

COTTON DISEASE LOSS ESTIMATE COMMITTEE REPORT

Don Blasingame

Mukund V. Patel

Retired

Mississippi State, MS

Table 1. Estimated reduction in 2010 cotton yield resulting from diseases^a.

| Diseases | AL | AZ | AR | CA | FL | GA | LA | MS |
|--|----------------|----------------|------------------|----------------|----------------|------------------|----------------|----------------|
| Note: Table entries are % loss (top figure) and bales lost (lower figure) ^b | | | | | | | | |
| Fusarium Wilt | 0.50 | - | 1.00 | 0.20 | - | Trace | 1.00 | Trace |
| <i>F. oxysporum</i> f. sp. <i>vasinfectum</i> | 2,852 | | 13,408 | 800 | | | 5,085 | |
| Verticillium Wilt | Trace | 1.00 | 0.50 | 0.10 | - | - | Trace | Trace |
| <i>V. dahliae</i> | | 6,211 | 6,704 | 400 | | | | |
| Bacterial Blight | - | - | - | - | - | Trace | Trace | Trace |
| <i>X. axonopodis</i> pv. <i>malvacearum</i> | | | | | | | | |
| Phymatotrichum | 4.50 | 0.10 | - | - | - | - | Trace | - |
| Root Rot | 25,669 | 621 | | | | | | |
| <i>P. omnivorum</i> | | | | | | | | |
| Seedling Diseases | 0.50 | 0.20 | 3.00 | 4.50 | 0.30 | 1.00 | 2.00 | 1.00 |
| Several fungi | 2,852 | 1,242 | 40,223 | 18,000 | 546 | 25,000 | 10,169 | 9,290 |
| Ascochyta Blight | - | - | - | - | 2.00 | Trace | Trace | Trace |
| <i>A. gossypii</i> | | | | | 3,639 | | | |
| Boll Rots | 3.00 | 0.10 | 0.50 | - | 8.00 | 1.00 | 1.00 | 1.00 |
| | 17,113 | 621 | 6,704 | | 14,555 | 25,000 | 5,085 | 9,290 |
| Nematode (Total) | 5.00 | 2.00 | 5.50 | 0.20 | 5.00 | 8.50 | 7.50 | 6.00 |
| | 28,522 | 12,422 | 73,743 | 800 | 9,097 | 212,500 | 38,136 | 55,738 |
| Root-knot | 0.50 | 2.00 | 3.50 | 0.20 | 3.00 | 6.50 | 3.50 | 1.00 |
| | 2,852 | 12,422 | 46,927 | 800 | 5,458 | 162,500 | 17,797 | 9,290 |
| Reniform | 4.50 | - | 2.00 | - | 2.00 | 1.50 | 4.00 | 5.00 |
| | 25,669 | | 26,816 | | 3,639 | 37,500 | 20,339 | 46,448 |
| Others | - | - | - | - | - | 0.50 | Trace | Trace |
| | | | | | | 12,500 | | |
| Leaf Spots and | 0.10 | - | - | Trace | 5.00 | 3.50 | Trace | 0.50 |
| Others ^c | 570 | | | | 9,097 | 87,500 | | 4,645 |
| TOTAL PERCENT | 14.10 | 3.40 | 10.50 | 5.00 | 20.30 | 14.00 | 11.50 | 8.50 |
| BALES LOST | 80,431 | 21,118 | 140,782 | 20,000 | 36,932 | 350,000 | 58,475 | 78,962 |
| YIELD in BALES^d | 570,431 | 621,118 | 1,340,782 | 400,000 | 181,932 | 2,500,000 | 508,475 | 928,962 |

^aCotton disease loss estimates were made by extension and research plant pathologists and agronomists with cotton responsibilities in their respective states.

^bRounding errors present.

^cLeaf spots (*Alternaria*, *Cercospora*, *Phomopsis*, etc.) and various root rots.

^dYield potential had disease not been present.

Cotton Disease Loss Estimate Committee:

AL-Dr. Kathy Lawrence, Auburn University

AZ-Dr. Mary Olsen, University of Arizona

AR-Dr. Terry Kirkpatrick, Univ. of Arkansas, Hope

CA-Dr. Mike Davis, University of California

FL-Dr. Jim Marios, University of Florida, Quincy

GA-Dr. Bob Kemerait, University of Georgia, Tifton

LA-Dr. Patrick Colyer, LSU, Bossier City

MS-Dr. Gabe Scuimbato, Mississippi State Univ.,

Stoneville

MO-Dr. Al Wrather, University of Missouri

NM-Dr. Natalie Goldberg, New Mexico State Univ.

NC-Dr. Steve Koenning, NC State University

OK-Dr. J. Terry Pitts, Oklahoma State Univ., Altus

SC-Dr. John Muller, Clemson University, Blackville

TN-Dr. Melvin Newman, Univ. of Tennessee, Jackson

TX-Dr. Jason Woodward, Texas AgriLife Ext., Lubbock

VA-Dr. Patrick Phipps, Virginia Tech, Tidewater

Table 1 (continued) 2010

| Diseases | MO | NM | NC | OK | SC | TN | TX | VA |
|--|-------------|-------------|-------------|-------------|--------------|-------------|--------------|-------------|
| Note: Table entries are % loss (top figure) and bales lost (lower figure) ^b | | | | | | | | |
| Fusarium Wilt | - | - | - | - | 1.50 | - | 0.50 | - |
| <i>F. oxysporum</i> f. sp. <i>vasinfectum</i> | | | | | 6,159 | | 45,739 | |
| Verticillium Wilt | - | 1.00 | 0.01 | 0.50 | - | - | 1.40 | - |
| <i>V. dahliae</i> | | 1,027 | 102 | 2,217 | | | 128,068 | |
| Bacterial Blight | - | Trace | - | - | - | - | 0.10 | Trace |
| <i>X. axonopodis</i> pv. <i>malvacearum</i> | | | | | | | 9,148 | |
| Phymatotrichum | - | Trace | - | - | - | - | 7.30 | - |
| Root Rot | | | | | | | 667,784 | |
| <i>P. omnivorum</i> | | | | | | | | |
| Seedling Diseases | 1.00 | 0.50 | 2.00 | 0.10 | 0.50 | 3.50 | 0.40 | 1.50 |
| Several fungi | 7,216 | 514 | 20,423 | 443 | 2,053 | 26,047 | 36,591 | 1,873 |
| Ascochyta Blight | - | Trace | - | - | 0.10 | 0.50 | - | - |
| <i>A. gossypii</i> | | | | | 411 | 3,721 | | |
| Boll Rots | - | Trace | 0.50 | 0.60 | 0.25 | 0.50 | 0.10 | 0.10 |
| | | | 5,106 | 2,661 | 1,026 | 3,721 | 9,148 | 125 |
| Nematode (Total) | 2.00 | 5.00 | 2.50 | 0.10 | 8.50 | 2.01 | 2.10 | 4.60 |
| | 14,433 | 5,135 | 25,529 | 443 | 34,899 | 14,958 | 192,102 | 5,744 |
| Root-knot | 2.00 | 5.00 | 2.00 | 0.10 | 4.00 | 0.01 | 1.80 | 2.50 |
| | 14,433 | 5,135 | 20,423 | 443 | 16,423 | 74 | 164,659 | 3,122 |
| Reniform | - | - | 0.25 | - | 2.00 | 2.00 | 0.30 | 0.10 |
| | | | 2,553 | | 8,211 | 14,884 | 27,443 | 125 |
| Others | - | - | 0.25 | - | 2.50 | - | Trace | 2.00 |
| | | | 2,553 | | 10,264 | | | 2,497 |
| Leaf Spots ^c and | - | 1.00 | - | 0.60 | 0.25 | 0.10 | 0.10 | 0.10 |
| Others | | 1,027 | | 2,661 | 1,026 | 744 | 9,148 | 125 |
| TOTAL PERCENT | 3.00 | 7.50 | 5.01 | 1.90 | 11.10 | 6.61 | 12.00 | 6.30 |
| BALES LOST | 21,649 | 7,703 | 51,160 | 8,425 | 45,574 | 49,191 | 1,097,727 | 7,867 |
| YIELD in BALES^d | 721,649 | 102,703 | 1,021,160 | 443,425 | 410,574 | 744,191 | 9,147,727 | 124,867 |

^aCotton disease loss estimates were made by extension and research plant pathologists and agronomists with cotton responsibilities in their respective states.

^bRounding errors present.

^cLeaf spots (*Alternaria*, *Cercospora*, *Phomopsis*, etc.) and various root rots.

^dYield potential had disease not been present.

Table 1. (continued) 2010

| Diseases | Bales Lost | Average % Lost |
|--|-----------------------|---------------------------|
| Fusarium Wilt <i>F. oxysporum</i> f. sp. <i>vasinfectum</i> | 74,042 | 0.29 |
| Verticillium Wilt <i>V. dahliae</i> | 147,582 | 0.31 |
| Bacterial Blight <i>X. axonopodis</i> pv. <i>malvacearum</i> | 9,148 | 0.01 |
| Phymatotrichum Root Rot <i>P. omnivorum</i> | 688,405 | 0.46 |
| Seedling Diseases Several fungi | 225,300 | 1.63 |
| Ascochyta Blight <i>A. gossypii</i> | 10,622 | 0.19 |
| Boll Rots | 100,153 | 1.04 |
| Nematode (Total) | 724,201 | 4.16 |
| Root-knot | 482,759 | 2.35 |
| Reniform | 213,627 | 1.48 |
| Others | 27,815 | 0.33 |
| Leaf Spots ^c and Others | 116,543 | 0.70 |
| TOTAL PERCENT | | 8.80 |
| BALES LOST | 1,727,613 | |
| YIELD in BALES^d | 19,643,129 | |

^aCotton disease loss estimates were made by extension and research plant pathologists and agronomists with cotton responsibilities in their respective states.

^bRounding errors present.

^cLeaf spots (*Alternaria*, *Cercospora*, *Phomopsis*, etc.) and various root rots.

^dYield potential had disease not been present.

Comments:

- AL Dry late season reduced disease and yield.
- GA Very hot and dry weather resulted in lower seedling disease and boll rots. Leaf spots were slightly higher.
- LA Losses to charcoal rot was about 2%.
- MS Drought during the season resulted in higher reniform nematode losses.
- SC Drought conditions during the growing season caused higher yield losses due to all nematode species.
- TN Extremely hot and dry during the last half of the growing season.

December 2010.