

TABLE 22: PHYSICAL QUALITY CHARACTERISTICS OF WHITE AND YELLOW MAIZE OVER 10 SEASONS

| Season               | Number<br>of<br>samples | Test weight |      |      | 100             |      |      | Kernel size (%)   |      |      |                  |      |      |                  |      |      | Breakage susceptibility (%) |      |      |                 |      |      | Stress cracks |      |      |
|----------------------|-------------------------|-------------|------|------|-----------------|------|------|-------------------|------|------|------------------|------|------|------------------|------|------|-----------------------------|------|------|-----------------|------|------|---------------|------|------|
|                      |                         | (kg/hl)     |      |      | kernel mass (g) |      |      | Above 10 mm sieve |      |      | Above 8 mm sieve |      |      | Below 8 mm sieve |      |      | < 6.35 mm sieve             |      |      | < 4.75 mm sieve |      |      | (%)           |      |      |
|                      |                         | ave.        | min. | max. | ave.            | min. | max. | ave.              | min. | max. | ave.             | min. | max. | ave.             | min. | max. | ave.                        | min. | max. | ave.            | min. | max. | ave.          | min. | max. |
| White Maize          |                         |             |      |      |                 |      |      |                   |      |      |                  |      |      |                  |      |      |                             |      |      |                 |      |      |               |      |      |
| 2015/16              | 415                     | 78.1        | 68.5 | 83.9 | 32.4            | 20.8 | 40.8 | 15.2              | 0.3  | 99.4 | 66.7             | 0.1  | 89.5 | 18.2             | 0.0  | 63.8 | 0.9                         | 0.0  | 7.2  | 0.4             | 0.0  | 4.3  | 5             | 0    | 30   |
| 2016/17              | 549                     | 77.7        | 70.0 | 81.8 | 35.0            | 22.8 | 43.8 | 22.1              | 1.8  | 64.2 | 64.1             | 13.6 | 82.4 | 13.7             | 0.7  | 62.6 | 1.2                         | 0.0  | 9.9  | 0.8             | 0.0  | 9.0  | 8             | 0    | 42   |
| 2017/18              | 451                     | 77.0        | 63.4 | 81.7 | 34.3            | 18.3 | 45.8 | 26.2              | 1.5  | 58.7 | 62.8             | 39.8 | 83.7 | 11.0             | 1.5  | 32.1 | 1.0                         | 0.0  | 3.8  | 0.7             | 0.0  | 2.7  | 11            | 1    | 30   |
| 2018/19              | 404                     | 75.9        | 61.0 | 83.6 | 33.4            | 18.7 | 51.1 | 24.6              | 0.0  | 93.8 | 63.4             | 5.8  | 79.9 | 12.0             | 0.4  | 46.8 | 1.6                         | 0.0  | 7.9  | 1.2             | 0.0  | 5.6  | 17            | 1    | 58   |
| 2019/20              | 516                     | 75.6        | 63.4 | 82.0 | 34.9            | 19.3 | 44.7 | 27.8              | 1.0  | 63.7 | 62.0             | 34.8 | 83.8 | 10.2             | 1.2  | 49.4 | 1.1                         | 0.0  | 6.3  | 0.8             | 0.0  | 4.1  | 16            | 2    | 58   |
| 2020/21              | 560                     | 75.9        | 68.5 | 81.1 | 33.3            | 18.9 | 42.6 | 21.6              | 0.0  | 55.1 | 65.1             | 41.8 | 83.6 | 13.3             | 1.3  | 55.7 | 0.8                         | 0.0  | 4.3  | 0.6             | 0.0  | 3.3  | 12            | 1    | 41   |
| 2021/22              | 524                     | 75.5        | 66.1 | 81.0 | 35.1            | 14.6 | 45.9 | 28.2              | 0.0  | 68.6 | 61.8             | 29.2 | 81.6 | 10.0             | 0.2  | 41.2 | 1.2                         | 0.0  | 20.2 | 0.9             | 0.0  | 9.2  | 11            | 0    | 50   |
| 2022/23              | 520                     | 76.3        | 69.1 | 81.0 | 35.3            | 23.8 | 53.8 | 24.5              | 1.5  | 62.2 | 62.9             | 36.7 | 80.4 | 12.5             | 0.4  | 39.6 | 1.1                         | 0.0  | 10.6 | 0.9             | 0.0  | 6.1  | 8             | 0    | 63   |
| 2023/24              | 518                     | 76.2        | 66.9 | 81.5 | 31.4            | 15.1 | 42.7 | 18.8              | 0.0  | 62.7 | 62.3             | 0.6  | 95.5 | 18.9             | 1.6  | 79.9 | 0.9                         | 0.0  | 4.7  | 0.7             | 0.0  | 3.6  | 4             | 0    | 35   |
| 2024/25              | 458                     | 76.7        | 66.0 | 82.7 | 36.8            | 21.6 | 45.8 | 27.1              | 0.4  | 86.2 | 62.3             | 0.3  | 82.4 | 10.6             | 0.3  | 57.7 | 0.9                         | 0.0  | 6.5  | 0.8             | 0.0  | 3.7  | 5             | 0    | 29   |
| Weighted Average     |                         | 76.5        |      |      | 34.2            |      |      | 23.7              |      |      | 63.3             |      |      | 13.0             |      |      | 1.1                         |      |      | 0.8             |      |      | 10            |      |      |
| Minimum              |                         | 61.0        |      |      | 14.6            |      |      | 0.0               |      |      | 0.1              |      |      | 0.0              |      |      | 0.0                         |      |      | 0.0             |      |      | 0             |      |      |
| Maximum              |                         | 83.9        |      |      | 53.8            |      |      | 99.4              |      |      | 95.5             |      |      | 79.9             |      |      | 20.2                        |      |      | 9.2             |      |      | 63            |      |      |
| Yellow Maize         |                         |             |      |      |                 |      |      |                   |      |      |                  |      |      |                  |      |      |                             |      |      |                 |      |      |               |      |      |
| 2015/16              | 505                     | 76.7        | 59.8 | 81.7 | 31.8            | 17.1 | 43.1 | 11.8              | 0.3  | 34.1 | 66.6             | 15.6 | 93.6 | 21.6             | 0.2  | 77.9 | 1.0                         | 0.0  | 4.5  | 0.5             | 0.0  | 4.1  | 5             | 0    | 31   |
| 2016/17              | 451                     | 76.9        | 67.6 | 82.4 | 33.5            | 18.4 | 43.3 | 11.4              | 0.0  | 71.9 | 65.6             | 13.0 | 90.9 | 23.0             | 1.6  | 69.7 | 1.1                         | 0.1  | 8.6  | 0.8             | 0.0  | 5.3  | 8             | 0    | 50   |
| 2017/18              | 449                     | 77.2        | 59.6 | 82.5 | 31.5            | 15.6 | 40.7 | 11.1              | 0.0  | 72.4 | 66.7             | 24.2 | 82.2 | 22.2             | 2.5  | 62.0 | 0.9                         | 0.0  | 4.7  | 0.7             | 0.0  | 3.3  | 9             | 1    | 38   |
| 2018/19              | 404                     | 76.9        | 69.0 | 83.3 | 30.6            | 19.5 | 41.4 | 8.3               | 0.0  | 33.2 | 66.4             | 24.2 | 85.2 | 25.3             | 4.7  | 74.5 | 1.0                         | 0.0  | 6.5  | 0.7             | 0.0  | 3.9  | 13            | 2    | 39   |
| 2019/20              | 374                     | 76.3        | 63.9 | 82.4 | 30.4            | 15.0 | 39.3 | 8.4               | 0.0  | 30.1 | 65.1             | 30.2 | 82.1 | 26.5             | 6.1  | 68.5 | 1.0                         | 0.0  | 6.0  | 0.7             | 0.0  | 3.7  | 13            | 2    | 48   |
| 2020/21              | 440                     | 76.5        | 70.7 | 82.6 | 31.2            | 19.9 | 43.8 | 7.4               | 0.0  | 32.5 | 65.9             | 5.6  | 81.8 | 26.7             | 6.1  | 88.1 | 0.8                         | 0.0  | 3.5  | 0.6             | 0.0  | 2.5  | 12            | 1    | 49   |
| 2021/22              | 476                     | 75.4        | 61.5 | 80.8 | 31.1            | 19.0 | 42.1 | 9.4               | 0.0  | 54.0 | 65.7             | 14.1 | 82.1 | 24.9             | 2.9  | 85.9 | 1.1                         | 0.0  | 4.4  | 0.9             | 0.0  | 3.4  | 11            | 0    | 46   |
| 2022/23              | 480                     | 76.4        | 69.1 | 82.2 | 31.6            | 22.2 | 39.6 | 7.0               | 0.0  | 37.0 | 62.1             | 17.4 | 81.1 | 30.9             | 2.8  | 82.2 | 1.4                         | 0.0  | 69.0 | 1.0             | 0.0  | 67.3 | 8             | 0    | 57   |
| 2023/24              | 482                     | 75.7        | 66.8 | 81.4 | 28.7            | 16.3 | 40.5 | 5.8               | 0.0  | 36.1 | 57.0             | 6.0  | 80.4 | 37.2             | 3.7  | 94.0 | 1.1                         | 0.0  | 5.2  | 0.8             | 0.0  | 4.6  | 5             | 0    | 42   |
| 2024/25              | 542                     | 75.9        | 66.9 | 80.5 | 33.7            | 18.9 | 48.9 | 11.2              | 0.0  | 56.9 | 63.1             | 27.2 | 87.3 | 25.7             | 1.8  | 70.8 | 1.1                         | 0.0  | 7.1  | 0.8             | 0.0  | 5.7  | 4             | 0    | 20   |
| Weighted Average     |                         | 76.4        |      |      | 31.5            |      |      | 9.2               |      |      | 64.3             |      |      | 26.4             |      |      | 1.1                         |      |      | 0.8             |      |      | 8             |      |      |
| Minimum              |                         | 59.6        |      |      | 15.0            |      |      | 0.0               |      |      | 5.6              |      |      | 0.2              |      |      | 0.0                         |      |      | 0.0             |      |      | 0             |      |      |
| Maximum              |                         | 83.3        |      |      | 48.9            |      |      | 72.4              |      |      | 93.6             |      |      | 94.0             |      |      | 69.0                        |      |      | 67.3            |      |      | 57            |      |      |
| White & Yellow Maize |                         |             |      |      |                 |      |      |                   |      |      |                  |      |      |                  |      |      |                             |      |      |                 |      |      |               |      |      |
| 2015/16              | 920                     | 77.3        | 59.8 | 83.9 | 32.1            | 17.1 | 43.1 | 13.3              | 0.3  | 99.4 | 66.7             | 0.1  | 93.6 | 20.0             | 0.0  | 77.9 | 1.0                         | 0.0  | 7.2  | 0.5             | 0.0  | 4.3  | 5             | 0    | 31   |
| 2016/17              | 1000                    | 77.3        | 67.6 | 82.4 | 34.3            | 18.4 | 43.8 | 17.3              | 0.0  | 71.9 | 64.8             | 13.0 | 90.9 | 17.9             | 0.7  | 69.7 | 1.2                         | 0.0  | 9.9  | 0.8             | 0.0  | 9.0  | 11            | 0    | 40   |
| 2017/18              | 900                     | 77.1        | 59.6 | 82.5 | 32.9            | 15.6 | 45.8 | 18.7              | 0.0  | 72.4 | 64.7             | 24.2 | 83.7 | 16.6             | 1.5  | 62.0 | 1.0                         | 0.0  | 4.7  | 0.7             | 0.0  | 3.3  | 10            | 1    | 38   |
| 2018/19              | 808                     | 76.4        | 61.0 | 83.6 | 32.0            | 18.7 | 51.1 | 16.4              | 0.0  | 93.8 | 64.9             | 5.8  | 85.2 | 18.7             | 0.4  | 74.5 | 1.3                         | 0.0  | 7.9  | 0.9             | 0.0  | 5.6  | 15            | 1    | 58   |
| 2019/20              | 890                     | 75.9        | 63.4 | 82.4 | 33.0            | 15.0 | 44.7 | 19.7              | 0.0  | 63.7 | 63.3             | 30.2 | 83.8 | 17.1             | 1.2  | 68.5 | 1.1                         | 0.0  | 6.3  | 0.8             | 0.0  | 4.1  | 15            | 2    | 58   |
| 2020/21              | 1000                    | 76.2        | 68.5 | 82.6 | 32.4            | 18.9 | 43.8 | 15.4              | 0.0  | 55.1 | 65.5             | 5.6  | 83.6 | 19.2             | 1.3  | 88.1 | 0.8                         | 0.0  | 4.3  | 0.6             | 0.0  | 3.3  | 12            | 1    | 49   |
| 2021/22              | 1000                    | 75.4        | 61.5 | 81.0 | 33.2            | 14.6 | 45.9 | 19.3              | 0.0  | 68.6 | 63.7             | 14.1 | 82.1 | 17.1             | 0.2  | 85.9 | 1.2                         | 0.0  | 20.2 | 0.9             | 0.0  | 9.2  | 11            | 0    | 50   |
| 2022/23              | 1000                    | 76.3        | 69.1 | 82.2 | 33.5            | 22.2 | 53.8 | 16.1              | 0.0  | 62.2 | 62.6             | 17.4 | 81.1 | 21.3             | 0.4  | 82.2 | 1.2                         | 0.0  | 69.0 | 1.0             | 0.0  | 67.3 | 8             | 0    | 63   |
| 2023/24              | 1000                    | 75.9        | 66.8 | 81.5 | 30.1            | 15.1 | 42.7 | 12.5              | 0.0  | 62.7 | 59.7             | 0.6  | 95.5 | 27.7             | 1.6  | 94.0 | 1.0                         | 0.0  | 5.2  | 0.8             | 0.0  | 4.6  | 4             | 0    | 42   |
| 2024/25              | 1000                    | 76.2        | 66.0 | 82.7 | 35.1            | 18.9 | 48.9 | 18.5              | 0.0  | 86.2 | 62.7             | 0.3  | 87.3 | 18.8             | 0.3  | 70.8 | 1.0                         | 0.0  | 7.1  | 0.8             | 0.0  | 5.7  | 4             | 0    | 29   |
| Weighted Average     |                         | 76.4        |      |      | 32.9            |      |      | 16.7              |      |      | 63.8             |      |      | 19.5             |      |      | 1.1                         |      |      | 0.8             |      |      | 9             |      |      |
| Minimum              |                         | 59.6        |      |      | 14.6            |      |      | 0.0               |      |      | 0.1              |      |      | 0.0              |      |      | 0.0                         |      |      | 0.0             |      |      | 0             |      |      |
| Maximum              |                         | 83.9        |      |      | 53.8            |      |      | 99.4              |      |      | 95.5             |      |      | 94.0             |      |      | 69.0                        |      |      | 67.3            |      |      | 63            |      |      |



Graph 41: Test weight of white and yellow maize over 10 seasons