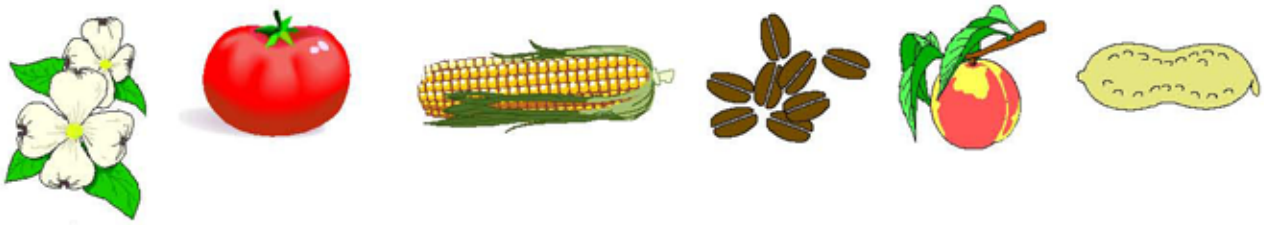

2000 GEORGIA PLANT DISEASE LOSS ESTIMATES

COMPILED BY:

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COOPERATIVE EXTENSION

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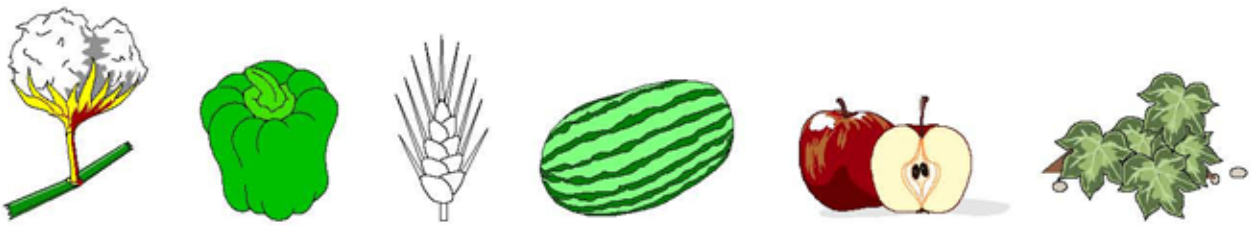

2000 Georgia Plant Disease Loss Estimates

It is estimated that 2000 plant disease losses, including control costs, amounted to approximately $572.34 million. The value of the crops used in this estimate was $4.376 billion, resulting in a 13.07 percent total disease loss across all crops included in this summary.

The estimated values for most crops used to compute these disease losses are summarized in: Georgia Agricultural Statistics Service, Georgia Farm Report Vol. 01, No. 4. Estimates for tobacco are based on Market News Service figures for growers net sales and do not include warehouse resales. Estimates for vegetables, strawberries, ornamentals, and turf rely on specialists knowledge of the industry and industry sources for information.

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2000 PLANT DISEASE CLINIC ANNUAL SUMMARY

Extension Plant Pathology maintains three clinics as educational resources for county Extension agricultural faculty to use to aid their clients in diagnosing and correcting disease- and insect-related plant problems. Plant samples are submitted directly to the county Extension faculty who, at their discretion, forward samples to the appropriate clinic. Commercial turf, fruits, forage crops, greenhouse and ornamental nursery samples are sent to the Plant Disease Clinic in Athens. Diagnoses of and control recommendations for commercial samples of field crops, pecans and vegetables are handled by the Plant Disease Clinic at the Rural Development Center in Tifton, Georgia. All non-commercial plant samples are sent to the Homeowner IPM Clinic in Athens for disease and/or insect diagnoses and recommendations. Diagnoses and educational recommendations are returned to the county faculty. The clinics maintain a computerized database of samples and their diagnoses, as well as a reference library for use by Extension agents, specialists, researchers, and students.

As in 1999, ornamentals (trees, herbaceous and woody ornamentals) and turf comprised most of the samples received in 2000. Total physical plant sample volume was 11.9 percent less than diagnosed in 1999 mostly due to a decrease in Homeowner samples. The reduction is most likely because of drought conditions throughout the state. The reduction may also be influenced by an increased use of the Distance Diagnostics through Digital Imaging (DDDI) program. Commercial sample number are and have been consistent over the years.

CLINIC SUMMARIES: 2000 PLANT SPECIMEN DIAGNOSES

Crop	Commercial Samples	Homeowner IPM Clinic: Disease	Total
Field Crops	244		
Vegetables	399	101	500
Fruits & Nuts	73	61	134
Herbaceous Ornamentals	282	130	412
Woody Ornamentals	246	265	511
Trees	151	96	247
Turf & Forages	455	465	920
Miscellaneous	6	29	35
TOTAL	**1856**	**1147**	**3003**

APPLE

Apples generally had low disease pressure in 2000 until late in the season. Fire blight was virtually nonexistent, with the exception of apples produced in south Georgia. The continuing drought conditions allowed for bot (white) rot cankers to increase, particularly in susceptible varieties such as Rome. This could continue to be a major problem over the next 2-3 years for non-irrigated production. Summer rots, particularly bitter rot, were of major concern as the season progressed. The appearance of a possible new, more aggressive *Glomerella* species was also cause for alarm; we will need to monitor for future outbreaks of this disease. Cost of control included increased pesticide usage for summer rots. Often, chemical fungicides did not adequately suppress disease.

Disease	% Reduction in Crop Value	Damage ($ Thousands)	Cost of Control ($ Thousands)	Total ($ Thousands)
Fire Blight	0.1	2.6	80.0	82.6
Bitter Rot	5.0	130.3	131.0	261.3
Bot Rot	1.0	26.0	52.0	78.0
Black Rot	0.1	2.6	50.0	52.6
Alternaria Leaf Spot	0.1	2.6	--[1]	2.6
Powdery Mildew	0.1	2.6	18.0	20.6
Sooty Blotch	0.1	2.6	--[1]	2.6
Fly Speck	0.1	2.6	--[1]	2.6
Cedar Apple Rust	0.1	1.3	--[1]	1.3
Scab	0.1	1.3	1.7	3.0
Other Diseases	0.1	1.3	1.0	2.3
Total	**6.8**	**176.0**	**331.0**	**507.0**

[1] Controlled with fungicides applied for other diseases.

Estimated by Phil Brannen, Extension Plant Pathologist

BLUEBERRY

Blueberry production was up substantially in 2000, with a total production of 19,000,000 lbs. valued at $18.45 million. Mummy berry and rot diseases were observed at very low levels, largely due to dry conditions and good fungicide programs. Botrytis blight was essentially absent as no predisposing freezes occurred during bloom. In southern highbush cultivars, problems due to foliar diseases and dieback continued to increase. The southern highbush cultivars have incredible market potential, but the leaf spot disease and dieback will have to be addressed.

Disease	% Reduction in Crop Value	Damage ($ Thousands)	Cost of Control ($ Thousands)	Total ($ Thousands)
Mummy Berry	1.5	283.9	500.0	783.9
Botrytis Blight	0.1	18.9	200.0	218.9
Foliar Disease	1.0	189.3	20.0	209.3
Dieback	1.0	189.3	10.0	199.3
Phytophthora Root Rot	0.5	94.6	10.0	104.6
Total	**2.6**	**776.1**	**740.0**	**1516.1**

Estimate by Phil Brannen, Extension Plant Pathologist

BUNCH GRAPE

Bunch grape production, predominantly wine grapes, has increased dramatically in the north Georgia area within the last 2-3 years. Disease pressure was low among bunch grape vineyards in 2000, with the exception of Pierce's disease. Dry conditions resulted in very low rot pressure, and mildew pressure was also minimal. Pierce's disease, caused by a bacterial pathogen, was observed at elevations of 1800-2000 feet. This disease is the single most limiting factor associated with production of wine grapes in the Southeast. While its appearance at higher elevations is cause for concern, the disease pressure was very low. However, vineyards located at roughly 750 feet were virtually destroyed by this disease (disease incidence of 25-50%). The increase in disease may be associated with higher average temperatures, which may have influenced movement and dissemination of the disease by the glassy-winged sharpshooter, a primary vector.

Disease	% Reduction in Crop Value	Damage ($ Thousands)	Cost of Control ($ Thousands)	Total ($ Thousands)
Botrytis	1.0	21.5	20.0	41.5
Downy Mildew	1.0	21.5	15.0	36.5
Black Rot	1.0	21.5	15.0	36.5
Powdery Mildew	1.0	21.5	5.0	26.5
Phomopsis Cane Blight	0.1	2.2	--[1]	2.1
Pierce's Disease	5.0	107.5	5.0	112.5
Total	**9.1**	**195.6**	**60.0**	**255.6**

[1] Controlled with fungicides applied for other diseases.

Estimate by Phil Brannen, Extension Plant Pathologist

CANOLA

2000 Disease Loss Estimates for Canola Are Not Available
No Canola was planted in Georgia in 2000

Estimate by Dan Phillips, Research Plant Pathologist

CORN

As in 1999, drought continued to cause significant damage to the 2000 corn crop in Georgia. Corn was planted on approximately 400,000 acres in 2000, but harvested from only approximately 300,000 acres. Statewide yields averaged 107 bu/A and the total crop was valued at $64,200,000. Damage from nematodes in 2000 continued to decline slightly from levels in 1998 and 1999; losses associated with foliar diseases also declined from 1999 due to hot, dry weather. Mycotoxins, especially aflatoxin produced by *Aspergillus flavus* and closely related fungi, tend to be one of the most serious problems that face corn growers in the state. Contamination by aflatoxin tends to be more severe when the growing season has been hot and dry, when control of insects is insufficient, and when the corn is not properly stored.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Root & Stalk Rot	0.1	0.06	0.0	0.06
Nematodes	2.0	1.3	1.0	2.3
Mycotoxins	10.0	6.4	0.0	6.4
Leaf Diseases	3.5	2.2	0.0	2.2
Total	**15.6**	**9.96**	**1.0**	**10.96**

Estimate by Robert Kemerait, Extension Plant Pathologist, and Richard Davis, Extension Nematologist

COTTON

Cotton was planted on 1.5 million acres in Georgia in 2000, but due to drought was only harvested from 1.35 million acres. The average yield was 583 lbs/A with a total production of 1,640,000 bales. The crop was valued at $452,640,000. Boll rot was of less importance in 2000 than it had been in 1999 as a result of hot, dry weather. Damage associated with nematodes was also lower; however seedling disease increased slightly. Despite the dry weather, seedling disease was common in 2000 and *Rhizoctonia solani* ("soreshin") was nearly always isolated from young, diseased plants. Future increases in soilborne diseases, such as Fusarium wilt, may result from short crop rotations used by many growers.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Boll Rot (lint)	2.5	11.3	0.0	11.3
Nematodes	4.0	18.1	11.1	29.2
Seedling Disease	1.5	6.8	2.2[1]	9.0
Fusarium Wilt	0.5	2.3	0.0	2.3
Total	**8.5**	**38.5**	**13.3**	**51.8**

Estimate by Robert Kemerait, Extension Plant Pathologist, and Richard Davis, Extension Nematologist

MUSCADINE GRAPE

Dry conditions resulted in virtually no disease pressure in most muscadine vineyards. When rots were observed, Macrophoma rot was the predominant, "standard" disease observed. Black rot was observed on leaves, but this did not translate to fruit rots. Of interest, Phomopsis dead arm disease was observed in several vineyards. The Granny Val variety has been particularly susceptible to this disease, and some producers are removing this variety completely from their vineyards. The combination of warmer than average winter temperatures and cold damage could help explain the increase in this disease among certain varieties.

Disease	% Reduction in Crop Value	Damage ($ Thousands)	Cost of Control ($ Thousands)	Total ($ Thousands)
Bitter Rot	1.0	20.3	40.2	60.5
Macrophoma Rot	1.0	20.3	35.0	55.3
Ripe Rot	1.0	20.3	15.0	35.3
Angular Leaf Spot	0.1	2.0	5.0	7.0
Black Rot	0.1	2.0	--[1]	2.0
Phomopsis Dead Arm	1.0	20.3	5.0	25.3
Total	**4.2**	**85.3**	**100.2**	**185.5**

[1] Controlled with fungicides applied for other diseases.

Estimate by Phil Brannen, Extension Plant Pathologist

ORNAMENTALS

The estimated value of the ornamental industry (excluding sod) was $1,102,500,000.00 in 2000. Gross nursery/greenhouse sales was estimated at $291,800,000.00 with landscape industries making up the bulk of the total ornamental crop value. Root rot diseases account for the largest percentage of disease loss to ornamentals. Foliage disease losses were reduced from 1999 partly due to drought conditions in 2000.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Bacterial diseases (fire blight, leaf spots)	0.3	3.31	0.9	4.21
Fungal leaf spots, branch and stem cankers	0.4	4.41	5.2	9.61
Root and crown rots	2.0	22.60	7.9	30.50
Powdery mildew	0.2	2.21	1.8	4.01
Botrytis blight	0.1	1.10	1.0	2.10
Virus (TSWV, INSV, CMV)	0.05	0.55	0.0	0.55
Minor diseases (rust, downy mildew, nematode)	0.2	2.21	1.3	3.51
Total	**3.3**	**36.39**	**18.1**	**54.49**

Production Category	% Reduction [1] in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Field Grown Stock	2.1	1.13	2.0	3.05
Containerized Nursery (including Liners)	4.8	4.68	4.5	9.18
Floriculture	4.5	6.61	4.2	10.81
Landscape	1.9	13.68	5.3	18.98
Re-wholesale	9.8	10.29	2.1	12.39
Total	**3.3**	**36.39**	**18.1**	**54.49**

[1] This column not additive due to way losses are tabulated

Estimate by Jean Williams-Woodward, Extension Plant Pathologist

PEACH

Peach production in 2000 was excellent (110,000,000 lbs. valued at $41.7 million). The dry conditions observed in 2000, when combined with good fungicide programs resulted in generally low disease pressure. Brown rot incidence was very low. Bacterial spot was not observed, due again to dry conditions. Problems with Armillaria root rot and phony peach were observed. Cost of control included cost of pesticides, equipment, and labor. Costs associated with certain cultural practices (flail mowing to reduce gummosis; detailed pruning for control of Phomopsis shoot blight) are directly related to disease control and were therefore considered in the assessment.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Brown Rot	1.5	0.649	1.17	1.82
Scab	0.1	0.043	1.11	1.15
Bacterial Spot	0.01	0.004	0.02	0.02
Phony Peach	1.0	0.433	0.23	0.66
Gummosis	0.1	0.043	0.02	0.06
Armillaria Root Rot	1.0	0.433	0.23	0.66
Phomopsis Constriction Canker	0.05	0.022	0.01	0.03
Total	**4.3**	**1.627**	**2.79**	**4.42**

Estimate by Phil Brannen, Extension Plant Pathologist

PEANUT

Peanut was planted on 492,000 acres in 2000, but harvested from only 487,000 acres. The lower harvested acreage was largely the result of drought during the season. The average yield was 2,750 lbs/acre for a statewide production of 1.3 billion pounds. The crop was valued at $354,901,000. Losses to leaf spot, pod rot, and Cylindrocladium black rot were similar in 1999 and 2000. Losses to seedling disease have decreased in recent years. In response to TSWV, peanuts are now planted later in the season. Warmer soils tend to reduce the severity of seedling disease; however hotter and drier conditions will increase severity of Aspergillus crown rot on seedlings and young plants. Severity of tomato spotted wilt virus declined in 2000, in large part due to the success of the University of Georgia's TSWV Index. White mold was slightly less severe in 2000; however rains at the end of the season increased problems with Rhizoctonia limb rot. Diplodia collar rot, caused by the fungus *Lasiodiplodia theobromae*, was very common in peanut fields last year and caused additional losses for the growers.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($Millions)
Leaf spots	1.0	3.5	42.1	45.6
White mold	3.5	12.4	26.0	38.4
Limb Rot	3.5	12.4	- -[1]	12.4
Pod Rot	1.0	3.5	- -[2]	3.5
Nematodes	3.0	10.6	8.0	18.6
Cylindrocladium Black Rot	2.0	7.1	1.0	8.1
Seedling Disease	1.5	5.3	0.5	5.8
Tomato Spotted Wilt Virus	2.5	8.9	0.0	8.9
Diplodia Collar Rot	1.0	3.5	0.0	3.5
Total	**19.0**	**67.2**	**77.6**	**144.8**

[1] It was estimated that 55% of peanut acreage in Georgia receives some irrigation and that most of this acreage is sprayed with fungicides seven times during the season. Fungicide treatments for leaf spot control alone are about $8/acre per application. Fungicide programs for the control of soilborne diseases add about $30-$45 more per acre. Growers usually sprayed non-irrigated fields less often, perhaps 4-5 times per season.

[2] The cost of gypsum treatments applied to reduce pod rot has not been estimated.

Estimate by Robert Kemerait, Extension Plant Pathologist, Tim Brenneman and Albert Culbreath, Research Plant Pathologists

PECAN

Dry weather from April through June reduced disease pressure at most locations during 2000. July rains, primarily east Georgia, resulted in some disease pressure but control remained quite good at all locations. Loss potential for 2000 was variable running 0-38 percent.[1]

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Scab[2]	0.10	0.09	12.10	12.19
Brown Spot	0.00	0.00	--[1]	0.00
Downy Spot	0.00	0.00	--[1]	0.00
Powdery Mildew[3]	0.00	0.00	-	-
Zonate Leaf spot	0.00	0.00	-	-
Total	**0.10**	**0.09**	**12.10**	**12.19**

[1] This data is based on the response of unsprayed trees ("Desirable") in test plots at 9 locations.
[2] Seven treatments on 150,000 acres @ $11.50/A; scab sprays also effective against downy spot and brown spot. Cost of control lower than 1999 due to dry season and less fungicide use in 2000.

Estimate by Paul Bertrand, Extension Plant Pathologist

SOYBEAN

An estimated 160,000 acres of soybeans were harvested in 2000 with an average yield of 24 bushels/acre for a total production of 3,840,000 bushels with a value of nearly $17,000,000. Approximately 180,000 acres were planted but 20,000 acres were not harvested due primarily to severe drought conditions. Growing conditions were similar to those in 1999. Seedling disease problems, caused primarily by *Rhizoctonia*, were slightly lower than in 1999, but fusarium wilt and red crown rot caused slightly more damage in 2000.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions) [1]	Total ($ Millions)
Soybean cyst nematode	3.0	0.51	0	0.51
Root-knot nematodes	3.0	0.51	0	0.51
Other nematodes	0.5	0.09	0	0.09
Anthracnose	0.1	0.02	0	0.02
Brown leaf spot	0.0	0.00	0	0.00
Charcoal rot	0.2	0.03	0	0.03
Diaporthe/*Phomopsis* complex	0.4	0.07	0	0.07
Downy mildew	0.1	0.02	0	0.02
Frogeye leaf spot	0.5	0.09	0	0.09
Red crown rot	0.5	0.09	0	0.09
Pod and stem blight	0.1	0.02	0	0.02
Purple stain	0.1	0.02	0	0.02
Seedling diseases (*Rhizoctonia*/*Pythium*/*Fusarium*)	0.5	0.09	0.09	0.18
Southern blight	0.2	0.03	0	0.03
Stem canker	0.5	0.09	0	0.09
Fusarium Wilt	0.2	0.03	0	0.03
Virus diseases	0.1	0.02	0	0.02
Bacterial diseases	0.0	0.00	0	0.00
TOTAL	**10.0**	**1.73**	**0.09**	**1.82**

[1] Resistant varieties are used to manage most nematode and disease problems. Typically, the only fungicides used are seed treatments to reduce seedling diseases.

Estimate by Richard Davis, Extension Nematologist

STRAWBERRY

Commercial strawberry production continues to increase. This increase is observed in both U-pick and wholesale markets. Methyl bromide fumigation accounted for the largest single expenditure for disease control. With the impending loss of methyl bromide in 2005, control of soilborne strawberry diseases may become more difficult, and the expense of control is likely to increase as well. The disease pressure was relatively mild in 2000, largely due to dry weather conditions which resulted in low humidity. However, diseases observed in 2000 included root rots (especially Phytophthora root rot), gray mold, angular leaf spot, and anthracnose.

Disease	% Reduction in Crop Value	Damage ($ Thousands)	Cost of Control ($ Thousands)	Total ($ Thousands)
Gray Mold	1.0	46.2	72.0	118.2
Fungal Leaf Spots	1.0	46.2	34.0	80.2
Anthracnose	2.0	92.4	4.0	96.4
Root Rots & Nematodes	3.0	138.6	50.0	188.6
Angular Leaf Spot	2.0	92.4	6.0	98.4
Total	**9.0**	**415.8**	**166.0**	**581.2**

Estimated by Phil Brannen, Extension Plant Pathologist

TOBACCO

Blue mold activity was widely scattered in both time and space in 2000. The disease was active in various places throughout the season but no statewide or local epidemic ever developed. Bad luck in timing irrigation probably accounted for most outbreaks while very dry weather prevented epidemic spread and minimized damage.

Late season black shank caused severe losses in a few isolated cases. In all cases growers attempted to control black shank with total reliance on resistant varieties. Mefenoxam either was not used or used late.

Losses from tomato spotted wilt virus were less in 2000 than 1999 but still significant.

Tobacco mosaic virus caused greater losses than ever before. Most loss was associated with NC-71, NC-72 or plants grown in the same plant house or bed complexes with these varieties.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control [1] ($ Millions)	Total ($ Millions)
Blue Mold	T	0.01	0.01	0.02
Black Shank	1.5	1.81	0.83	2.64
Root Knot Nematode	0.1	0.12	2.05	2.17
Tomato Spotted Wilt Virus [2]	12.0	14.45	1.33	15.78
TMV[3]	4.5	5.42	0.00	5.42
Total	**18.1**	**21.81**	**4.22**	**26.03**

[1] Declines in cost of control represent a 44% cut in quota since 1997 and not cheaper or less frequent use of control options. (effect of quota cuts on cost of control not factored into previous years data)
[2] TSWV caused an estimated 25% stand loss.
[3] Based on 1000 acres destroyed for insurance and 6,000 acres with 75%+ TMV at layby. An additional 10,000-12,000 acres had some TMV at layby.

Estimate by Paul Bertrand, Extension Plant Pathologist

TURF

It is estimated that there are 1.6 million acres of turf with the maintenance value of $1.56 billion in Georgia. Soilborne diseases are present wherever turf is grown and are responsible for much of the disease losses. Nematodes have been attributed to increased damage and stress. This stress has predisposed turfgrass to soil borne and foliage diseases. Soil test for nematode to verify problems. Foliage diseases continue to be problematic during hot humid summers.

Turf Diseases	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Soil Diseases	3.8	59.28	29.65	88.93
Foliage Diseases	1.5	23.40	16.38	39.78
Nematodes	4.5	70.20	7.90	78.10
Total	**9.8**	**152.88**	**53.93**	**206.81**

Estimate by Ed Brown, Extension Plant Pathologist

VEGETABLES

About 170,000 acres of vegetables are grown in Georgia worth a total of ca. $520 million. TSWV in tomatoes was again very severe in the spring crop and losses up to 80 percent in some fields were observed. Hot, dry temperatures suppressed disease development in spring and early summer, thus reducing losses to fungal diseases. However, powdery mildew and gummy stem blight were very severe on watermelons in localized areas. Bacterial fruit blotch of watermelon hit an all time high since 1994. Botrytis Neck Rot caused up to 30 percent loss in CA stored onions again in 2000.

Major Vegetable Crops	%Reduction in Crop Value[1]	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($ Millions)
Watermelon	10.00	5.0	4.10	9.10
Squash (yellow + zuc.)	9.00	3.8	1.10	4.90
Tomato	11.00	6.7	2.10	8.80

Other Vegetable Crops	% Reduction in Crop Value[1]	Damage ($ Millions)	Cost of Control ($ Millions)	Total ($Millions)
Pepper (bell)	7.00	3.5	1.10	4.60
Cucumber	5.00	2.4	1.10	3.50
Snap Bean	5.00	2.0	0.72	2.72
Greens	3.00	0.5	0.84	1.34
Cabbage	8.50	1.6	.033	1.93
Onion (dry)	14.00	11.8	1.70	13.50
Cantaloupe	6.00	1.4	0.93	2.33
Eggplant	6.50	0.5	0.16	0.66
Total	**7.5**	**39.2**	**14.18**	**53.38**

[1] This column is not additive due to the way losses for vegetables are tabulated.
Total values for vegetable commodities are taken from the 1999 farmgate values except for cantaloupes which is taken from the 1998 Vegetable Acreage Estimates (AGECON 93-027).

Estimated by David B. Langston, Jr., Extension Plant Pathologist

WHEAT

Foliar diseases caused only low amounts of damage to wheat during 2000 due to planting of resistant cultivars and a dry spring which did not favor foliar diseases. Leaf rust caused some losses on susceptible cultivars. However, many growers applied foliar fungicides to control rust and other leaf diseases. One farm had total crop loss on over 200 A due to stinking smut (common bunt). This was due to saving seed of the same cultivar three or more consecutive years with no application of seed treatment. Stinking smut is entirely preventable with seed treatment and planting of Certified Seed. Leaf rust reduced yield 22 percent on a susceptible cultivar in fungicide trials at Plains. Powdery mildew caused little damage and most cultivars are resistant. Overall losses were low. Stagonospora (Septoria) leaf and glume blotch was low to moderate due to dry spring weather. Barley yellow dwarf was variable but lower than levels observed in previous years. Wheat was harvested on about 200,000 acres with an average yield of 54 bu/A for a total statewide production of 10.8 million bushels.

Disease	% Reduction in Crop Value	Damage ($ Millions)	Cost of Control[1] ($ Millions)	Total ($ Millions)
Leaf Rust	1.0	0.27	1.12	1.39
Glume Blotch	1.0	0.26	----	0.26
Powdery Mildew	0.2	0.05	0.30	0.35
Barley Yellow Dwarf Virus	1.0	0.26	0.30	0.56
Stinking Smut	0.1	0.04	----	0.04
Total	**3.3**	**0.88**	**1.95**	**2.60**

[1] Fungicides used to control leaf rust also control glume blotch. Estimated that 20% of the wheat acreage received fungicide treatment costing approximately $13.50/acre.

Estimate by Barry Cunfer, Research/Extension Plant Pathologist

SUMMARY OF TOTAL LOSSES DUE TO DISEASE DAMAGE AND COST OF CONTROL IN GEORGIA - 2000

Crop or Commodity	Estimated Crop Value ($ Millions)	% Reduction in Crop Value[1]	Value of Damage ($ Millions)	Cost of Control ($ Millions)	Total Disease Loss (Damage & Control) ($ Millions)	Total % of Loss [1, 2]
Apple	2.6	6.8	0.176	0.331	0.507	19.50
Blueberry	18.45	2.6	0.776	0.740	1.516	8.21
Bunch Grape	2.15	9.1	0.195	0.060	0.255	11.86
Corn	64.2	15.6	9.96	1.0	10.96	17.07
Cotton	452.64	8.5	38.5	13.3	51.8	11.44
Muscadine Grape	2.03	4.2	0.085	0.100	0.185	9.11
Ornamental	1102.5	3.3	36.39	18.1	54.49	4.94
Peach	41.7	4.3	1.627	2.79	4.42	10.60
Peanut	354.9	19.0	67.2	77.6	144.8	40.80
Pecan	87.0	0.1	0.09	12.10	12.19	14.01
Soybean	17.0	10.0	1.73	0.09	1.82	10.71
Strawberry	4.62	9.0	0.415	0.166	0.581	12.57
Tobacco	120.4	18.1	21.81	4.22	26.03	21.62
Turf	1560.0	9.8	152.88	53.93	206.81	13.26
Vegetable	520.0	7.5	39.2	14.18	53.38	10.26
Wheat	26.48	3.3	0.88	1.95	2.60	9.8
TOTALS	**4376.67**	**8.5**	**371.91**	**200.66**	**572.34**	**13.07**

[1] This column is not additive.

[2] Total % loss for each crop and the grand total is figured on the basis of: $\frac{\text{Value of Damage + Cost Control}}{\text{Crop Value}}$

ATTENTION!
Pesticide Precautions

1. Observe all directions, restrictions and precautions on pesticide labels. It is dangerous, wasteful and illegal to do otherwise.

2. Store all pesticides in original containers with labels intact and behind locked doors. **"KEEP PESTICIDES OUT OF REACH OF CHILDREN."**

3. Use pesticides at correct label dosage and intervals to avoid illegal residues or injury to plant and animals.

4. Apply pesticides carefully to avoid drift or contamination of non-target areas.

5. Surplus pesticides and containers should be disposed of in accordance with label instructions so that contamination of water and other hazards will not result.

6. Follow directions on the pesticide label regarding restrictions as required by State and Federal Laws and Regulations.

7. Avoid any action that may threaten an Endangered Species or its habitat. Your County Extension Agent can inform you of Endangered Species in your area, help you identify them and through the Fish and Wildlife Service Office identify actions that may threaten Endangered Species or their habitat.

Trade names are used only for information.

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