

Table 11. Treatment Summary of Hybrid Groups

| Hybrid<br>Combination<br>Averages | Average Acre Yield in Bushels |             |             |                |                |                |                |                |                |
|-----------------------------------|-------------------------------|-------------|-------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                   | Overall<br>Average            | 133#<br>N/A | 200#<br>N/A | 17,424<br>P1/A | 23,232<br>P1/A | 133# N/A       |                | 200# N/A       |                |
|                                   |                               |             |             |                |                | 17,424<br>P1/A | 23,232<br>P1/A | 17,424<br>P1/A | 23,232<br>P1/A |
| All Hybrid                        | 85.3                          | 82.7        | 87.9        | 89.7           | 81.0           | 80.2           | 85.2           | 99.2           | 76.7           |
| Yellow Hybrids                    | 86.0                          | 83.4        | 88.7        | 90.3           | 81.8           | 80.9           | 86.0           | 99.7           | 77.6           |
| White Hybrids                     | 83.5                          | 80.9        | 86.1        | 88.1           | 78.9           | 78.4           | 83.4           | 97.8           | 74.5           |
| All Single Crosses                | 87.4                          | 85.2        | 89.6        | 92.4           | 82.4           | 83.2           | 87.1           | 101.6          | 77.7           |
| All Three-Way Crosses             | 88.3                          | 83.9        | 92.9        | 92.3           | 84.5           | 81.8           | 85.8           | 102.7          | 83.1           |
| All Four-Way Crosses              | 83.7                          | 81.2        | 86.3        | 87.8           | 79.7           | 78.3           | 84.2           | 97.3           | 75.2           |
| 17 Yellow Single Crosses          | 87.1                          | 84.9        | 89.3        | 92.1           | 82.1           | 82.8           | 86.9           | 101.3          | 77.3           |
| 5 Yellow Three-Way Crosses        | 88.3                          | 83.9        | 92.9        | 92.3           | 84.5           | 81.8           | 85.8           | 102.7          | 83.1           |
| 18 Yellow Four-Way Crosses        | 84.4                          | 82.0        | 86.9        | 88.1           | 80.7           | 78.8           | 85.2           | 97.4           | 76.3           |
| 1 White Single Cross              | 92.5                          | 89.6        | 95.5        | 97.8           | 87.2           | 89.3           | 89.8           | 106.3          | 84.6           |
| 15 White Four-Way Crosses         | 82.9                          | 80.3        | 85.5        | 87.4           | 78.4           | 77.7           | 82.9           | 97.2           | 73.8           |

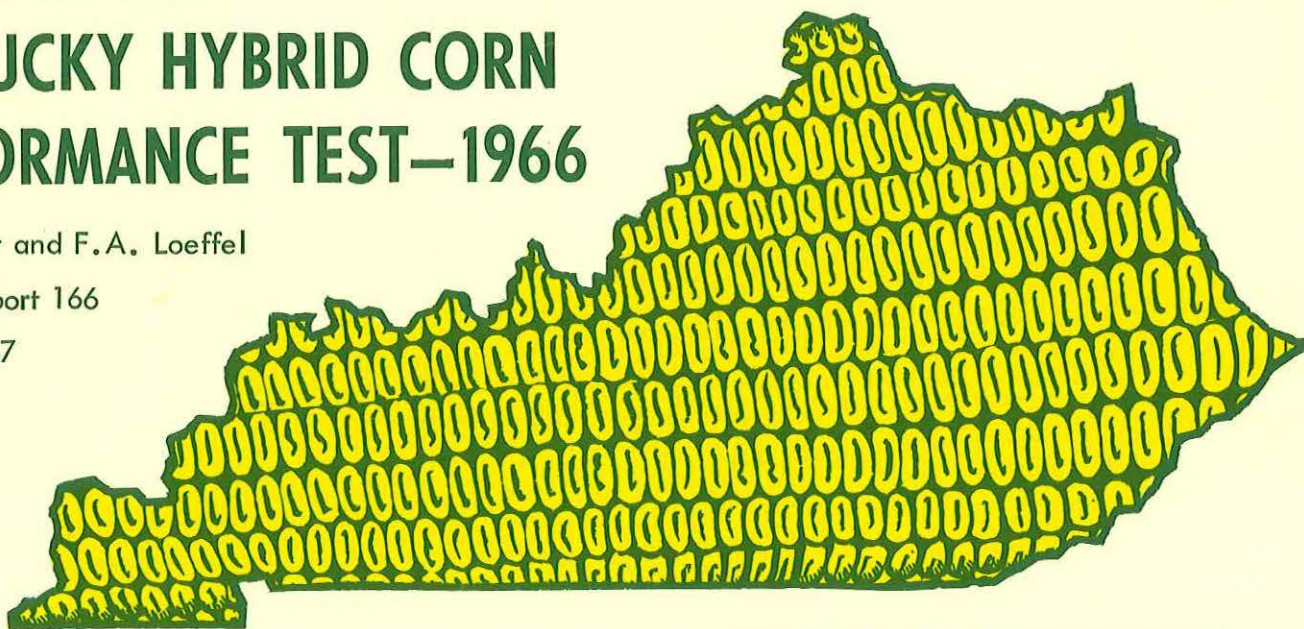
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# Results of the KENTUCKY HYBRID CORN PERFORMANCE TEST—1966

By C.R. Tutt and F.A. Loeffel

Progress Report 166

January 1967

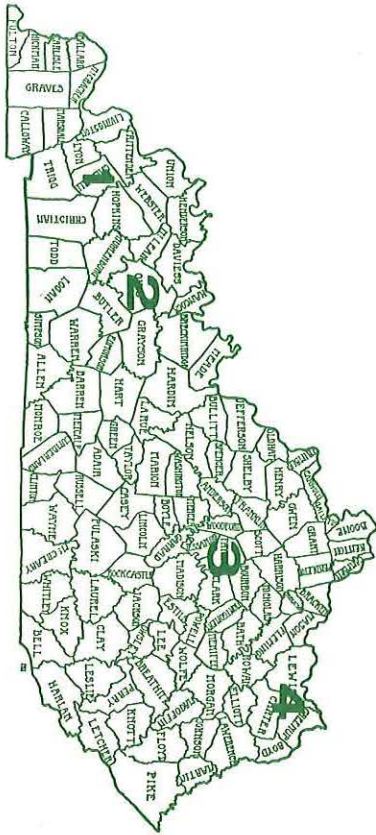


UNIVERSITY OF KENTUCKY  
AGRICULTURAL EXPERIMENT STATION

DEPARTMENT OF AGRONOMY  
Lexington

TESTING LOCATIONS OF

THE KENTUCKY HYBRID CORN PERFORMANCE TEST



| Area      | Location     | Cooperator  |
|-----------|--------------|---|
| Non-Virus | 1. Princeton | West Ky. Sub. Sta.  |
|           | 2. Hartford  | J. C. Pirtle-Owner<br>Walter & Earl Campbell-<br>operators<br>John M. Kavanaugh-Area<br>Extension Agent |
| Virus     | 3. Lexington | Ky. Agr. Exp. Sta.  |
|           | 4. Vanceburg | Alex Walters, Jr.<br>Edward Strong-Area<br>Extension Agent  |

Acknowledgment is made to Gary Hicks, Department of Agronomy, and to the University of Kentucky Computing Center for assistance in summarizing the results reported in this progress report.

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|                  |      |      |       |       |      |      |       |       |      |
|------------------|------|------|-------|-------|------|------|-------|-------|------|
| Dekalb 872       | 74.4 | 69.6 | 79.1  | 78.4  | 70.3 | 65.3 | 73.9  | 91.5  | 66.7 |
| Dekalb XL-385    | 92.1 | 85.2 | 99.1  | 97.2  | 87.1 | 84.7 | 85.6  | 109.7 | 88.5 |
| S.S. 909E        | 88.3 | 85.5 | 91.2  | 94.4  | 82.3 | 85.8 | 85.1  | 103.0 | 79.4 |
| Princeton 890-AA | 85.6 | 83.9 | 87.2  | 88.8  | 82.3 | 76.0 | 91.8  | 101.6 | 72.8 |
| Ky 6507          | 89.7 | 82.9 | 96.6  | 95.6  | 83.9 | 81.5 | 84.2  | 109.7 | 83.5 |
| S.S. 866         | 95.3 | 85.4 | 105.3 | 102.7 | 88.0 | 84.4 | 86.3  | 120.9 | 89.7 |
| Ky 105           | 90.3 | 89.7 | 91.0  | 90.6  | 90.0 | 82.2 | 97.1  | 99.0  | 82.9 |
| P.A.G. SX59      | 85.7 | 85.1 | 86.4  | 91.2  | 80.2 | 77.4 | 92.7  | 105.0 | 67.7 |
| Schenk SX-75     | 88.3 | 85.9 | 90.4  | 92.5  | 83.9 | 83.1 | 88.7  | 101.8 | 79.0 |
| S.S. 979         | 89.7 | 87.0 | 92.5  | 97.4  | 82.1 | 83.9 | 90.1  | 110.8 | 74.1 |
| Stull 101YS      | 85.9 | 86.0 | 85.8  | 88.8  | 83.0 | 80.1 | 91.8  | 97.5  | 74.1 |
| Dekalb 1006      | 90.9 | 89.6 | 92.3  | 90.9  | 91.0 | 79.4 | 99.7  | 102.3 | 82.4 |
| Yellow Average   | 86.0 | 83.4 | 88.7  | 90.3  | 81.8 | 80.9 | 86.0  | 99.7  | 77.6 |
| WHITE            |      |      |       |       |      |      |       |       |      |
| Princeton 790-AA | 67.7 | 63.4 | 72.0  | 65.7  | 69.6 | 48.7 | 78.0  | 82.7  | 61.2 |
| Ky 5921W         | 87.1 | 86.1 | 88.1  | 91.7  | 82.6 | 84.9 | 87.3  | 98.4  | 77.8 |
| Stull 500WC      | 79.4 | 78.3 | 80.5  | 82.2  | 76.6 | 69.9 | 86.7  | 94.4  | 66.5 |
| US523W           | 76.4 | 72.5 | 80.4  | 87.5  | 65.1 | 72.9 | 72.1  | 102.7 | 58.0 |
| Ken-Bred M20W    | 86.3 | 85.4 | 87.7  | 90.6  | 82.5 | 69.3 | 101.4 | 111.8 | 63.5 |
| Schenk S-96W     | 86.4 | 83.5 | 89.3  | 94.3  | 78.5 | 92.1 | 74.8  | 96.4  | 82.1 |
| Crib Filler 183W | 85.8 | 88.9 | 82.6  | 92.1  | 79.5 | 86.0 | 91.8  | 98.1  | 67.1 |
| Pioneer 509      | 85.7 | 80.8 | 90.6  | 86.2  | 85.1 | 73.7 | 87.8  | 98.7  | 82.4 |
| S.S. 960W        | 77.2 | 77.3 | 77.1  | 80.2  | 74.2 | 70.2 | 84.3  | 90.1  | 64.0 |
| Meacham M-7      | 84.8 | 80.7 | 88.8  | 90.5  | 79.1 | 83.6 | 77.8  | 97.3  | 80.3 |
| Princeton 920-A  | 83.2 | 81.7 | 84.8  | 86.3  | 80.2 | 79.4 | 84.0  | 93.1  | 76.4 |
| Princeton 990-A  | 79.7 | 69.3 | 90.2  | 94.1  | 65.4 | 77.8 | 60.8  | 110.4 | 69.9 |
| Dekalb 999       | 78.8 | 74.3 | 83.3  | 81.7  | 75.9 | 74.3 | 74.3  | 89.1  | 77.5 |
| Ky 6132W         | 90.3 | 91.2 | 89.4  | 95.3  | 85.3 | 97.5 | 84.9  | 93.1  | 85.6 |
| Pioneer 511      | 94.6 | 91.3 | 98.0  | 93.0  | 96.2 | 84.5 | 98.0  | 101.5 | 94.4 |
| Stull 800W       | 92.5 | 89.6 | 95.5  | 97.8  | 87.2 | 89.3 | 89.8  | 106.3 | 84.6 |
| White Average    | 83.5 | 80.9 | 86.1  | 88.1  | 78.9 | 78.4 | 83.4  | 97.8  | 74.5 |
| GRAND AVERAGE    | 85.3 | 82.7 | 87.9  | 89.7  | 81.0 | 80.2 | 85.2  | 99.2  | 76.7 |

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Table 2. Pedigrees of Experiment Station and U. S. Hybrids Tested in 1966

| Hybrid    | Color | Cross | Pedigree                       |
|-----------|-------|-------|--------------------------------|
| AES 809   | Y     | 4X    | (WF9 x P8) (Oh 43 x C103)      |
| Ky 105    | Y     | 4X    | (T8 x CI21E) (38-11 x Oh7B)    |
| Ky 5921W  | W     | 4X    | (CI64 x 33-16) (Ky201 x CI66)  |
| *Ky 6132W | W     | 4X    | (CI64 x 33-16) (Ky216 x Ky219) |
| *Ky 6504  | Y     | 3X    | H49 (Oh7A x Oh7B)              |
| *Ky 6507  | Y     | 3X    | CI21E (Oh7A x Oh7B)            |
| US 523W   | W     | 4X    | (K55 x K64) ( Ky27 x Ky49)     |

\* Seed not available for commercial planting

Table 3. Growing Season Rainfall

| Test Location | Inches of Rainfall |      |      |      |       | Total |
|---------------|--------------------|------|------|------|-------|-------|
|               | May                | June | July | Aug. | Sept. |       |
| Princeton     | 5.89               | 2.29 | 1.46 | 3.87 | 2.53  | 16.04 |
| Hartford      | 7.37               | 0.78 | 2.18 | 4.36 | 2.68  | 17.37 |
| Lexington     | 3.46               | 0.66 | 4.97 | 4.92 | 3.44  | 17.45 |
| Vanceburg     | 2.74               | 2.03 | 4.81 | 3.58 | 3.66  | 16.82 |

|                  |      |      |      |      |     |
|------------------|------|------|------|------|-----|
| Princeton 790-AA | 73.4 | 75.5 | 73.4 | 80.9 | 3.3 |
| US523W           | 77.8 | 79.2 | 78.9 | 72.9 | 3.3 |
| Ken-Bred M20W    | 85.6 | 87.4 | 86.0 | 72.7 | 3.4 |
| Ky 5921W         | 83.1 | 85.4 | 82.3 | 72.6 | 3.2 |
| Schenk S-96W     | 82.1 | 87.8 | 77.7 | 74.9 | 3.2 |
| Princeton 990-A  | 82.6 | 88.4 | 78.7 | 82.7 | 3.3 |
| Princeton 920-A  | 81.7 | 86.6 | 78.5 | 80.9 | 3.1 |
| Crib Filler 183W | 82.6 | 83.4 | 85.2 | 72.5 | 3.1 |
| Pioneer 509      | 81.8 | 88.9 | 74.9 | 76.7 | 3.3 |
| Dekalb 999       | 78.8 | 82.8 | 76.3 | 71.9 | 3.3 |
| Pioneer 511      | 80.3 | 89.0 | 69.7 | 69.0 | 3.4 |
| Stull 800W       | 82.9 | 85.4 | 83.6 | 72.6 | 3.5 |
| White Average    | 81.1 | 85.0 | 78.8 | 75.0 | 3.3 |
| GRAND AVERAGE    | 84.6 | 89.0 | 81.2 | 77.2 | 3.3 |

Table 7. Annual Summary of Hybrids Evaluated Under Non-Virus Conditions in 1966

| Hybrid          | Average Acre Yield, Bu. |         |         | Maturity            |                     | Ear Height Ft. |
|-----------------|-------------------------|---------|---------|---------------------|---------------------|----------------|
|                 | State                   | Western | Eastern | Harvest Moisture, % | Ear Erect Plants, % |                |
| YELLOW          |                         |         |         |                     |                     |                |
| Crib Filler 88  | 88.1                    | 91.0    | 82.2    | 20.5                | 88.7                | 3.2            |
| Dekalb 805-A    | 76.7                    | 79.3    | 71.6    | 20.5                | 90.4                | 3.2            |
| P.A.G. 399      | 83.8                    | 85.4    | 80.7    | 20.5                | 89.3                | 3.1            |
| P.A.G. SX29     | 95.1                    | 93.3    | 98.7    | 20.8                | 90.1                | 3.2            |
| Pioneer 3369    | 88.2                    | 90.6    | 83.4    | 20.9                | 95.7                | 3.0            |
| S.S. 820S       | 82.1                    | 83.0    | 80.3    | 21.0                | 90.0                | 3.2            |
| Dekalb XL-342   | 79.0                    | 77.8    | 81.4    | 21.3                | 92.6                | 3.1            |
| Crib Filler 128 | 82.0                    | 78.4    | 89.2    | 21.4                | 90.0                | 3.5            |
| Stull 807YAA    | 93.3                    | 93.6    | 92.6    | 21.4                | 89.3                | 3.3            |
| Ken-Bred SX20Y  | 78.0                    | 80.2    | 73.7    | 21.5                | 88.2                | 3.1            |
| P.A.G. SX17     | 106.0                   | 106.1   | 105.7   | 21.5                | 78.8                | 3.5            |
| Dekalb XL-362   | 84.8                    | 87.1    | 80.2    | 21.9                | 89.5                | 3.0            |
| S.S. Matoaka    | 88.2                    | 87.9    | 88.7    | 21.9                | 84.6                | 3.3            |
| T-E Cropmaster  | 73.9                    | 74.1    | 73.5    | 21.9                | 89.7                | 3.4            |
| AES 809         | 79.6                    | 78.5    | 81.9    | 22.0                | 88.2                | 3.1            |
| Princeton 8-A   | 76.8                    | 74.8    | 80.9    | 22.0                | 94.0                | 3.1            |
| Pioneer 3376    | 83.1                    | 81.9    | 85.4    | 22.1                | 93.5                | 3.0            |
| Dekalb XL-65A   | 88.4                    | 88.6    | 88.1    | 22.2                | 89.0                | 3.3            |
| Princeton 81-A  | 78.4                    | 79.2    | 76.9    | 22.2                | 93.7                | 3.0            |
| Pioneer 3327    | 95.1                    | 92.1    | 101.2   | 22.3                | 85.1                | 3.0            |
| Ken-Bred E20YA  | 88.6                    | 88.4    | 89.1    | 22.4                | 89.9                | 3.3            |
| S.S. 860        | 80.9                    | 76.8    | 89.0    | 22.5                | 89.2                | 3.3            |
| Princeton SX803 | 83.3                    | 81.6    | 86.6    | 22.6                | 94.5                | 3.0            |
| Pioneer X2786   | 101.3                   | 102.1   | 99.6    | 22.7                | 89.7                | 3.3            |
| Princeton SX804 | 90.6                    | 89.8    | 92.3    | 22.8                | 89.7                | 3.5            |
| Ky 6504         | 89.2                    | 84.2    | 99.2    | 22.9                | 92.3                | 3.4            |
| Ken-Bred VR20Y  | 83.7                    | 78.7    | 93.6    | 22.9                | 85.8                | 3.5            |
| Crib Filler 66  | 84.6                    | 80.8    | 92.2    | 23.0                | 91.6                | 3.1            |

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Table 1. Continued.

| Hybrid          | Color | Cross | Source of Hybrids   |
|-----------------|-------|-------|---|
| Pioneer 509     | W     | 4X    | Pioneer Corn Company, Inc.<br>Tipton, Ind.  |
| 511             | W     | 4X    |   |
| 3327            | Y     | 2X    |   |
| 3369            | Y     | 2X    |   |
| 3376            | Y     | 2X    |   |
| X2786           | Y     | 2X    |   |
| Princeton 8-A   | Y     | 4X    | Princeton Farms<br>Princeton, Ind.  |
| 81-A            | Y     | 4X    |   |
| 790-AA          | W     | 4X    |   |
| 890-AA          | Y     | 4X    |   |
| 920-A           | W     | 4X    |   |
| 990-A           | W     | 4X    |   |
| SX-803          | Y     | 2X    |   |
| SX-804          | Y     | 2X    |   |
| Schenk S-96W    | W     | 4X    | Charles H. Schenk<br>and Son, Inc., Route 4<br>Vincennes, Ind.                        |
| SX-75           | Y     | 2X    |   |
| Southern States |       |       |   |
| 820S            | Y     | 2X    | Southern States Coop.,<br>Inc., Division of Seed<br>and Farm Supply, Richmond,<br>Va. |
| 860             | Y     | 4X    |   |
| 866             | Y     | 4X    |   |
| 909E            | Y     | 4X    |   |
| 960W            | W     | 4X    |   |
| 979             | Y     | 4X    |   |
| Matoaka         | Y     | 4X    |   |
| Stull 101YS     |       |       |   |
| 500WC           | W     | 4X    | Stull Brothers, Inc.<br>Sebree, Ky.   |
| 800W            | W     | 2X    |   |
| 807YAA          | Y     | 2X    |   |
| US 523W         | W     | 4X    | Experiment Station (U.S.D.A.)   |

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Table 1. Hybrids Tested in 1966

| Hybrid           | Color | Cross | Source of Hybrids  |       |      |      |     |
|------------------|-------|-------|--|-------|------|------|-----|
| AES 809          | Y     | 4X    | Agricultural Experiment Station (North Central)                  |       |      |      |     |
| Crib Filler 66   | Y     | 2X    | Mitchell Farms   |       |      |      |     |
| 88               | Y     | 2X    | Windfall, Ind.   |       |      |      |     |
| 128              | Y     | 4X    |  |       |      |      |     |
| 183W             | W     | 4X    |  |       |      |      |     |
| Dekalb 805A      | Y     | 2X    | Dekalb Agricultural Association, Dekalb, Ill.                    |       |      |      |     |
| 872              | Y     | 4X    |  |       |      |      |     |
| 999              | W     | 4X    |  |       |      |      |     |
| 1006             | Y     | 4X    |  |       |      |      |     |
| XL-65A           | Y     | 2X    |  |       |      |      |     |
| XL-342           | Y     | 3X    |  |       |      |      |     |
| XL-362           | Y     | 3X    |  |       |      |      |     |
| XL-385           | Y     | 3X    |  |       |      |      |     |
| Ken-Bred E20YA   | Y     | 4X    | Golden Acre Hybrids  |       |      |      |     |
| E20YB            | Y     | 4X    | Taylor-Evans Seed Co.  |       |      |      |     |
| M20W             | W     | 4X    | Tulia, Texas   |       |      |      |     |
| SX20Y            | Y     | 2X    |  |       |      |      |     |
| T-E Cropmaster   | Y     | 3X    |  |       |      |      |     |
| Ky 105           | Y     | 4X    | University of Kentucky   |       |      |      |     |
| 5921W            | W     | 4X    | Agricultural Experiment Station, Lexington, Ky.                  |       |      |      |     |
| 6132W            | W     | 4X    |  |       |      |      |     |
| 6504             | Y     | 3X    |  |       |      |      |     |
| 6507             | Y     | 3X    |  |       |      |      |     |
| Meacham M-7      | W     | 4X    | Meacham's Hybrids<br>Route 3, Morganfield, Ky.                   |       |      |      |     |
| P.A.G. SX17      | Y     | 2X    | Pfister Associated Growers, Inc., Aurora, Ill. and Franklin, Ky. |       |      |      |     |
| SX29             | Y     | 2X    |  |       |      |      |     |
| SX59             | Y     | 2X    |  |       |      |      |     |
| 399              | Y     | 3X    |  |       |      |      |     |
|                  |       | (8)   |  |       |      |      |     |
| Dekalb 872       |       | 77.3  | 74.4   | 83.2  | 23.1 | 90.4 | 3.0 |
| Dekalb XL-385    |       | 96.5  | 92.1   | 105.4 | 23.2 | 88.7 | 3.6 |
| S.S. 909E        |       | 88.9  | 88.3   | 90.1  | 23.4 | 88.4 | 3.9 |
| Princeton 890-AA |       | 84.8  | 85.6   | 83.1  | 23.5 | 84.8 | 3.2 |
| Ky 6507          |       | 94.3  | 89.7   | 103.6 | 23.7 | 81.8 | 3.3 |
| S.S. 866         |       | 95.8  | 95.3   | 96.7  | 23.7 | 90.9 | 3.3 |
| Ky 105           |       | 92.0  | 90.3   | 95.5  | 24.0 | 86.4 | 3.8 |
| P.A.G. SX59      |       | 93.6  | 85.7   | 109.3 | 24.0 | 89.5 | 3.2 |
| Schenk SX-75     |       | 93.2  | 88.2   | 103.1 | 24.2 | 86.7 | 3.5 |
| S.S. 979         |       | 91.8  | 89.7   | 95.9  | 24.3 | 88.1 | 3.5 |
| Stull 101YS      |       | 91.8  | 85.9   | 103.7 | 24.3 | 87.3 | 3.3 |
| Dekalb 1006      |       | 94.2  | 90.9   | 100.7 | 26.2 | 86.5 | 3.8 |
| Yellow Average   |       | 87.4  | 86.0   | 90.2  | 22.5 | 89.1 | 3.3 |
| WHITE            |       |       |  |       |      |      |     |
| Princeton 790-AA |       | 71.7  | 67.7   | 79.8  | 22.4 | 85.6 | 3.3 |
| Ky 5921W         |       | 90.1  | 87.1   | 96.2  | 23.3 | 88.0 | 3.4 |
| Stull 500WC      |       | 84.3  | 79.4   | 94.2  | 23.3 | 88.0 | 3.3 |
| US523W           |       | 81.4  | 76.4   | 91.3  | 23.3 | 80.6 | 3.3 |
| Ken-Bred M20W    |       | 90.8  | 86.3   | 99.8  | 23.4 | 86.3 | 3.3 |
| Schenk S-96W     |       | 89.3  | 86.4   | 95.0  | 23.6 | 87.8 | 3.4 |
| Crib Filler 183W |       | 92.7  | 85.8   | 106.5 | 24.0 | 87.4 | 3.2 |
| Pioneer 509      |       | 86.0  | 85.7   | 86.7  | 24.2 | 81.6 | 3.3 |
| S.S. 960W        |       | 83.4  | 77.2   | 95.9  | 24.2 | 90.3 | 3.5 |
| Meacham M-7      |       | 86.6  | 84.8   | 90.1  | 24.3 | 80.4 | 3.2 |
| Princeton 920-A  |       | 86.8  | 83.2   | 94.0  | 24.5 | 87.2 | 3.1 |
| Princeton 990-A  |       | 83.5  | 79.7   | 91.2  | 24.5 | 91.2 | 3.3 |
| Dekalb 999       |       | 81.8  | 78.8   | 87.8  | 24.8 | 85.0 | 3.2 |
| Ky 6132W         |       | 90.2  | 90.3   | 89.9  | 24.8 | 85.1 | 3.5 |
| Pioneer 511      |       | 90.9  | 94.6   | 83.5  | 25.2 | 76.9 | 3.4 |
| Stull 800W       |       | 99.0  | 92.5   | 111.9 | 26.2 | 88.5 | 3.6 |
| White Average    |       | 86.8  | 83.5   | 93.4  | 24.1 | 85.6 | 3.3 |
| GRAND AVERAGE    |       | 87.2  | 85.3   | 91.1  | 22.9 | 88.1 | 3.3 |
|                  |       | (17)  |  |       |      |      |     |

Table 8. Two-Year Summary of Hybrids Evaluated Under Virus Conditions in 1965 and 1966

| Hybrid           | Yield<br>Bu/A | Virus<br>Rating<br>Grade | Maturity<br>Harvest Ear<br>Moisture, % | Erect<br>Plants<br>% | Ear<br>Height<br>Ft. |
|------------------|---------------|--------------------------|--|----------------------|----------------------|
| YELLOW           |               |                          |  |                      |                      |
| Ky 105           | 88.8          | 2.2                      | 26.2                                   | 88.3                 | 3.5                  |
| Dekalb 1006      | 62.4          | 3.7                      | 26.1                                   | 71.8                 | 3.3                  |
| S.S. 979         | 68.0          | 4.9                      | 25.3                                   | 80.3                 | 3.4                  |
| Princeton SX-804 | 47.4          | 5.0                      | 23.1                                   | 48.1                 | 2.6                  |
| Pioneer 3369     | 65.1          | 5.1                      | 20.5                                   | 75.2                 | 2.3                  |
| P.A.G. SX59      | 51.4          | 5.3                      | 22.8                                   | 78.5                 | 2.6                  |
| P.A.G. SX29      | 46.7          | 5.4                      | 21.2                                   | 86.2                 | 2.5                  |
| S.S. Matoaka     | 51.4          | 5.9                      | 22.7                                   | 72.0                 | 2.5                  |
| Princeton 890-AA | 37.9          | 6.0                      | 22.3                                   | 58.9                 | 2.4                  |
| S.S. 860         | 51.1          | 6.0                      | 23.5                                   | 79.7                 | 2.5                  |
| S.S. 909E        | 52.2          | 6.0                      | 24.2                                   | 64.1                 | 2.7                  |
| Dekalb XL-385    | 45.9          | 6.4                      | 21.5                                   | 73.8                 | 2.5                  |
| AES 809          | 32.2          | 6.5                      | 22.0                                   | 64.4                 | 2.4                  |
| Princeton 8-A    | 35.2          | 6.8                      | 23.7                                   | 49.4                 | 2.7                  |
| T-E Cropmaster   | 27.0          | 7.0                      | 22.7                                   | 45.5                 | 2.7                  |
| Ken-Bred E20YA   | 28.3          | 7.1                      | 23.7                                   | 49.1                 | 2.3                  |
| Princeton 81-A   | 27.3          | 7.3                      | 21.9                                   | 58.5                 | 2.3                  |
| S.S. 820S        | 25.7          | 7.4                      | 21.8                                   | 38.8                 | 2.4                  |
| Crib Filler 66   | 17.7          | 7.9                      | 22.9                                   | 35.4                 | 2.1                  |
| Ken-Bred SX20Y   | 24.0          | 8.0                      | 20.7                                   | 41.0                 | 2.3                  |
| Dekalb XL-362    | 20.2          | 8.1                      | 22.1                                   | 32.5                 | 2.0                  |
| Yellow Average   | 43.1          | 6.1                      | 22.9                                   | 61.5                 | 2.6                  |

content, plant lodging and ear height should also be considered. The reader must form his own opinion as to how much weight to give each character other than yield, because it is seldom that one hybrid is distinctly superior to all others for each of the characteristics studied.

Only tentative conclusions can be drawn from the plant population-nitrogen combinations presented in Tables 10 and 11 since data are from only one year of testing. Because of drought conditions this year and a lack of uniformity of soil conditions within the plots, the high nitrogen-high plant population combination may have been at a disadvantage. Two or three years of data on these various combinations should prove quite useful in selecting hybrids to grow under specific management conditions.

The best hybrid to grow is the one which best suits the individual farm and farming operation. For this reason it is suggested that a new hybrid be grown frequently on a trial basis in comparison with the hybrid presently grown. New hybrids should be grown on a limited acreage for evaluation before being grown on large acreage. It is important to keep in mind that two hybrids should be compared only when they are grown in the same field in the same year using identical management practices. A good way to do this is to plant seed of the new hybrid beside currently used hybrids in a field being sure to mark them at planting time. It is important to observe the hybrids frequently during the growing season. At harvest, yield should be determined and other observational notes recorded. By doing this, a grower can come to a sound decision as to which hybrid best fulfills his needs.

#### MAIZE DWARF MOSAIC

Corn growers in areas where Maize Dwarf Mosaic (M.D.M.) virus has been identified should take special precautions in selecting hybrids. This disease severely reduced yield and stalk strength. It appears to be associated with Johnsongrass in which it is believed to overwinter. It is then transferred back to the corn plant in the spring by an insect vector, possibly an aphid. Where the disease is known or suspected to be present, only M.D.M. resistant hybrids should be planted.

30 degrees from the vertical. This sum is subtracted from the plants present and the difference divided by the total plants to give the percentage of erect plants.

Ear Height.

Ear height, the distance from the base of the plant to the point of attachment of the upper ear, was measured visually using a scale with one-foot intervals. Visual ratings were taken on each plot of each hybrid at each location.

Disease.

Visual ratings of hybrid reaction to corn virus were taken at Augusta and Vanceburg in 1965 and at Vanceburg in 1966. Present indications are that the only virus present in Kentucky is Maize Dwarf Mosaic. All plots of each hybrid were rated shortly after silking on a 1-9 scale, with 1 being resistant and 9 being extremely susceptible.

INTERPRETATION

It should be kept in mind that test plot yields will tend to exceed those of commercial plantings because test plots usually receive more careful culture than do commercial fields. Also desired stands were obtained by over-planting and thinning, and plots were picked by hand which reduced harvest losses.

The performance of a hybrid may vary considerably from year to year and between locations for a given year. Because of this variability, test results for a single year or for a single location are not as valuable in choosing a hybrid as the results for several years and for several locations.

Small differences in yield are usually of little importance. However, when a hybrid is consistently superior over several years of testing the chances are good that the differences are real and should be considered in choosing a hybrid. Factors other than yield should be considered in selecting a hybrid. Moisture

|                  |      |     |      |      |     |  |  |  |  |
|------------------|------|-----|------|------|-----|--|--|--|--|
| WHITE            |      |     |      |      |     |  |  |  |  |
| Pioneer 511      | 78.6 | 3.1 | 26.8 | 88.5 | 3.5 |  |  |  |  |
| Ky 5921W         | 73.0 | 3.7 | 24.4 | 80.9 | 2.7 |  |  |  |  |
| Princeton 920-A  | 76.7 | 3.7 | 25.4 | 85.7 | 3.0 |  |  |  |  |
| Dekalb 999       | 71.5 | 3.8 | 25.5 | 90.1 | 2.7 |  |  |  |  |
| Stull 800W       | 70.7 | 3.8 | 25.8 | 90.1 | 3.0 |  |  |  |  |
| Princeton 790-AA | 60.3 | 4.1 | 23.0 | 86.5 | 2.5 |  |  |  |  |
| Crib Filler 183W | 64.7 | 4.3 | 24.3 | 76.4 | 2.7 |  |  |  |  |
| Princeton 990-A  | 61.9 | 4.5 | 23.9 | 86.5 | 2.7 |  |  |  |  |
| Schenk S-96W     | 74.6 | 4.5 | 24.9 | 75.8 | 2.9 |  |  |  |  |
| Pioneer 509      | 55.9 | 4.7 | 23.0 | 85.6 | 2.9 |  |  |  |  |
| Ken-Bred M20W    | 63.7 | 5.1 | 24.2 | 74.0 | 2.8 |  |  |  |  |
| US523W           | 14.7 | 8.3 | 22.4 | 46.4 | 2.3 |  |  |  |  |
| White Average    | 63.9 | 4.5 | 24.5 | 80.5 | 2.8 |  |  |  |  |
| GRAND AVERAGE    | 50.7 | 5.5 | 23.5 | 68.4 | 2.7 |  |  |  |  |

Table 9. Annual Summary of Hybrids Evaluated Under Virus Conditions in 1966

| Hybrid           | Yield<br>Bu/A | Virus<br>Rating<br>Grade | Maturity<br>Harvest Ear<br>Moisture, % | Erect<br>Plants<br>% | Ear<br>Height<br>Ft. |
|------------------|---------------|--------------------------|--|----------------------|----------------------|
| YELLOW           |               |                          |  |                      |                      |
| Ky 6507          | 99.9          | 2.0                      | 30.2                                   | 96.5                 | 2.8                  |
| Ky 6504          | 91.8          | 2.8                      | 26.9                                   | 96.6                 | 2.8                  |
| P.A.G. SX17      | 94.0          | 2.8                      | 28.6                                   | 97.8                 | 2.8                  |
| Ky 105           | 92.2          | 2.8                      | 29.5                                   | 97.7                 | 3.0                  |
| S.S. 866         | 79.3          | 3.2                      | 27.2                                   | 96.2                 | 2.9                  |
| Dekalb 1006      | 60.2          | 4.2                      | 28.3                                   | 84.7                 | 2.9                  |
| Ken-Bred VR20Y   | 81.4          | 4.3                      | 26.8                                   | 79.3                 | 2.6                  |
| Pioneer 3369     | 68.6          | 4.5                      | 22.0                                   | 96.3                 | 2.3                  |
| Dekalb 872       | 51.4          | 4.8                      | 25.7                                   | 79.5                 | 2.4                  |
| P.A.G. SX29      | 50.9          | 5.0                      | 23.4                                   | 94.9                 | 2.6                  |
| Dekalb XL-342    | 47.6          | 5.0                      | 23.8                                   | 75.0                 | 2.3                  |
| Stull 807YAA     | 44.8          | 5.2                      | 23.1                                   | 89.1                 | 2.2                  |
| Pioneer 3376     | 51.3          | 5.3                      | 23.9                                   | 94.9                 | 2.0                  |
| Pioneer 3327     | 51.8          | 5.3                      | 24.3                                   | 92.9                 | 2.1                  |
| P.A.G. SX59      | 49.3          | 5.3                      | 24.5                                   | 92.6                 | 2.3                  |
| S.S. 979         | 69.0          | 5.3                      | 27.3                                   | 94.6                 | 2.9                  |
| Princeton SX804  | 48.4          | 5.5                      | 25.3                                   | 63.0                 | 2.4                  |
| S.S. 860         | 57.7          | 5.5                      | 25.8                                   | 83.9                 | 2.4                  |
| Crib Filler 128  | 54.8          | 5.8                      | 23.1                                   | 86.3                 | 2.4                  |
| S.S. Matoaka     | 52.0          | 6.0                      | 25.0                                   | 85.1                 | 2.4                  |
| Princeton 8-A    | 36.3          | 6.0                      | 25.5                                   | 71.6                 | 2.3                  |
| P.A.G. 399       | 35.8          | 6.3                      | 22.4                                   | 77.1                 | 2.0                  |
| Pioneer X2786    | 38.4          | 6.3                      | 26.1                                   | 53.4                 | 2.4                  |
| Dekalb XL-385    | 41.5          | 6.5                      | 23.5                                   | 87.4                 | 2.5                  |
| S.S. 909E        | 48.6          | 6.5                      | 27.0                                   | 79.0                 | 2.6                  |
| Princeton 890-AA | 35.0          | 6.5                      | 24.7                                   | 70.1                 | 2.4                  |
| AES 809          | 26.2          | 6.8                      | 23.9                                   | 73.7                 | 2.3                  |

resistance. Yield results of the four different nitrogen-plant population combinations are present in Table 10. Table 11 presents the treatment average of all hybrids for various attributes under different conditions.

#### Field Design.

Each hybrid was planted in eight plots at Princeton, Hartford and Lexington and in four plots at Vanceburg. Corn was hand planted, simulating hill dropping. All tests were planted at an increased rate, and the resulting plants thinned to the desired stand at each location. Each hybrid was planted at two levels of nitrogen fertility, 133 pounds and 200 pounds of actual nitrogen per acre, at Princeton and Hartford. Two plant populations, 17,424 and 23,232 plants per acre, were used at each nitrogen level.

#### Yield.

The corn from each plot was harvested and weighed individually. The yields of the hybrids were determined and are reported as bushels of shelled corn per acre with a moisture content of 15.5 percent.

#### Moisture.

The moisture content at harvest is the best measure of relative maturity of hybrids which is available. A hybrid may be considered to be earlier than a second hybrid if its moisture content at harvest is consistently lower. Maturity thus determined is not absolute but is relative to the hybrid being compared.

Moisture samples were taken on an individual plot basis and moisture individually determined at each location.

#### Erect Plants.

The percentage of erect plants is considered to be an estimate of the resistance of a hybrid to the total insect and disease complex affecting standing ability. This value is obtained by counting plants with stalks broken between the ear-bearing node and the ground level and those which lean from the base at an angle of more than



Because of the drought in July and the rains in August, late corn produced better than early corn this year. A cool wet autumn delayed maturity of the crop and by October 1 the crop was 4 weeks behind normal. By the first week of November, corn harvest was 60 percent complete.

#### EXPERIMENTAL METHODS

The performance test was conducted at four locations in the state this year. The locations together with the names of the cooperators are listed on page 2. The testing sites are grouped according to the presence or absence of the corn virus, Maize Dwarf Mosaic. The virus was present at Vanceburg but was not present at Princeton, Hartford or Lexington.

Fifty-six hybrids which are available to the farmers of Kentucky through commercial trade channels were compared. These hybrids, developed by state and federal research agencies and by private seed companies, are listed in Tables 1 and 2. Information is presented concerning the seed source of the hybrid, the kernel color and the type of cross. The type of hybrid is designated as follows: double cross, 4X; three-way cross, 3X; and a single cross, 2X. The following material was evaluated in 1966: 35 double crosses, 3 three-way crosses and 18 single crosses.

Rainfall data for the testing locations are presented in Table 3. Agronomic information pertaining to the testing locations is presented in Table 4. Results of the Kentucky Hybrid Corn Performance Test are summarized for periods of 3 years, 2 years, and one year under non-virus conditions and are presented in Tables 5-7 respectively. Results of the 2 years and one year test under virus conditions are presented in Tables 8 and 9. The hybrids in Tables 5-7 are grouped on the basis of kernel color. Within groups, the hybrids are listed in order of increasing moisture content. The hybrids in Tables 8 and 9 are arranged in order of decreasing M.D.M. virus

|                  |      |     |      |      |     |
|------------------|------|-----|------|------|-----|
| Stull 101YS      | 29.5 | 6.8 | 24.3 | 68.5 | 2.3 |
| Ken-Bred E20YA   | 29.2 | 6.8 | 25.5 | 70.5 | 2.1 |
| Crib Filler 88   | 26.2 | 6.8 | 25.8 | 60.0 | 2.4 |
| S.S. 820S        | 24.6 | 7.0 | 23.4 | 47.1 | 2.1 |
| Princeton 81-A   | 27.0 | 7.0 | 23.7 | 76.2 | 2.3 |
| Schenk SX-75     | 24.2 | 7.0 | 24.5 | 71.8 | 2.1 |
| T-E Cropmaster   | 24.1 | 7.0 | 24.5 | 56.9 | 2.5 |
| Princeton SX803  | 34.0 | 7.0 | 26.9 | 68.4 | 2.3 |
| Dekalb XL-65A    | 26.7 | 7.5 | 23.7 | 69.1 | 2.2 |
| Ken-Bred SX20Y   | 19.7 | 7.8 | 22.7 | 49.6 | 2.1 |
| Crib Filler 66   | 11.6 | 8.0 | 25.2 | 48.2 | 2.0 |
| Dekalb XL-362    | 21.1 | 8.0 | 25.2 | 47.4 | 2.0 |
| Dekalb 805-A     | 11.8 | 8.2 | 22.0 | 26.7 | 2.1 |
| Yellow Average   | 46.7 | 5.7 | 25.1 | 76.2 | 2.4 |
| WHITE            |      |     |      |      |     |
| Ky 6132W         | 74.8 | 4.3 | 29.3 | 97.0 | 2.8 |
| Pioneer 511      | 72.0 | 4.3 | 29.4 | 97.1 | 3.0 |
| Ky 5921W         | 73.2 | 4.5 | 27.0 | 95.0 | 2.6 |
| Princeton 920-A  | 72.7 | 4.5 | 27.4 | 95.6 | 2.6 |
| Meacham M-7      | 61.1 | 4.5 | 28.3 | 95.6 | 2.5 |
| Crib Filler 183W | 65.4 | 4.8 | 26.7 | 88.1 | 2.5 |
| Schenk S-96W     | 77.4 | 4.8 | 28.0 | 89.4 | 2.9 |
| Princeton 990-A  | 57.7 | 5.0 | 27.7 | 88.9 | 2.6 |
| Pioneer 509      | 52.2 | 5.2 | 24.9 | 94.3 | 2.5 |
| S.S. 960W        | 64.2 | 5.3 | 25.8 | 91.6 | 2.8 |
| Stull 500WC      | 57.2 | 5.3 | 27.0 | 87.8 | 2.6 |
| Dekalb 999       | 66.1 | 5.3 | 28.5 | 97.8 | 2.4 |
| Princeton 790-AA | 56.6 | 5.5 | 24.7 | 94.5 | 2.5 |
| Stull 800W       | 62.0 | 5.5 | 29.0 | 96.4 | 2.5 |
| Ken-Bred M20W    | 60.0 | 6.0 | 27.8 | 87.9 | 2.5 |
| US523W           | 11.4 | 8.0 | 23.7 | 50.6 | 2.3 |
| White Average    | 61.5 | 5.2 | 27.2 | 90.5 | 2.6 |
| GRAND AVERAGE    | 50.9 | 5.6 | 25.7 | 80.3 | 2.4 |

Table 10. Annual Summary of Hybrids Evaluated Under Nitrogen and Plant Population Treatments Separately and in Combination

| Hybrid          | Average Acre Yield in Bushels |          |       |          |       |             |       |             |       |          |      |          |      |
|-----------------|-------------------------------|----------|-------|----------|-------|-------------|-------|-------------|-------|----------|------|----------|------|
|                 | Overall Average               | 133# N/A |       | 200# N/A |       | 17,424 P1/A |       | 23,232 P1/A |       | 133# N/A |      | 200# N/A |      |
|                 |                               |          | N/A   | N/A      | N/A   | N/A         | P1/A  | P1/A        | P1/A  | P1/A     | P1/A | P1/A     | P1/A |
| YELLOW          |                               |          |       |          |       |             |       |             |       |          |      |          |      |
| Crib Filler 88  | 91.0                          | 86.6     | 95.5  | 92.8     | 89.3  | 85.7        | 87.5  | 99.8        | 91.1  |          |      |          |      |
| Dekalb 805-A    | 79.3                          | 81.6     | 77.0  | 84.6     | 74.0  | 79.8        | 83.4  | 89.4        | 64.5  |          |      |          |      |
| P.A.G. 399      | 85.4                          | 87.6     | 83.2  | 79.4     | 91.4  | 77.5        | 97.7  | 81.3        | 85.0  |          |      |          |      |
| P.A.G. SX29     | 93.3                          | 88.9     | 97.8  | 97.4     | 89.3  | 87.7        | 90.0  | 107.1       | 88.5  |          |      |          |      |
| Pioneer 3369    | 90.6                          | 88.7     | 92.5  | 94.0     | 87.3  | 82.8        | 94.6  | 105.1       | 79.9  |          |      |          |      |
| S.S. 820S       | 83.0                          | 81.5     | 84.6  | 82.9     | 83.2  | 72.2        | 90.8  | 93.6        | 75.5  |          |      |          |      |
| Dekalb XL-342   | 77.8                          | 77.7     | 77.9  | 83.0     | 72.7  | 79.2        | 76.2  | 86.7        | 69.1  |          |      |          |      |
| Crib Filler 128 | 78.4                          | 79.1     | 77.8  | 82.9     | 74.0  | 76.3        | 81.8  | 89.4        | 66.2  |          |      |          |      |
| Stull 807YAA    | 93.6                          | 92.7     | 94.5  | 97.5     | 89.6  | 90.9        | 94.4  | 104.1       | 84.8  |          |      |          |      |
| Ken-Bred SX20Y  | 80.2                          | 77.0     | 83.4  | 90.3     | 70.1  | 77.6        | 76.4  | 103.0       | 63.7  |          |      |          |      |
| P.A.G. SX17     | 106.1                         | 105.9    | 106.3 | 107.7    | 104.5 | 102.9       | 108.9 | 112.5       | 100.1 |          |      |          |      |
| Dekalb XL-362   | 87.1                          | 87.1     | 87.2  | 93.5     | 80.8  | 91.9        | 82.2  | 95.0        | 79.4  |          |      |          |      |
| S.S. Matoaka    | 87.9                          | 85.6     | 90.2  | 91.4     | 84.4  | 83.0        | 88.2  | 99.0        | 80.6  |          |      |          |      |
| T-E Cropmaster  | 74.1                          | 70.0     | 78.3  | 81.6     | 66.7  | 74.0        | 65.9  | 89.1        | 67.5  |          |      |          |      |
| AFS 809         | 78.5                          | 76.5     | 80.4  | 84.7     | 72.2  | 75.8        | 77.2  | 93.6        | 67.2  |          |      |          |      |
| Princeton 8-A   | 74.8                          | 69.0     | 80.7  | 83.7     | 66.0  | 77.4        | 60.5  | 90.0        | 71.4  |          |      |          |      |
| Pioneer 3376    | 81.9                          | 77.0     | 86.8  | 85.9     | 77.9  | 75.5        | 78.5  | 96.2        | 77.3  |          |      |          |      |
| Dekalb XL-65A   | 88.6                          | 84.4     | 92.9  | 87.8     | 89.5  | 77.3        | 91.4  | 98.3        | 87.5  |          |      |          |      |
| Princeton 81-A  | 79.2                          | 77.7     | 80.7  | 88.8     | 69.6  | 80.1        | 75.2  | 97.4        | 64.0  |          |      |          |      |
| Pioneer 3327    | 92.1                          | 89.3     | 94.4  | 94.2     | 90.0  | 79.0        | 99.5  | 109.4       | 80.4  |          |      |          |      |
| Ken-Bred E20YA  | 88.4                          | 89.9     | 86.9  | 90.7     | 86.1  | 82.7        | 97.1  | 98.7        | 75.0  |          |      |          |      |
| S.S. 860        | 76.8                          | 72.5     | 81.1  | 77.7     | 75.9  | 72.1        | 72.9  | 83.2        | 78.9  |          |      |          |      |
| Princeton SX803 | 81.6                          | 76.6     | 86.6  | 88.0     | 75.2  | 77.6        | 75.5  | 98.4        | 74.8  |          |      |          |      |
| Pioneer X2786   | 102.1                         | 97.5     | 106.7 | 111.3    | 92.9  | 101.5       | 93.5  | 121.1       | 92.2  |          |      |          |      |
| Princeton SX804 | 89.8                          | 87.3     | 92.4  | 93.6     | 86.1  | 85.7        | 88.8  | 101.4       | 83.3  |          |      |          |      |
| Ky 6504         | 84.2                          | 79.8     | 88.7  | 87.5     | 81.0  | 74.0        | 85.5  | 101.0       | 76.4  |          |      |          |      |
| Ken-Bred VR20Y  | 78.7                          | 74.7     | 82.7  | 82.0     | 75.4  | 70.6        | 78.8  | 93.4        | 72.0  |          |      |          |      |
| Crib Filler 66  | 80.8                          | 79.8     | 81.9  | 89.4     | 72.3  | 80.7        | 78.8  | 98.1        | 65.7  |          |      |          |      |

RESULTS OF THE KENTUCKY HYBRID CORN PERFORMANCE TEST IN 1966

C. R. Tutt and F. A. Loeffel

The objective of the Kentucky Hybrid Corn Performance Test is to provide an unbiased estimate of the relative performance of corn hybrids being sold in Kentucky. This information may be used by farmers, seedsmen, and research and extension personnel to determine which hybrid most nearly possesses the characteristics which are desired or required for a specific situation. The need for the University of Kentucky Agricultural Experiment Station to obtain this information is indicated by the change in hybrids being purchased by Kentucky farmers, the large number of hybrids which are available, and the economic importance of corn to Kentucky agriculture.

The average yield of corn in Kentucky in 1966 was 59 bushels per acre. This is 10 bushels below the record yield which was recorded in 1965. This yield should provide a production of 70.3 million bushels of corn for 1966 possessing an approximate value of 100 million dollars.

The 1966 corn crop in Kentucky was one of the latest on record. Corn planting was 2-3 weeks behind normal due to wet weather during April and May. Planting was delayed more in the major corn producing areas of the west than in other areas of the state. Statewide, only 10-12 percent of the corn crop was planted by the end of May. Corn that was planted early was seriously injured by poor stands and continued cool weather.

Early corn in the southern and western parts of the state also suffered considerably from the hot, dry weather during July which reduced pollination. Yield prospects rose sharply for late-planted corn as August rains relieved drought conditions existing in most parts of western Kentucky.

Table 6. Two-Year Summary of Hybrids Compared in 1965 and 1966

| Hybrid           | Average Acre Yield, Bu. |         |         | Maturity               |                        | Ear Height<br>Ft. |
|------------------|-------------------------|---------|---------|------------------------|------------------------|-------------------|
|                  | State                   | Western | Eastern | Harvest<br>Moisture, % | Ear Erect<br>Plants, % |                   |
| YELLOW           |                         |         |         |                        |                        |                   |
| Pioneer 3369     | 89.2                    | 91.4    | 85.9    | 17.4                   | 86.4                   | 2.9               |
| P.A.G. SX29      | 94.6                    | 100.4   | 89.7    | 17.5                   | 73.4                   | 3.1               |
| Dekalb XL-362    | 90.3                    | 96.9    | 82.5    | 17.8                   | 88.4                   | 2.7               |
| S.S. 820S        | 89.4                    | 98.6    | 79.7    | 17.9                   | 76.2                   | 3.2               |
| Ken-Bred SX20Y   | 86.5                    | 95.6    | 76.4    | 18.1                   | 82.1                   | 3.1               |
| Princeton 8-A    | 79.5                    | 83.9    | 76.0    | 18.2                   | 90.2                   | 3.1               |
| Princeton 81-A   | 81.8                    | 85.2    | 78.1    | 18.4                   | 87.8                   | 2.9               |
| S.S. Matoaka     | 85.9                    | 90.2    | 81.7    | 18.4                   | 70.0                   | 3.3               |
| AES 809          | 82.4                    | 83.8    | 81.5    | 18.6                   | 71.7                   | 2.9               |
| T-E Cropmaster   | 79.9                    | 84.8    | 74.8    | 18.6                   | 69.1                   | 3.4               |
| Ken-Bred E20YA   | 87.8                    | 92.2    | 83.6    | 18.8                   | 71.8                   | 3.2               |
| Princeton SX804  | 88.2                    | 91.3    | 85.6    | 18.8                   | 78.2                   | 3.4               |
| S.S. 860         | 80.6                    | 84.1    | 79.0    | 18.8                   | 78.9                   | 3.2               |
| S.S. 909E        | 86.8                    | 91.2    | 82.8    | 19.0                   | 85.1                   | 4.0               |
| Ky 105           | 83.5                    | 89.6    | 78.3    | 19.4                   | 77.4                   | 3.7               |
| Crib Filler 66   | 92.5                    | 99.6    | 87.4    | 19.5                   | 71.0                   | 3.1               |
| Princeton 890-AA | 86.0                    | 89.1    | 82.6    | 19.5                   | 70.8                   | 3.2               |
| Dekalb XL385     | 89.1                    | 90.7    | 89.7    | 19.6                   | 86.1                   | 3.5               |
| P.A.G. SX59      | 93.2                    | 95.1    | 95.3    | 19.8                   | 73.8                   | 3.1               |
| S.S. 979         | 88.2                    | 96.3    | 81.2    | 20.3                   | 78.5                   | 3.8               |
| Dekalb 1006      | 83.2                    | 86.5    | 81.5    | 22.1                   | 79.7                   | 3.8               |
| Yellow Average   | 86.6                    | 91.3    | 82.5    | 18.9                   | 78.4                   | 3.3               |

Table 4. Agronomic Information Pertaining to Testing Locations in 1966

| Location                             | Fertilizer Applied                   | Plants Per Acre | Date Planted | Date Harvested | Experiment Average Yield |          |
|--------------------------------------|--------------------------------------|-----------------|--------------|----------------|--------------------------|----------|
|                                      |                                      |                 |              |                | Bushel                   | Moisture |
| 1. Princeton                         | 170# K <sub>2</sub> O                | 17,424          | May 30       | Oct. 25        | 72.2                     | 24.8     |
|                                      | 315# NH <sub>4</sub> NO <sub>3</sub> | 23,232          |              |                | 79.3                     | 26.5     |
|                                      | 170# K <sub>2</sub> O                | 17,424          | May 27       | Oct. 25        | 67.5                     | 26.2     |
| 570# NH <sub>4</sub> NO <sub>3</sub> | 23,232                               | 79.1            |              |                | 26.2                     |          |
| 2. Hartford                          | 200# K <sub>2</sub> O                | 17,424          | June 1       | Oct. 31        | 87.7                     | 22.3     |
|                                      | 280# Superphosphate                  |                 |              |                |                          |          |
|                                      | 345# NH <sub>4</sub> NO <sub>3</sub> |                 |              |                |                          |          |
| 3. Lexington                         | 200# K <sub>2</sub> O                | 17,424          | June 1       | Oct. 31        | 119.1                    | 22.2     |
|                                      | 280# Superphosphate                  |                 |              |                |                          |          |
|                                      | 690# NH <sub>4</sub> NO <sub>3</sub> |                 |              |                |                          |          |
| 3. Lexington                         | 600# NH <sub>4</sub> NO <sub>3</sub> | 17,424 & 23,232 | May 6        | Oct. 14        | 91.9                     | 20.7     |
| 4. Vanceburg                         | 100# K <sub>2</sub> O                | 14,119          | May 21       | Oct. 22        | 50.9                     | 35.7     |
| 400# NH <sub>4</sub> NO <sub>3</sub> |                                      |                 |              |                |                          |          |
| 3 Ton Lime                           |                                      |                 |              |                |                          |          |

Table 5. Three-Year Summary of Hybrids Compared in 1964, 1965 and 1966

| Hybrid               | Average Acre Yield, Bu. |             |             | Maturity               |                        | Ear Height<br>Ft. |
|----------------------|-------------------------|-------------|-------------|------------------------|------------------------|-------------------|
|                      | State                   | Western     | Eastern     | Harvest<br>Moisture, % | Ear Erect<br>Plants, % |                   |
| <b>YELLOW</b>        |                         |             |             |                        |                        |                   |
| Pioneer 3369         | 83.7                    | 76.7        | 92.4        | 16.7                   | 91.9                   | 3.2               |
| P.A.G. SX29          | 91.8                    | 82.9        | 104.2       | 16.9                   | 83.0                   | 3.3               |
| S.S. 820S            | 81.2                    | 71.5        | 93.9        | 17.0                   | 82.0                   | 3.3               |
| Ken-Bred SX20Y       | 79.3                    | 71.3        | 89.7        | 17.4                   | 83.5                   | 3.3               |
| Princeton 8-A        | 78.9                    | 69.7        | 91.7        | 17.9                   | 90.9                   | 3.2               |
| AES 809              | 74.9                    | 65.0        | 88.4        | 18.0                   | 79.8                   | 3.1               |
| S.S. Matoaka         | 81.8                    | 71.2        | 96.0        | 18.0                   | 75.5                   | 3.5               |
| Ken-Bred E20YA       | 80.3                    | 71.9        | 91.4        | 18.3                   | 80.3                   | 3.4               |
| S.S. 860             | 77.1                    | 69.5        | 88.1        | 18.5                   | 84.7                   | 3.5               |
| Crib Filler 66       | 83.5                    | 75.3        | 95.3        | 18.7                   | 80.1                   | 3.4               |
| S.S. 909E            | 80.9                    | 76.4        | 87.0        | 18.7                   | 86.0                   | 4.2               |
| Princeton 890-AA     | 80.5                    | 70.8        | 93.1        | 18.9                   | 77.9                   | 3.3               |
| Ky 105               | 82.3                    | 77.0        | 89.9        | 19.1                   | 82.1                   | 3.9               |
| Dekalb XL-385        | 88.7                    | 80.2        | 100.9       | 19.2                   | 89.8                   | 3.5               |
| P.A.G. SX59          | 89.6                    | 79.3        | 105.0       | 19.4                   | 81.3                   | 3.4               |
| S.S. 979             | 83.2                    | 77.1        | 91.8        | 19.9                   | 82.6                   | 3.9               |
| Dekalb 1006          | 83.4                    | 74.8        | 95.6        | 21.4                   | 84.0                   | 4.0               |
| Yellow Average       | 82.4                    | 74.2        | 93.8        | 18.5                   | 83.3                   | 3.5               |
| <b>WHITE</b>         |                         |             |             |                        |                        |                   |
| Princeton 790-AA     | 69.4                    | 60.7        | 82.0        | 18.0                   | 84.1                   | 3.4               |
| US523W               | 73.0                    | 67.8        | 81.1        | 18.5                   | 75.9                   | 3.4               |
| Schenk S-96W         | 83.8                    | 77.1        | 93.3        | 19.1                   | 81.5                   | 3.5               |
| Ky 5921W             | 80.3                    | 73.9        | 89.5        | 19.2                   | 82.2                   | 3.4               |
| Crib Filler 183W     | 83.4                    | 75.7        | 95.1        | 19.4                   | 81.4                   | 3.4               |
| Pioneer 509          | 77.5                    | 72.8        | 83.8        | 19.5                   | 78.9                   | 3.5               |
| Princeton 990-A      | 77.8                    | 74.0        | 83.8        | 20.1                   | 88.1                   | 3.5               |
| Pioneer 511          | 82.4                    | 78.5        | 86.8        | 20.6                   | 77.5                   | 3.6               |
| Stull 800W           | 81.6                    | 73.6        | 93.6        | 21.6                   | 77.7                   | 3.7               |
| White Average        | 78.8                    | 72.7        | 87.7        | 19.6                   | 80.8                   | 3.5               |
| <b>GRAND AVERAGE</b> | <b>81.2</b>             | <b>73.6</b> | <b>91.7</b> | <b>18.9</b>            | <b>82.4</b>            | <b>3.5</b>        |

(12)

(13)