28              | 8.5           | 9.0           |
| Oh422                               | 39              | 5.5           | 7.0           | 25              | 7.5           | 7.5           |
| Oh509†                              |                 |               |               | 72              | 2.5           | 4.5           |
| Oh514                               | 82              | 3.0           | 3.5           | 27              | 1.0           | 2.5           |
| Pa11                                | 41              | 5.5           | 6.5           |                 |               |               |
| Pa11 Cms-TRf                        | 26              | 5.0           | 7.0           |                 |               |               |
| Pa32                                | 42              | 5.0           | 6.5           | 29              | 7.0           | 6.5           |
| Pa32 Cms-TRf                        | 43              | 6.0           | 8.5           |                 |               |               |
| Pa405                               | 83              | 3.0           | 4.5           | 23              | 3.5           | 4.5           |
| Pa884P                              | 34              | 5.5           | 6.0           | 19              | 5.0           | 6.0           |
| SC138-28                            | 13              | 5.5           | 7.0           |                 |               |               |
| SC152                               | 34              | 3.5           | 4.0           |                 |               |               |
| SC155                               | 26              | 3.5           | 4.5           |                 |               |               |
| SC155Y†                             |                 |               |               | 41              | 1.5           | 3.5           |
| SC212M                              | 43              | 5.0           | 5.0           |                 |               |               |
| SC214                               | 38              | 4.5           | 5.0           |                 |               |               |
| SC229†                              | 40              | 5.0           | 8.5           |                 |               |               |
| SC233                               | 41              | 4.5           | 5.0           |                 |               |               |

\*Missing data indicate inbred lines were not tested that year.

†Included in "open-end" inbred test sponsored by Southern Corn Improvement Conference.

‡Texas male-sterile cytoplasm.

**TABLE 1 (Continued).—Maize Dwarf Mosaic Ratings of Inbred Lines at Portsmouth, Ohio, in 1970 and 1971.\***

| Inbred           | 1970         |            |            | 1971         |            |            |
|------------------|--------------|------------|------------|--------------|------------|------------|
|                  | Total Plants | MDM Rating | MDM Rating | Total Plants | MDM Rating | MDM Rating |
|                  | No.          | 7-28       | 9-2        | No.          | 7-21       | 8-17       |
| SC254            | 36           | 3.5        | 4.5        |              |            |            |
| SC276Q2†         | 37           | 5.0        | 5.0        | 80           | 3.5        | 5.0        |
| SC333            | 43           | 2.5        | 2.0        | 40           | 4.0        | 4.5        |
| SC335            | 42           | 5.0        | 6.5        |              |            |            |
| SC343†           | 87           | 3.0        | 4.0        |              |            |            |
| SC354            | 47           | 3.0        | 4.5        |              |            |            |
| SC359            | 35           | 2.5        | 4.0        |              |            |            |
| SC389            | 43           | 4.0        | 5.5        |              |            |            |
| SC399†           |              |            |            | 25           | 3.5        | 6.0        |
| SC401†           |              |            |            | 33           | 4.0        | 5.0        |
| SCPM6            | 35           | 3.0        | 4.5        |              |            |            |
| SD10             | 45           | 6.0        | 8.0        |              |            |            |
| T.61W.C.†        |              |            |            | 42           | 1.5        | 2.0        |
| T105†            | 21           | 6.0        | 8.5        |              |            |            |
| T216             | 44           | 5.5        | 7.5        |              |            |            |
| T226             | 44           | 5.0        | 7.0        |              |            |            |
| T232†            | 49           | 1.5        | 3.0        | 36           | 1.0        | 1.0        |
| Tx29A†           |              |            |            | 44           | 2.0        | 4.0        |
| Tx61M            | 39           | 5.0        | 6.0        |              |            |            |
| Tx203-2†         |              |            |            | 34           | 5.0        | 6.0        |
| Tx501†           |              |            |            | 24           | 7.5        | 7.5        |
| Tx601†           | 57           | 1.5        | 2.0        | 38           | 2.5        | 4.5        |
| Tx602†           |              |            |            | 48           | 4.5        | 5.0        |
| Tx5902†          |              |            |            | 38           | 9.0        | 9.0        |
| Tx5904†          |              |            |            | 20           | 8.0        | 8.0        |
| Tx5754-4†        |              |            |            | 31           | 8.0        | 8.5        |
| Tx5563†          |              |            |            | 24           | 9.0        | 9.0        |
| Tx6001-5†        |              |            |            | 44           | 8.0        | 8.5        |
| Cl.21†           | 41           | 4.0        | 6.5        | 24           | 3.5        | 7.0        |
| Cl.38B           | 81           | 4.0        | 5.0        | 24           | 6.0        | 6.0        |
| Cl.38B Cms-T     | 62           | 4.5        | 7.5        |              |            |            |
| Cl.38B Cms-TRf   | 29           | 4.5        | 9.0        |              |            |            |
| Cl.44            |              |            |            | 32           | 1.5        | 3.5        |
| Cl.45†           |              |            |            | 31           | 1.5        | 3.5        |
| Cl.90C†          | 40           | 4.0        | 8.5        | 34           | 4.5        | 7.5        |
| Cl.187-2         | 32           | 6.0        | 9.0        |              |            |            |
| Cl.187-2 Cms-TRf | 34           | 6.5        | 9.0        |              |            |            |
| Va35             | 86           | 4.0        | 6.0        | 38           | 4.0        | 6.5        |
| W22R             | 35           | 5.5        | 9.0        |              |            |            |
| W22R Cms-TRf     | 32           | 6.0        | 9.0        |              |            |            |
| W64A             | 43           | 6.0        | 7.5        |              |            |            |
| W64A Cms-T       | 31           | 6.5        | 9.0        |              |            |            |

\*Missing data indicate inbred lines were not tested that year.

†Included in "open-end" inbred test sponsored by Southern Corn Improvement Conference.

‡Texas male-sterile cytoplasm.

**TABLE 2.—Maize Dwarf Mosaic Ratings of North Central Corn Breeding Research Committee Uniform 400-600 Maturity Inbreds at Portsmouth, Ohio, in 1970 and 1971.**

| Inbred                | 1970         |            |            | 1971         |            |            |
|-----------------------|--------------|------------|------------|--------------|------------|------------|
|                       | Total Plants | MDM Rating | MDM Rating | Total Plants | MDM Rating | MDM Rating |
|                       | No.          | 7-28       | 9-2        | No.          | 7-21       | 8-17       |
| C123                  | 48           | 5.5        | 7.5        | 23           | 5.0        | 6.0        |
| M14                   | 35           | 5.5        | 8.5        | 17           | 7.0        | 8.5        |
| RM14Ht <sub>1</sub> A | 38           | 6.5        | 8.5        | 14           | 7.0        | 9.0        |
| R168Ht <sub>1</sub> A | 50           | 3.0        | 8.0        | 36           | 2.5        | 2.5        |
| R181Ht <sub>1</sub> B | 41           | 6.0        | 8.0        | 24           | 5.0        | 8.0        |
| F502                  | 50           | 6.0        | 8.5        | 29           | 2.5        | 6.0        |
| F522                  | 46           | 5.0        | 6.0        | 30           | 2.5        | 5.5        |
| H73                   | 45           | 6.0        | 9.0        | 37           | 5.5        | 7.5        |
| H88                   | 47           | 5.0        | 7.5        | 41           | 7.0        | 7.0        |
| H95                   | 45           | 4.5        | 4.0        | 38           | 3.0        | 2.5        |
| MS57                  | 37           | 4.5        | 7.0        | 22           | 7.5        | 8.0        |
| MS67                  | 44           | 4.5        | 8.5        | 37           | 6.5        | 6.5        |
| MS68                  | 43           | 6.0        | 9.0        | 21           | 8.0        | 8.5        |
| MS80                  | 43           | 4.5        | 4.5        | 24           | 5.0        | 4.5        |
| MS106                 | 39           | 6.0        | 7.0        | 27           | 7.0        | 8.0        |
| MS107                 | 41           | 5.5        | 8.0        | 18           | 7.0        | 8.5        |
| MS132                 | 46           | 5.5        | 8.5        | 18           | 6.5        | 8.5        |
| MS142                 | 44           | 5.5        | 8.0        | 16           | 8.0        | 9.0        |
| MS153                 | 50           | 6.5        | 8.0        | 35           | 6.5        | 7.5        |
| MS213                 | 48           | 4.5        | 5.5        | 33           | 6.0        | 6.5        |
| MS214                 | 50           | 6.0        | 9.0        | 23           | 7.5        | 7.5        |
| A68-6                 | 41           | 4.0        | 7.0        |              |            |            |
| A239                  | 32           | 4.0        | 3.0        | 40           | 1.5        | 3.5        |
| A257                  | 46           | 5.0        | 8.5        | 18           | 5.0        | 7.5        |
| A295                  | 39           | 7.5        | 9.0        | 27           | 7.0        | 9.0        |
| A427                  | 43           | 5.0        | 9.0        | 19           | 5.5        | 9.0        |
| A619                  | 42           | 6.0        | 8.5        | 21           | 7.5        | 8.0        |
| A628                  | 47           | 5.5        | 7.0        | 32           | 7.5        | 7.5        |
| A629                  | 49           | 4.5        | 5.0        | 33           | 7.5        | 8.0        |
| A556                  | 42           | 6.0        | 8.0        | 19           | 7.0        | 8.5        |
| A646                  | 40           | 6.5        | 9.0        | 30           | 5.5        | 7.0        |
| A657                  |              |            |            | 16           | 7.5        | 8.5        |
| N20                   | 47           | 5.5        | 7.5        | 28           | 6.5        | 8.5        |
| Oh43                  | 43           | 6.0        | 6.0        | 22           | 7.5        | 7.5        |
| Oh51A                 | 44           | 5.5        | 7.0        | 35           | 7.0        | 7.5        |
| Oh545                 | 40           | 6.0        | 8.5        | 35           | 8.5        | 8.5        |
| Oh57:1044             | 44           | 6.5        | 9.0        | 32           | 5.5        | 7.0        |
| Pa405                 | 45           | 3.0        | 5.0        | 35           | 5.5        | 7.5        |
| Pa409                 | 39           | 4.5        | 8.0        | 27           | 7.0        | 8.5        |
| SD10                  | 40           | 6.5        | 9.0        | 22           | 7.5        | 9.0        |

**TABLE 2 (Continued).—Maize Dwarf Mosaic Ratings of North Central Corn Breeding Research Committee Uniform 400-600 Maturity Inbreds at Portsmouth, Ohio, in 1970 and 1971.**

| Inbred   | 1970         |            |            | 1971         |            |            |
|----------|--------------|------------|------------|--------------|------------|------------|
|          | Total Plants | MDM Rating | MDM Rating | Total Plants | MDM Rating | MDM Rating |
|          | No.          | 7-28       | 9-2        | No.          | 7-21       | 8-17       |
| W22R(G9) | 47           | 6.5        | 9.0        | 27           | 7.5        | 8.5        |
| W61BR-3  | 46           | 4.5        | 5.0        | 17           | 8.5        | 8.5        |
| W64A     | 48           | 5.5        | 8.5        | 38           | 8.0        | 8.0        |
| W64AR    | 46           | 5.5        | 7.5        | 32           | 8.0        | 8.0        |
| W117     | 42           | 4.0        | 7.0        | 25           | 7.5        | 8.0        |
| W153R    | 44           | 6.0        | 8.0        | 32           | 8.0        | 8.5        |
| W182B    | 37           | 7.0        | 9.0        | 28           | 9.0        | 9.0        |
| W182E    | 33           | 6.5        | 9.0        | 31           | 9.0        | 9.0        |
| W729C    | 37           | 5.5        | 8.0        | 39           | 8.0        | 8.5        |

**TABLE 3.—Maize Dwarf Mosaic Ratings of North Central Corn Breeding Research Committee Uniform 700-800 Maturity Inbred Lines at Portsmouth, Ohio, in 1970 and 1971.**

| Inbred                 | 1970         |            |            | 1971         |            |            |
|------------------------|--------------|------------|------------|--------------|------------|------------|
|                        | Total Plants | MDM Rating | MDM Rating | Total Plants | MDM Rating | MDM Rating |
|                        | No.          | 7-28       | 9-2        | No.          | 7-29       | 8-18       |
| R177 Ht <sub>1</sub> A | 20           | 6.5        | 8.5        | 28           | 5.0        | 6.0        |
| RHy2 Ht <sub>1</sub> B | 20           | 5.0        | 7.0        | 21           | 7.5        | 8.5        |
| H49                    | 28           | 5.5        | 4.5        | 29           | 5.0        | 5.0        |
| H60                    | 22           | 6.0        | 6.5        | 9            | 6.0        | 6.0        |
| H84                    | 30           | 6.5        | 7.5        | 36           | 7.0        | 8.0        |
| H88                    | 24           | 4.0        | 5.5        | 26           | 7.0        | 7.0        |
| H91                    | 25           | 5.5        | 7.0        | 13           | 5.5        | 6.5        |
| H92                    | 28           | 6.0        | 6.5        | 21           | 7.0        | 8.0        |
| H93                    | 16           | 5.5        | 5.5        | 30           | 7.5        | 8.5        |
| H94                    | 27           | 6.5        | 6.5        | 21           | 6.0        | 6.5        |
| H95                    | 27           | 4.0        | 4.0        | 39           | 2.5        | 2.5        |
| H96                    | 12           | 7.5        | 8.0        | 28           | 9.0        | 9.0        |
| WF9                    | 20           | 5.5        | 6.5        | 28           | 6.5        | 8.5        |
| B14A                   | 20           | 4.5        | 7.0        | 12           | 6.5        | 7.5        |
| B37                    | 24           | 5.0        | 6.0        | 22           | 7.5        | 8.5        |

**TABLE 3 (Continued).—Maize Dwarf Mosaic Ratings of North Central Corn Breeding Research Committee Uniform 700-800 Maturity Inbred Lines at Portsmouth, Ohio, in 1970 and 1971.**

| Inbred | 1970            |               |               | 1971            |               |               |
|--------|-----------------|---------------|---------------|-----------------|---------------|---------------|
|        | Total<br>Plants | MDM<br>Rating | MDM<br>Rating | Total<br>Plants | MDM<br>Rating | MDM<br>Rating |
|        | No.             | 7-28          | 9-2           | No.             | 7-29          | 8-18          |
| B49    | 6               | 5.5           | 8.5           | 24              | 8.0           | 8.0           |
| B52    | 25              | 4.5           | 5.0           | 35              | 5.0           | 7.0           |
| B54    | 19              | 3.0           | 5.5           | 27              | 3.5           | 4.0           |
| B57    | 15              | 6.0           | 7.0           | 31              | 8.0           | 8.5           |
| B66    | 21              | 6.5           | 6.5           | 27              | 5.5           | 7.0           |
| B67    | 23              | 6.0           | 5.5           | 24              | 5.5           | 5.5           |
| B68    | 26              | 4.5           | 6.0           | 26              | 5.5           | 6.5           |
| B69    | 27              | 5.0           | 6.0           | 16              | 7.5           | 7.0           |
| B73    | 23              | 5.5           | 6.5           | 26              | 8.0           | 9.0           |
| Mo1W   | 24              | 5.0           | 5.5           | 36              | 4.5           | 5.0           |
| Mo3    | 23              | 6.0           | 5.5           | 22              | 7.0           | 8.0           |
| Mo5    | 19              | 7.5           | 8.5           | 29              | 8.0           | 8.5           |
| Mo6    | 25              | 7.0           | 6.5           | 17              | 6.0           | 6.5           |
| Mo11   | 18              | 3.5           | 6.5           | 25              | 7.0           | 8.0           |
| Mo12   | 28              | 1.5           | 3.5           | 22              | 3.0           | 3.5           |
| Mo14W  | 24              | 3.5           | 7.5           | 18              | 7.0           | 7.0           |
| Mo17   | 18              | 6.0           | 5.0           | 37              | 6.0           | 5.0           |
| Mo19   | 24              | 3.5           | 6.5           | 26              | 5.0           | 7.5           |
| Mo20W  | 28              | 1.0           | 4.0           | 44              | 1.0           | 2.5           |
| N7A    | 10              | 4.5           | 6.0           | 39              | 3.5           | 5.5           |
| N7B    | 25              | 3.0           | 3.0           | 33              | 4.0           | 4.5           |
| N22A   | 18              | 5.5           | 6.0           | 17              | 7.0           | 7.0           |
| N28    | 25              | 5.5           | 7.5           | 31              | 5.0           | 5.5           |
| N31    | 13              | 3.5           | 5.0           | 21              | 5.0           | 5.0           |
| N101   | 24              | 4.5           | 5.0           | 31              | 6.5           | 7.5           |
| N103   | 23              | 3.5           | 5.0           | 23              | 5.5           | 6.0           |
| N104   | 18              | 5.0           | 4.5           | 20              | 7.0           | 6.5           |
| N138   | 18              | 5.0           | 5.5           | 21              | 6.5           | 8.0           |
| Oh41   | 13              | 6.5           | 7.5           | 29              | 5.5           | 7.5           |
| Oh507  | 16              | 6.0           | 8.0           | 31              | 6.5           | 7.5           |
| Oh508  | 24              | 4.5           | 6.0           | 15              | 6.0           | 7.5           |
| Oh509  | 21              | 1.0           | 4.0           | 28              | 4.0           | 4.0           |
| Oh510  | 26              | 5.0           | 5.0           | 35              | 4.5           | 5.5           |
| Oh511  | 23              | 4.0           | 6.0           | 27              | 6.0           | 7.5           |
| Oh512  | 29              | 5.5           | 6.5           | 35              | 6.0           | 6.0           |
| Oh545  | 25              | 6.0           | 7.0           | 35              | 7.5           | 8.0           |
| Cl.31A | 21              | 6.5           | 7.5           | 25              | 8.5           | 9.0           |

**TABLE 4.—Maize Dwarf Mosaic Ratings of North Central Corn Breeding Research Committee Uniform 900 Maturity Inbred Lines at Portsmouth, Ohio, in 1970 and 1971.**

| Inbred | 1970            |               |               | 1971            |               |               |
|--------|-----------------|---------------|---------------|-----------------|---------------|---------------|
|        | Total<br>Plants | MDM<br>Rating | MDM<br>Rating | Total<br>Plants | MDM<br>Rating | MDM<br>Rating |
|        | No.             | 7-28          | 9-2           | No.             | 7-29          | 8-17          |
| 33-16  | 28              | 5.0           | 5.5           | 35              | 4.0           | 6.5           |
| K804   | 17              | 8.0           | 8.5           | 20              | 8.0           | 8.5           |
| K809   | 15              | 3.5           | 4.5           | 24              | 4.5           | 4.0           |
| K9214  | 16              | 3.5           | 4.5           | 10              | 4.0           | 4.5           |
| K9266  |                 |               |               | 31              | 8.0           | 7.5           |
| K9385  | 23              | 4.0           | 7.0           | 26              | 5.5           | 7.0           |
| K9390  | 23              | 1.5           | 5.5           |                 |               |               |
| K9408  | 22              | 8.0           | 7.5           | 41              | 7.5           | 8.0           |
| Ky128  | 3               | 1.0           | 5.0           | 36              | 4.0           | 4.5           |
| Ky201  | 8               | 5.0           | 8.0           |                 |               |               |
| Ky209  | 20              | 6.0           | 6.5           | 24              | 7.5           | 8.0           |
| Ky211  | 11              | 4.5           | 7.0           | 25              | 7.5           | 8.0           |
| Ky216  | 26              | 6.0           | 7.5           | 45              | 5.0           | 5.5           |
| Ky217  | 26              | 3.0           | 4.5           | 34              | 4.0           | 4.5           |
| Ky222  | 2               | 2.0           | 6.0           |                 |               |               |
| Ky225  | 22              | 6.5           | 6.0           | 28              | 5.0           | 6.5           |
| Ky226  | 8               | 3.5           | 5.0           | 22              | 7.0           | 8.5           |
| Ky228  | 12              | 5.0           | 7.5           | 20              | 5.5           | 7.0           |
| Mo3    | 21              | 5.0           | 6.0           | 17              | 7.5           | 9.0           |
| Mo6    | 14              | 4.5           | 6.5           | 24              | 4.5           | 5.5           |
| Mo7    | 23              | 4.5           | 6.0           | 28              | 6.5           | 7.0           |
| Mo10   | 24              | 3.5           | 5.0           | 28              | 7.5           | 7.0           |
| Mo12   | 16              | 1.5           | 5.5           | 27              | 3.5           | 3.0           |
| Mo13   | 24              | 5.0           | 6.0           | 37              | 5.5           | 6.5           |
| Mo14W  | 21              | 3.0           | 5.5           | 30              | 4.5           | 5.5           |
| Mo17   | 20              | 5.5           | 6.5           | 19              | 7.5           | 6.5           |
| Mo18W  | 26              | 2.5           | 2.0           | 24              | 3.5           | 3.0           |
| Mo20W  | 27              | 2.5           | 4.5           | 39              | 1.0           | 2.0           |
| Oh7B   | 23              | 1.0           | 3.5           | 26              | 2.5           | 2.0           |
| T111   | 15              | 4.0           | 5.5           | 19              | 6.5           | 6.5           |
| T115   | 18              | 3.0           | 4.5           | 35              | 6.0           | 5.5           |
| T204   | 11              | 4.5           | 5.0           | 31              | 4.0           | 4.5           |
| T206   | 18              | 7.0           | 8.0           | 33              | 7.0           | 8.0           |
| T212   | 18              | 6.5           | 5.5           | 20              | 6.5           | 7.0           |
| T218   | 14              | 8.5           | 6.5           | 30              | 8.0           | 9.0           |
| T220   | 20              | 4.0           | 6.5           | 28              | 5.5           | 5.5           |
| T222   | 7               | 3.5           | 5.0           | 20              | 5.0           | 6.0           |
| T224   | 14              | 3.0           | 4.5           | 24              | 5.0           | 4.0           |
| T232   | 26              | 1.0           | 3.0           | 41              | 2.5           | 2.0           |
| Cl.21E | 23              | 2.0           | 5.5           | 31              | 5.5           | 5.5           |
| Va35   | 27              | 4.0           | 5.5           | 28              | 5.0           | 6.5           |
| Va55   | 26              | 8.0           | 6.5           |                 |               |               |
| Va71   | 24              | 6.5           | 7.0           |                 |               |               |
| Va84   | 19              | 3.5           | 4.5           | 44              | 4.0           | 5.0           |
| Va85   | 23              | 4.0           | 5.0           | 36              | 5.5           | 7.0           |
| Va89   | 25              | 8.0           | 7.5           |                 |               |               |

**TABLE 5.—Maize Dwarf Mosaic Ratings of Dent Hybrids at Portsmouth, Ohio, in 1970.**

| Hybrid                          | Total<br>Plants | MDM<br>Rating | MDM<br>Rating |
|---------------------------------|-----------------|---------------|---------------|
|                                 | No.             | 7-28          | 9-2           |
| Asgrow H69329                   | 49              | 5.0           | 4.5           |
| Asgrow H69331                   | 50              | 4.0           | 4.5           |
| Asgrow H69350A                  | 49              | 3.5           | 4.0           |
| Asgrow H69381A                  | 44              | 4.0           | 4.5           |
| Stull 550W                      | 50              | 3.0           | 4.0           |
| Stull 700WSP                    | 35              | 2.5           | 3.5           |
| Stull Exp. 1808                 | 43              | 3.0           | 4.5           |
| Stull 3074                      | 47              | 2.5           | 4.0           |
| Stull 9074SP                    | 44              | 1.0           | 3.5           |
| B45 x B14A                      | 34              | 3.0           | 5.5           |
| N7B x B14A                      | 41              | 3.5           | 5.0           |
| B37 x B14A                      | 42              | 5.0           | 5.0           |
| B37 x C103                      | 34              | 3.5           | 4.5           |
| N7B x C103                      | 37              | 3.0           | 3.0           |
| B45 x C103                      | 46              | 4.0           | 3.5           |
| Oh07 x Oh41                     | 39              | 2.5           | 3.5           |
| Mo12 x Oh7B                     | 46              | 1.0           | 2.5           |
| B37 x Oh67:6088                 | 50              | 2.5           | 3.5           |
| (N7B x Oh514) (Va35 x Cl. 38B)  | 50              | 2.5           | 3.5           |
| (N7B x Oh514) (Oh502 x N5)      | 48              | 2.5           | 3.5           |
| (Oh7B x Va35) (B37 x B14A)      | 47              | 3.5           | 3.5           |
| (N7B x Oh514) (Oh45C x N5)      | 46              | 2.5           | 3.5           |
| (Oh07 x Oh514) (Oh45C x N5)     | 49              | 2.5           | 3.5           |
| (N7B x Mo12) (Oh45C x N5)       | 34              | 2.5           | 3.5           |
| (Oh7B x Oh514) (Va35 x Cl. 38B) | 45              | 2.5           | 3.5           |
| (N7B x Oh514) (Va35 x B54)      | 42              | 2.0           | 3.5           |

**TABLE 6.—Maize Dwarf Mosaic Ratings of Commercial and Open-Pedigree Hybrids Grown in a Four-Replicate Performance Trial at Portsmouth, Ohio, in 1970.**

| Hybrid No.<br>or Pedigree  | Stand | MDM Rating |      | H. maydis<br>Rating |     |
|----------------------------|-------|------------|------|---------------------|-----|
|                            |       | %          | 7-28 |                     | 9-2 |
| Asgrow 61719               | 100   |            | 4.8  | 5.0                 | 5.0 |
| Asgrow 61724               | 100   |            | 4.0  | 4.5                 | 5.0 |
| Crow 954                   | 100   |            | 2.3  | 2.8                 | 2.0 |
| Funk G4761                 | 100   |            | 2.0  | 2.8                 | 3.1 |
| Funk 23413                 | 100   |            | 1.8  | 2.0                 | 3.0 |
| Hiser S88                  | 100   |            | 5.0  | 4.8                 | 4.9 |
| Kenworthy K411             | 101   |            | 3.3  | 3.8                 | 4.9 |
| Kenworthy K465             | 99    |            | 4.0  | 3.8                 | 4.4 |
| Kenworthy K502             | 99    |            | 3.8  | 4.5                 | 5.0 |
| Landmark C897XX            | 100   |            | 4.5  | 4.5                 | 4.6 |
| Mark M425                  | 100   |            | 3.8  | 3.8                 | 3.8 |
| Mark M423E                 | 100   |            | 2.8  | 3.5                 | 4.4 |
| Mark M424M                 | 100   |            | 2.5  | 3.0                 | 4.5 |
| Moews M721                 | 100   |            | 5.3  | 5.3                 | 4.4 |
| Moews SM620                | 100   |            | 5.3  | 5.3                 | 4.9 |
| Moews SM730                | 100   |            | 4.5  | 4.8                 | 5.0 |
| Moews SM3359W              | 100   |            | 4.0  | 4.0                 | 2.5 |
| Moews SM5559W              | 100   |            | 4.0  | 4.8                 | 5.0 |
| P.A.G. SX17                | 100   |            | 1.5  | 2.8                 | 3.8 |
| P.A.G. SX90W               | 100   |            | 2.0  | 2.3                 | 2.5 |
| P.A.G. 439                 | 100   |            | 2.8  | 2.8                 | 4.9 |
| P.A.G. Exp. 19520          | 100   |            | 1.8  | 2.8                 | 1.1 |
| Pioneer 511A               | 100   |            | 2.8  | 3.3                 | 1.3 |
| Pioneer 3147 (X8583)       | 100   |            | 2.0  | 1.8                 | 0.0 |
| Pioneer 3188               | 100   |            | 4.3  | 4.3                 | 4.1 |
| Pioneer X6499              | 100   |            | 2.5  | 3.0                 | 3.5 |
| Pioneer X8445              | 100   |            | 1.3  | 2.3                 | 0.0 |
| Porter Exp. 81B            | 100   |            | 4.3  | 5.0                 | 4.5 |
| Ruff RW21                  | 100   |            | 4.3  | 3.8                 | 4.3 |
| Ruff RW23                  | 100   |            | 4.0  | 3.5                 | 4.1 |
| Ruff RW26                  | 100   |            | 3.0  | 4.0                 | 4.1 |
| Ruff RX1266                | 100   |            | 2.0  | 2.5                 | 4.4 |
| Williams W100              | 100   |            | 2.8  | 3.3                 | 4.8 |
| (B14xH84) (CR5-2DxCR159K)  | 100   |            | 5.8  | 5.8                 | 3.8 |
| (B37xA632) (CR5-2DxCR159K) | 100   |            | 6.8  | 5.8                 | 5.0 |
| Ky61-235 x Mo18W           | 100   |            | 1.3  | 1.0                 | 0.1 |
| Oh7B x Mo12                | 100   |            | 1.0  | 2.0                 | 1.5 |
| Oh514 x Oh07               | 100   |            | 1.0  | 2.0                 | 0.4 |
| (Oh7BxMo12) (Cl.38BxVa35)  | 100   |            | 2.8  | 2.8                 | 0.6 |
| (N7BxOh514) (Va35xN6)      | 100   |            | 3.0  | 3.8                 | 2.5 |



**TABLE 7.—Maize Dwarf Mosaic Ratings of Sweet Corn Hybrids at Portsmouth, Ohio, in 1970.**

| Hybrid                    | Total<br>Plants | Days to<br>Mid-Silk | MDM<br>Rating | MDM<br>Rating |
|---------------------------|-----------------|---------------------|---------------|---------------|
|                           | No.             | No.                 | 7-28          | 8-19          |
| Asgrow Wintergreen        | 36              | 58                  | 3.5           | 4.5           |
| Crookham Cr. 647          | 34              | 59                  | 5.0           | 6.0           |
| Crookham Cr. 1007         | 28              | 60                  | 4.0           | 5.0           |
| Crookham Cr. 1008         | 35              | 60                  | 5.5           | 6.5           |
| Crookham Cr. 1009         | 39              | 58                  | 4.5           | 5.5           |
| Crookham Cr. 1020         | 37              | 59                  | 4.5           | 4.5           |
| Crookham Cr. 485:65       | 35              | 61                  | 2.5           | 3.0           |
| Crookham Cr. 522:67       | 39              | 58                  | 4.0           | 5.0           |
| Crookham Jamboree         | 36              | 60                  | 5.5           | 6.5           |
| Ferry Morse E5555         | 38              | 60                  | 2.0           | 2.5           |
| Ferry Morse E5575C        | 40              | 60                  | 5.5           | 6.0           |
| Ferry Morse E5625         | 32              | 60                  | 6.0           | 6.5           |
| Ferry Morse E6550         | 43              | 60                  | 4.5           | 5.5           |
| Ferry Morse E7515         | 36              | 57                  | 4.5           | 4.5           |
| Ferry Morse E7560         | 38              | 58                  | 4.5           | 5.5           |
| Ferry Morse E7590         | 28              | 58                  | 4.0           | 4.0           |
| Green Giant TR-23#1       | 33              | 59                  | 7.0           | 8.5           |
| Green Giant TR-23#2       | 28              | 58                  | 6.5           | 9.0           |
| Green Giant TR-23#3       | 36              | 55                  | 6.5           | 7.0           |
| Green Giant TR-23#4       | 38              | 59                  | 5.5           | 6.5           |
| Green Giant TR-23#5       | 30              | 59                  | 6.5           | 9.0           |
| Green Giant TR-23#6       | 32              | 57                  | 6.0           | 8.0           |
| Green Giant TR-23#7       | 44              | 56                  | 5.5           | 7.0           |
| Green Giant TR-23#8       | 32              | 60                  | 5.0           | 5.5           |
| Green Giant TR-23#9       | 28              | 60                  | 6.0           | 7.0           |
| Green Giant TR-23#10      | 35              | 59                  | 6.0           | 7.0           |
| Green Giant TR-23#11      | 32              | 57                  | 5.0           | 7.0           |
| Green Giant TR-23#12      | 35              | 58                  | 6.0           | 7.5           |
| Green Giant TR-23#13      | 37              | 59                  | 6.0           | 6.5           |
| Green Giant TR-23#14      | 41              | 58                  | 4.5           | 5.0           |
| Green Giant TR-23#15      | 38              | 59                  | 5.0           | 5.0           |
| Green Giant TR-23#16      | 33              | 60                  | 5.0           | 5.5           |
| Letherman Golden Security | 39              | 61                  | 5.0           | 6.0           |

**TABLE 8.—MDM Ratings of Diallel Crosses Involving Resistant and Susceptible Lines at Portsmouth, Ohio, in 1971.**

| Single Cross                     | Stand | MDM Rating | MDM Rating |
|----------------------------------|-------|------------|------------|
|                                  | %     | 7-20       | 8-24       |
| <b>Resistant x Resistant</b>     |       |            |            |
| Ky61-2335 x Mo18W                | 102   | 1.3        | 3.3        |
| Ky61-2335 x Oh07                 | 103   | 1.0        | 2.0        |
| Ky61-2335 x Oh514                | 101   | 1.3        | 2.0        |
| Ky61-2335 x Pa405                | 97    | 1.5        | 3.8        |
| Mo18W x Oh07                     | 97    | 1.3        | 2.5        |
| Mo18W x Oh514                    | 100   | 1.5        | 3.0        |
| Mo18W x Pa405                    | 93    | 1.3        | 2.8        |
| Oh07 x Oh514                     | 101   | 1.0        | 2.0        |
| Oh07 x Pa405                     | 98    | 1.5        | 3.5        |
| Oh514 x Pa405                    | 100   | 1.5        | 3.5        |
| <b>Resistant x Susceptible</b>   |       |            |            |
| Ky61-2335 x M14                  | 85    | 2.3        | 3.8        |
| Ky61-2335 x H55                  | 87    | 5.8        | 6.5        |
| Ky61-2335 x Mo5                  | 96    | 2.0        | 4.5        |
| Ky61-2335 x Oh45B                | 97    | 2.0        | 3.8        |
| Ky61-2335x Oh506                 | 92    | 2.3        | 4.3        |
| Mo18W x M14                      | 87    | 2.8        | 5.0        |
| Mo18W x H55                      | 84    | 3.5        | 4.3        |
| Mo18W x Mo5                      | 88    | 2.8        | 4.8        |
| Mo18W x Oh45B                    | 84    | 1.5        | 3.5        |
| Mo18W x Oh506                    | 93    | 3.0        | 4.5        |
| Oh07 x M14                       | 105   | 1.5        | 3.3        |
| Oh07 x H55                       | 88    | 4.3        | 5.3        |
| Oh07 x Mo5                       | 93    | 1.0        | 3.0        |
| Oh07 x Oh45B                     | 101   | 2.0        | 4.0        |
| Oh07 x Oh506                     | 101   | 1.3        | 3.5        |
| Oh514 x M14                      | 100   | 3.3        | 3.8        |
| Oh514 x H55                      | 85    | 5.3        | 5.8        |
| Oh514 x Mo5                      | 98    | 4.0        | 4.8        |
| Oh514 x Oh45B                    | 91    | 3.3        | 3.5        |
| Oh514 x Oh506                    | 98    | 4.5        | 3.8        |
| Pa405 x M14                      | 85    | 4.3        | 4.8        |
| Pa405 x H55                      | 88    | 5.0        | 5.3        |
| Pa405 x Mo5                      | 86    | 3.8        | 5.0        |
| Pa405 x Oh45B                    | 91    | 4.3        | 5.0        |
| Pa405 x Oh506                    | 97    | 1.5        | 3.3        |
| <b>Susceptible x Susceptible</b> |       |            |            |
| M14 x H55                        | 81    | 7.0        | 8.0        |
| M14 x Mo5                        | 81    | 6.8        | 7.8        |
| M14 x Oh45B                      | 78    | 6.0        | 7.3        |
| M14 x Oh506                      | 86    | 7.3        | 8.5        |
| H55 x Mo5                        | 67    | 7.3        | 8.8        |
| H55 x Oh45B                      | 82    | 5.0        | 6.5        |
| H55 x Oh506                      | 78    | 6.0        | 7.5        |
| Mo5 x Oh45B                      | 81    | 5.5        | 7.0        |
| Mo5 x Oh506                      | 91    | 6.5        | 8.5        |
| Oh45B x Oh506                    | 87    | 5.0        | 6.5        |

# The State Is the Campus for Agricultural Research and Development



Ohio's major soil types and climatic conditions are represented at the Research Center's 13 locations. Thus, Center scientists can make field tests under conditions similar to those encountered by Ohio farmers.

Research is conducted by 15 departments on more than 6500 acres at Center headquarters in Wooster, nine branches, Green Springs Crops Research Unit, Pomerene Forest Laboratory, and The Ohio State University. Center Headquarters, Wooster, Wayne County: 1953 acres  
 Eastern Ohio Resource Development Center, Caldwell, Noble County: 2053 acres  
 Green Springs Crops Research Unit, Green Springs, Sandusky County: 26 acres

Jackson Branch, Jackson, Jackson County: 344 acres  
 Mahoning County Farm, Canfield: 275 acres  
 Muck Crops Branch, Willard, Huron County: 15 acres  
 North Central Branch, Vickery, Erie County: 335 acres  
 Northwestern Branch, Hoytville, Wood County: 247 acres  
 Pomerene Forest Laboratory, Keene Township, Coshocton County: 227 acres  
 Southeastern Branch, Carpenter, Meigs County: 330 acres  
 Southern Branch, Ripley, Brown County: 275 acres  
 Western Branch, South Charleston, Clark County: 428 acres