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THE PLANT DISEASE BULLETIN

Issued By

THE PLANT DISEASE SURVEY

Supplement 24

Crop Losses from Plant Diseases in the United States in 1921

November 1, 1922.

BUREAU OF PLANT INDUSTRY
UNITED STATES DEPARTMENT OF AGRICULTURE

IN 1921

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INTRODUCTORY STATEMENT

The accompanying tabulations constitute the fifth annual set of crop loss estimates made by the plant pathologists of the country and assembled and issued from the Plant Disease Survey. As usual, these estimates are for a few of the most important crops and include the losses from plant diseases only, the depredations of insects or crop failures from weather factors not being considered.

These estimates represent the losses as seen from the viewpoint of the plant pathologist. They are not made from the point of view of the farmer who is not familiar with diseases and who is inclined to overlook them as a factor in reducing yield and ascribe all crop troubles to the weather. It may be argued that the plant pathologist is naturally liable to overestimate rather than to underestimate the importance of plant diseases as a factor in reducing yield. However, it is believed that all persons who have furnished estimates, or who have taken part in the preparation of them, have tried to be impartial and when in doubt have erred on the conservative rather than the extreme side.

As has been said before, no claim is made that these figures are accurate. At best the estimates of losses from disease are guesses, as are also estimates of the yield of the crops themselves. However, they represent the combined judgment of the plant disease workers of the country, who, in our opinion, are most competent to judge. In some states collaborators had a considerable body of data on which to base their estimates, but in many cases this was lacking and so the plant pathologist was obliged to rely solely on his personal knowledge of conditions.

It is thought that these figures are reasonably reliable and that they represent fairly the relative importance of the various diseases in the different states and for the different years.

The methods of making these estimates have been explained in other Supplements of the Plant Disease Bulletin (Pl. Dis. Bul. Suppls. 6 and 12, 1919 and 1920).

Table 99. Estimated percentage losses to eleven crops from plant diseases in 1919, 1920, and 1921.

Crop	Percent loss			Crop	Percent loss		
	: 1919	: 1920	: 1921		: 1919	: 1920	: 1921
Wheat	: 16.96	: 11.70	: 9.2	Sweet potato	: 36.23	: 25.8	: 28.3
Rye	: 1.74	: 1.98	: 1.4	Dry bean	: 3.70	: 4.3	: 14.1
Barley	: 5.90	: 4.60	: 5.7	Cotton	: 13.59	: 13.4	: 15.8
Oats	: 5.90	: 4.80	: 8.6	Apple	: 11.37	: 16.5	: 11.3
Corn	: 6.41	: 6.39	: 8.8	Peach	: 12.04	: 19.4	: 15.3
Potato	: 19.50	: 21.70	: 18.6		:	:	:
	:	:	:		:	:	:

Estimated reduction in yield of wheat due to scab (Fusarium sp.), leaf rust (Puccinia triticina), stem rust (Puccinia graminis), bunt (Tilletia laevis and T. tritici), loose smut (Ustilago tritici), and other diseases, 1921.

[illegible]

RYE

Estimated reduction in yield of rye due to smut (*Ustilago* sp.), ergot (*Claviceps purpurea*), leaf rust (*Puccinia dispersa*), stem rust (*Puccinia graminis*), and other diseases, 1921.

Production:		Estimated reduction in yield due to disease																	
State	Bushels (000 omitted)	Smut			Ergot			Leaf rust			Stem rust			Other diseases			All diseases		
		%	Bushels (000 omitted)	%	Bushels (000 omitted)	%	Bushels (000 omitted)	%	Bushels (000 omitted)	%	Bushels (000 omitted)	%	Bushels (000 omitted)	%	Bushels (000 omitted)	%	Bushels (000 omitted)	%	
N. H.	-	t	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+
Vt.	-	0	0	0	0	*	-	-	-	1	+	+	-	-	-	-	1.	+	+
Mass.	30	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R. I.	-	0	0	*	-	-	-	-	-	*	-	-	-	-	-	-	-	-	+
Conn.	95	0	0	*	-	-	-	-	-	0	0	0	0	0	0	0	0	0	+
N. Y.	806	t	+	t	+	2.	16	t	-	t	+	+	t	+	+	2.	+	16+	+
N. J.	998	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pa.	3,008	t	+	t	+	t	+	+	+	-	-	-	-	-	-	-	-	-	+
Del.	44	0	0	-	-	5	2	*	-	-	-	-	-	-	-	-	-	-	+
Md.	238	t	+	0	0	1.	2	t	-	-	+	+	-	-	-	-	1.	+	2+
Va.	418	t	+	t	+	2.	9	t	-	1.	+	+	1.	4	3.	+	13+	+	+
W. Va.	120	t	+	*	-	*	-	*	-	1.	-	-	1.	1	1.	+	1+	+	+
N. C.	273	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S. C.	50	-	-	0	0	*	-	0	0	1.	0	0	1.	1	1.	+	1+	+	+
Ga.	108	t	+	0	0	3.	3	2.	-	-	2	2	-	-	5.	+	5+	+	+
Ohio	1,079	-	-	*	-	3.	34	1.	1.	1.	11	11	1.	11	5.	+	56+	+	+
Ind.	3,978	t	+	*	-	1.	41	t	-	3.	+	+	3.	124	4.	+	165+	+	+
Ill.	3,349	-	-	t	+	t	+	t	+	t	+	+	5	17	5	+	17+	+	+
Mich.	8,346	t	+	t	+	t	+	t	+	1.	85	85	5	42	1.5	+	127+	+	+
Wis.	4,756	t	+	t	+	t	+	t	+	t	+	+	1.	48	1.	+	48+	+	+
Minn.	10,185	5	52	1.	104	t	+	t	+	t	+	+	1.	104	2.5	+	260+	+	+
Iowa	515	1.5	8	1.	5	1.	5	1.	*	0	-	-	-	-	3.5	+	18+	+	+
Mo.	280	-	-	*	-	-	-	-	-	-	0	0	-	-	-	-	-	-	+

: Production:		Estimated reduction in yield due to diseases																										
State	1921	Smut				Ergot				Leaf rust				Stem rust				Other diseases				All diseases						
	Bushels	: Bushels		: (000		: %		: Bushels		: (000		: %		: Bushels		: (000		: %		: Bushels		: (000		: %		: Bushels		
	(000	: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		: omitted)		
N. D.	9,306	0	0	1.	94	t	+	t	+	+	+	-	1.	+	+	+	+	+	+	+	+	+	+	+	+	+	94+	
S. D.	3,056	0	0	t	+	t	+	t	+	t	+	t	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
Nebr.	1,714	0	0	*	-	*	-	*	-	*	-	*	-	*	-	*	-	*	-	*	-	*	-	*	-	*	-	+
Kans.	1,138	0	0	0	0	*	0	*	0	0	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	
Ky.	180	0	0	t	+	t	+	0	+	0	+	0	1.	0	+	0	0	0	0	0	0	0	0	0	0	0	+	
Tenn.	152	0	0	0	0	0	0	1.	0	1.	0	1.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2+	
Ala.	12	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3+	
Texas	156	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	#8+	
Okla.	403	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ark.	9	0	0	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	
Mont.	590	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
Wyo.	315	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Colo.	1,058	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	
Utah	140	0	0	t	+	0	+	0	+	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	
Idaho	160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Wash.	294	0	0	*	-	t	+	0	+	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	
Ore.	554	0	0	t	+	t	+	0	+	0	+	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	
U. S.	57,918	.1	60	.3	203	.2	112	.2	98	.6	357	1.4	838															

Texas - Loss estimated only for "all diseases".

: Production:		: Estimated reduction in yield due to disease											
State	1921 Bushels (000 omitted)	: Stripe		: Loose smut		: Covered smut		: Leaf rust		: Stem rust		: Other diseases	
		: Bushels:	: %:	: Bushels:	: %:	: Bushels:	: %:	: Bushels:	: %:	: Bushels:	: %:	: Bushels:	: %:
		: (000 o-:	: mitted):	: (000 o-:	: mitted):	: (000 o-:	: mitted):	: (000 o-:	: mitted):	: (000 o-:	: mitted):	: (000 o-:	: mitted):
Ky.	144	-	6.	9	3.	5	*	-	0	-	-	-	14+
Tenn.	189	+	2.	4	4.	8	t	+	t	+	1.	2	14+
Texas	1,872	-	*	-	2.	98	*	-	-	-	-	-	98
Okla.	2,664	-	3.	85	.8:	23	0	0	-	-	2.	57	165
Ark.	-	+	15.	+	5.	+	0	0	-	-	-	-	+
Mont.	1,200	0	2.	25	2.	25	*	-	0	0	+	0	50+
Wyo.	232	-	-	-	-	-	*	-	-	-	-	-	-
Colo.	4,444	+	t	+	t	+	*	-	t	+	-	-	+
N.Mex.	239	-	-	-	-	-	0	0	-	-	-	-	-
Ariz.	926	+	-	-	-	-	0	0	-	-	-	-	+
Utah	512	27	-	-	*	-	0	0	-	-	-	-	27+
Nev.	187	-	-	-	-	-	0	0	-	-	-	-	-
Ida.	2,784	+	t	+	.5:	14	0	0	t	+	1.	23	42+
Wash.	2,797	+	t	+	t	+	t	+	*	-	t	+	14+
Ore.	2,240	+	t	+	t	+	t	+	*	-	t	+	11+
Calif.	29,700	-	*	-	*	-	*	-	*	-	10.	3,300	3,300+
U. S.	151,181	.6:	1,041	.5:	.4:	694	-	-	1.1:	1,704	3.1:	5,021	5.7: 9,249

Estimated reduction in yield of oats due to loose and covered smuts (Ustilago avenae and U. levis), stem rust (Puccinia graminis), crown rust (Puccinia coronata), and other diseases, 1921.

Production:		Estimated reduction in yield due to disease									
State	1921	Loose and covered smuts	Stem rust	Crown rust	Other diseases	All diseases					
		%	Bushels	%	Bushels	%	Bushels	%	Bushels	%	Bushels
	(000 omitted)	:000 omitted:	:000 omitted:	:000 omitted:	:000 omitted:	:000 omitted:	:000 omitted:	:000 omitted:	:000 omitted:	:000 omitted:	:000 omitted:
Me.	4,340	-	-	-	-	-	-	-	-	-	-
N. H.	630	13	*	0	-	-	-	2.	+	13*	13*
Vt.	2,673	71	1.	28	2.	57	-	-	-	5.5	156
Mass.	279	6	-	-	*	-	-	-	-	2.	6*
R. I.	28	1	*	-	*	-	-	-	-	2.	1*
Conn.	330	7	0	0	*	-	-	-	-	2.	7*
N. Y.	24,912	1,049	t	+	t	+	1.	262	5.	+	1,311*
N. J.	1,728	57	3.	57	3.	57	-	-	9.	-	171
Pa.	35,283	924	*	-	1.	369	1.	369	4.3*	-	1,662*
Del.	168	3	*	-	t	+	1.	2	3.	+	5*
Md.	1,620	68	0	0	t	+	-	-	4.	+	68*
Va.	3,342	141	0	0	1.	35	-	-	5.	-	176
W. Va.	4,620	193	*	-	*	-	-	-	4.	+	193*
N. C.	3,060	161	*	-	0	0	-	-	5.	+	161*
S. C.	8,112	611	0	0	*	-	-	-	7.	+	611*
Ga.	8,652	583	1.	97	3.	292	1.	97	11.	-	1,069
Fla.	533	-	-	-	-	-	-	-	-	-	-
Ohio	37,122	589	1.	393	1.	393	2.	786	5.5	-	2,161
Ind.	45,072	1,394	-	-	-	-	-	-	3.	-	1,394
Ill.	121,741	7,423	t	+	3.	4,454	10.	14,847	18.	+	26,724*
Mich.	28,101	812	10.	3,249	*	-	1.	325	13.5*	-	4,386*
Wis.	63,958	663	.5	331	1.	663	1.	663	3.5	-	2,320
Minn.	94,176	3,105	5.	5,174	t	+	1.	1,035	9.	+	9,314*
Iowa	154,960	1,589	*	-	1.5	2,384	-	-	2.5*	-	3,973*
Mo.	42,960	1,329	*	-	*	-	-	-	3.	+	1,329*

Production:		Estimated reduction in yield due to disease									
State	1921 Bushels (000 omitted)	Loose and covered smuts		Stem rust		Crown rust		Other diseases		All diseases	
		%	Bushels :000 omitted	%	Bushels :000 omitted	%	Bushels :000 omitted	%	Bushels :000 omitted	%	Bushels :000 omitted
N. D.	49,761	2.	1,016	*	-	*	-	-	-	2.	1,016+
S. D.	58,300	2.	1,356	10.	6,779	2.	1,356	0	0	14.	9,491
Nebr.	70,054	2.	1,430	*	-	*	-	-	-	2.	1,430+
Kans.	38,827	3.	1,339	t	+	t	+	10.	4,463	13.	5,802+
Ky.	5,567	8.	512	0	0	*	-	5.	320	13.	832+
Tenn.	5,330	1.	55	0	0	1.	55	1.	55	3.	155
Ala.	6,776	2.	138	-	-	*	-	-	-	2.	138+
Miss.	2,940	2.	63	0	0	4.	125	-	-	6.	188
Ia.	1,265	1.	16	0	0	20.	320	-	-	21.	336
Texas	33,570	10.	4,937	t	+	20.	9,874	2.	987	32.	15,798+
Okla.	35,300	6.	2,290	*	-	1.5	572	-	-	7.5+	2,862+
Ark.	6,600	10.	868	t	+	10.	868	4.	348	24.	2,034+
Mont.	10,787	4.	459	1.	115	0	0	1.	115	6.	689
Wyo.	4,500	-	-	0	0	-	-	-	-	-	-
Colo.	6,727	-	-	0	0	*	-	-	-	-	-
N. Mex.	1,690	-	-	0	0	*	-	-	-	-	-
Ariz.	630	-	-	*	-	0	0	-	-	-	-
Utah	2,876	4.	120	*	-	-	-	-	-	4.	120+
Nev.	113	-	-	-	-	-	-	-	-	-	-
Ida.	7,740	2.	161	0	0	0	0	2.	161	4.	322
Wash.	10,500	2.	214	*	-	0	0	-	-	2.	214+
Ore.	8,704	.5	44	t	+	t	+	1.	88	1.5+	132+
Calif.	3,780	-	-	*	-	-	-	8.	329	8.	329+
U. S.	1,060,737	3.1	35,810	1.4	16,223	1.9	21,874	2.2	25,252	8.6	99,159

CORN

Estimated reduction in yield of corn due to smut (*Ustilago zeae*), leaf rust (*Puccinia sorghi*), *Physoderma* (*Physoderma zeae-maydis*), root and ear rots (*Fusarium* spp.) and other diseases, 1921.

Production:		Estimated reduction in yield due to disease									
1921		: Root and ear :									
State	Bushels (000 omitted)	Smut % : (000 : omitted)	Leaf rust % : (000 : omitted)	Physoderma % : (000 : omitted)	rots % : (000 : omitted)	Bushels % : (000 : omitted)	Other diseases % : (000 : omitted)	Bushels % : (000 : omitted)	All diseases % : (000 : omitted)	Bushels % : (000 : omitted)	Bushels % : (000 : omitted)
Me.	1,500	-	-	0	0	0	-	0	-	-	-
N. H.	1,325	*	-	0	0	0	-	0	-	-	+
Vt.	4,510	3.	-	0	0	0	-	0	-	3.	139
Mass.	3,120	.5	-	0	0	0	-	0	-	.5	16
R. I.	644	*	-	0	0	0	-	0	-	-	+
Conn.	3,848	1.5	-	0	0	0	-	0	-	39	2.5+
N. Y.	36,708	1.	-	0	0	0	-	1,953	-	-	6.
N. J.	11,327	1.	-	0	0	0	-	2,023	-	-	16.
Pa.	76,272	1.	-	0	0	0	-	6,818	1.5	1,278	10.5+
Del.	6,549	.5	-	0	0	0	-	732	-	-	10.5+
Md.	25,155	2.	-	0	0	0	-	2,858	-	-	12.
Va.	47,600	2.	-	0	0	0	-	3,104	0	0	8.
W. Va.	20,128	2.	-	-	-	-	-	-	-	-	2.
N. C.	49,254	20.	-	4.	-	2,985	10.	7,463	-	-	34.
S. C.	32,959	5.	-	3.	-	1,099	2.	732	-	-	10.
Ga.	69,975	2.	-	2.	-	1,555	6.	4,665	t	+	10.
Fla.	11,032	-	-	2.	-	225	*	-	-	-	2.
Ohio	159,326	3.	-	t	-	+	12.	22,493	t	+	15.
Ind.	169,848	.5	-	t	-	+	12.	23,293	-	-	12.5+
Ill.	305,966	3.5	-	t	-	+	10.	35,372	-	-	13.5+
Mich.	66,417	2.	-	t	-	0	3.	2,097	-	-	5.
Wis.	97,482	2.	-	t	-	0	1.	1,005	t	+	3.
Minn.	140,507	3.	-	t	-	0	t	+	-	-	3.
Iowa	444,190	1.5	-	t	-	0	.5	2,266	-	-	2.
Mo.	182,880	3.	-	0	-	0	*-	-	-	-	3.

POTATO

Estimated reduction in yield of potatoes due to mosaic, leaf roll, late blight (Phytophthora infestans), Rhizoctonia (Rhizoctonia solani), and black leg (Bacillus atrosepticus), 1921.

Production:		Estimated reduction in yield due to disease									
State	1921	Mosaic		Leaf roll		Late blight		Rhizoctonia		Black leg	
		%	Bushels	%	Bushels	%	Bushels	%	Bushels	%	Bushels
			:000 omitted		:000 omitted		:000 omitted		:000 omitted		:000 omitted
Me.	37,152	-	-	-	187	-	-	-	-	-	-
N. H.	2,240	-	-	-	+	-	-	-	-	-	-
Vt.	3,750	7.	318	5.	227	t	+	.5	23	-	-
Mass.	3,335	-	-	-	-	0	0	-	-	-	-
R. I.	345	-	-	-	-	0	0	-	-	-	-
Conn.	2,369	-	-	-	-	0	0	-	-	t	+
N. Y.	33,990	1.5	585	1.	389	.3	117	1.5	585	t	+
N. J.	9,025	5.	557	5.	557	-	-	3.	334	t	+
Pa.	21,586	1.	317	10.	3,174	5.	1,587	3.	953	t	+
Del.	500	.5	3	-	-	-	-	-	-	-	-
Md.	3,185	-	171	2.	69	t	+	3.	104	t	+
Va.	14,688	1.	171	1.	171	0	0	2.	342	t	+
W. Va.	4,080	-	-	-	-	2.	115	t	+	t	+
N. C.	4,048	-	-	5.	250	2.	100	6.	300	t	+
S. C.	2,550	-	-	-	-	0	0	-	-	t	+
Ga.	1,725	25.	668	-	-	0	0	1.	27	.5	13
Fla.	1,564	-	-	-	-	0	0	-	-	-	-
Ohio	6,728	-	-	-	-	0	0	-	-	-	-
Ind.	3,570	.1	4	3.	118	0	0	.2	8	t	+
Ill.	5,413	-	-	-	-	0	0	-	-	t	+
Mich.	27,200	t	+	t	+	t	+	5.	2,862	t	+
Wis.	2,420	t	+	t	+	t	+	.1	24	t	+
Minn.	27,525	-	-	t	+	0	0	1.	326	t	326
Iowa	4,128	-	-	-	-	0	0	6.	281	t	+
Mo.	4,756	-	-	-	-	0	0	-	-	-	-

State	Production: 1921 Bushels :000 omitted:	Estimated reduction in yield due to disease									
		Mosaic		Leaf roll		Late blight		Rhizoctonia		Black leg	
		Bushels :000 omitted:	%	Bushels :000 omitted:	%	Bushels :000 omitted:	%	Bushels :000 omitted:	%	Bushels :000 omitted:	%
N. D.	11,520	-	-	-	0	0	.1	12	1.	118	
S. D.	4,400	t	-	+	0	0	3.	150	1.	50	
Nebr.	8,160	-	-	-	0	0	4.	384	1.	96	
Kans.	4,160	-	-	-	0	0	15.	867	2.	115	
Ky.	3,770	15.	-	942	t	+	5.	314	t	+	
Tenn.	1,820	5.	-	106	t	+	1.	21	0	0	
Ala.	2,400	-	-	-	t	+	0	-	-	-	
Miss.	1,088	15.	-	222	t	+	t	+	-	-	
La.	1,809	30.	-	861	t	+	t	+	0	0	
Texas	2,072	10.	-	249	t	+	t	+	-	-	
Okla.	2,088	-	-	-	-	0	-	-	-	-	
Ark.	1,815	10.	-	211	-	0	t	+	-	-	
Mont.	5,060	10.	-	625	2.	0	2.	125	2.	125	
Wyo.	2,052	-	-	-	-	0	-	-	-	-	
Colo.	11,070	-	-	-	-	0	-	-	-	-	
N. Mex.	296	-	-	-	-	0	-	-	-	-	
Ariz.	460	-	-	-	-	0	-	-	-	-	
Utah	2,415	12.	-	374	-	0	2.5	78	2.	62	
Nev.	592	-	-	-	-	0	-	-	-	-	
Ida.	10,545	3.	-	422	t	+	8.	1,125	2.	281	
Wash.	7,425	15.	-	1,505	t	+	8.	803	1.	100	
Ore.	3,870	1.	-	44	t	+	8.	352	1.	44	
Calif.	10,064	.5	-	69	6.	+	8.	1,110	-	-	
U. S.	346,823	1.9	-	8,253	1.4	5,913	2.7	11,510	.3	1,330	

State	Production 1921	Estimated reduction in yield due to disease					
		Fusarium wilt	Tip-burn and hopper-burn	Early blight	Other diseases	All diseases	
		% : Bushels :000 omitted:	% : Bushels :000 omitted:	% : Bushels :000 omitted:	% : Bushels :000 omitted:	% : Bushels :000 omitted:	
N. D.	11,520	.5	59	t	1.	118	2.6+ : 307+
S. D.	4,400	-	250	2.	1.	50	12. + : 600+
Nebr.	8,160	10.	960	-	-	-	15. + : 1,440+
Kans.	4,160	1.	58	5.	-	-	28. : 1,618
Ky.	3,770	5.	314	15.	-	-	40. + : 2,512+
Tenn.	1,820	1.	21	5.	t	106	14. + : 296+
Ala.	2,400	-	-	-	-	-	- : +
Miss.	1,088	.5	7	3.	6.	89	26.5+ : 392+
La.	1,809	0	0	1.	4.	115	37. + : 1,062+
Texas	2,072	1.	25	1.	5.	125	17. + : 424+
Okla.	2,088	-	-	-	2.	43	2. : 43
Ark.	1,815	2.	42	t	2.	42	14. + : 295+
Mont.	5,060	3.	187	0	t	+	19. + : 1,187+
Wyo.	2,052	-	-	-	-	-	- : -
Colo.	11,070	3.	382	10.	-	-	13. : 1,654
N.Mex.	296	-	-	-	-	-	- : -
Ariz.	460	-	-	t	-	-	- : +
Utah	2,415	5.	156	1.	-	-	22.5 : 701
Nev.	592	-	-	-	-	-	- : -
Ida.	10,545	5.	703	t	7.	984	25. + : 3,515+
Wash.	7,425	1.	100	0	1.	100	26. + : 2,608+
Ore.	3,870	1.	44	t	1.	44	12. + : 528+
Calif.	10,064	8.	1,110	2.	3.	417	27.5+ : 3,817+
U. S.	346,823	1.7	7,137	6.5	1.1	10,483	18.6 : 79,518

SWEET POTATO

Estimated reduction in yield of sweet potatoes due to stem rot (Fusarium hyperoxysporum and F. batatatis), foot rot (Plenodomus destruens), black rot (Sphaeronema fimbriatum), storage rots, pox (Cystospora batata), and other diseases, 1921.

[illegible]

Estimated percentage reduction in yield of tomatoes due to Septoria blight (Septoria lycopersici), Fusarium wilt (Fusarium lycopersici), bacterial wilt (Bacillus solanacearum), early blight (Macrosporium solani), and other diseases, 1921. (Production figures not available.)

Estimated percentage reduction in yield due to disease						
State	Septoria blight	Fusarium wilt	Bacterial wilt	Early blight	Other diseases	All diseases
Me.	-	1.	0	-	-	1.
R. I.	-	-	0	t	-	+
Conn.	-	-	0	t	1.	1. +
N. Y.	3.	-	0	t	8.	11. +
N. J.	10.	3.	-	7.	-	20.
Pa.	2.	2.	0	1.	5.	10.
Del.	10.	1.	-	t	-	11. +
Md.	25.	5.	-	2.	-	32.
Va.	15.	5.	1.	1.	10.	32.
W. Va.	20.	t	*	10.	1.	31.
N. C.	10.	6.	4.	t	5.	25. +
S. C.	-	3.	4.	t	5.	12. +
Ga.	.5	25.	7.	-	15.	47.5
Fla.	-	-	-	15.	-	15.
Ohio	4.	15.	-	3.	2.	24.
Ind.	5.	3.	0	t	3.	11. +
Ill.	-	-	-	t	3.	3. +
Mich.	t	t	0	t	1.	1. +
Wis.	t	t	0	t	1.	1. +
Minn.	t	0	0	t	1.	1. +
Iowa	2.	-	-	t	12.	14. +
Kans.	5.	2.	0	0	2.	9.
Ky.	-	25.	0	t	15.	40. +
Tenn.	10.	10.	t	t	6.	26. +
Ala.	-	-	-	5.	-	5.
Miss.	1.	20.	1.	5.	20.	47.
La.	0	25.	1.	10.	10.	46.
Texas	3.	5.	t	2.	5.	15. +
Okla.	2.	-	-	-	5.	7.
Ark.	2.	20.	t	t	6.	28. +
Mont.	0	0	0	0	2.	2.
Wyo.	0	0	0	0	-	-
Colo.	-	0	0	0	-	-
N. Mex.	0	0	-	0	-	-
Ariz.	0	0	-	-	-	-
Utah	0	0	0	0	-	-
Nev.	0	0	0	0	-	-
Ida.	0	0	0	0	25.	25.
Wash.	0	0	0	0	10.	10.
Ore.	0	0	0	0	4.	4.
Calif.	-	-	0	4.	15.	19.

COTTON

Estimated reduction in yield of cotton due to anthracnose (*Colletotrichum gossypii*), angular leaf spot (*Pacterium malvacearum*), Fusarium wilt (*Fusarium vasinfectum*), root knot (*Heterodera radicleola*), and other diseases, 1921.

: Production:		: Estimated reduction in yield due to disease											
: 1921		:											
State	Bales (000)	Anthracnose		Leaf spot		Fusarium wilt		Root knot		Other diseases		All diseases	
		Bales	%	Bales	%	Bales	%	Bales	%	Bales	%	Bales	%
	omitted	(000)	:	(000)	:	(000)	:	(000)	:	(000)	:	(000)	:
		omitted	:	omitted	:	omitted	:	omitted	:	omitted	:	omitted	:
Va.	16	-	:	-	:	-	:	-	:	-	:	-	:
N. C.	800	-	:	9	10.	-	:	9	1.	-	:	19	14.
S. C.	760	2.	:	8	4.	93	:	8	1.	2.	:	17	10.
Ga.	840	3.	:	19	3.	34	:	19	2.	2.	:	19	12.
Fla.	13	-	:	-	:	29	:	-	:	-	:	-	:
Mo.	78	-	:	-	:	-	:	-	:	-	:	-	:
Tenn.	340	3.	:	3	t	-	:	-	:	-	:	-	:
Ala.	635	-	:	-	:	+	:	+	t	+	:	4.	+
Miss.	670	-	:	-	:	-	:	-	:	-	:	-	:
La.	295	3.	:	20	5.	50	:	10	1.	2.	:	20	13.
Texas	2,200	3.	:	7	5.	17	:	+	5.	5.	:	17	15.
Okl.	530	1.	:	91	2.	60	:	30	20.	27.	:	603	814
Ark.	860	2.	:	31	-	-	:	6	8.	15.	:	50	93
Ariz.	40	-	:	20	6.	59	:	10	2.	13.	:	20	129
Calif.	50	-	:	5	t	+	:	-	5.	7.	:	2	7.
Others	13	-	:	-	-	-	:	-	-	-	:	-	-
U. S.	8,340	1.6:	:	213	3.5:	342	:	92	7.7:	767	:	1,563	15.8:

Estimated reduction in yield of apples due to bitter rot (*Glomerella cingulata*), black rot (*Physalospora cydoniae*), blotch (*Phyllosticta solitaria*), and cedar rust (*Gymnosporangium juniperi-virginianae*), 1921. *SOLITARIA*

:Production:		Estimated reduction in yield due to disease									
State :	1921 :	Bitter rot :	Black rot :	Blotch :	Cedar rust :						
:Bus. (000 :	% :	:Bus. (000 :	% :	:Bus. (000 :	% :	:Bus. (000 :	% :	:Bus. (000 :	% :	:Bus. (000 :	% :
:omitted) :	:	:omitted) :	:	:omitted) :	:	:omitted) :	:	:omitted) :	:	:omitted) :	:
Me. :	4,060 :	0 :	0 :	- :	- :	0 :	0 :	0 :	0 :	0 :	0 :
N. H. :	700 :	0 :	0 :	- :	- :	0 :	0 :	*0 :	0 :	0 :	0 :
Vt. :	600 :	0 :	0 :	- :	- :	0 :	0 :	0 :	0 :	0 :	0 :
Mass. :	1,125 :	0 :	0 :	1. :	11 :	0 :	0 :	t :	+	+	+
R. I. :	63 :	0 :	0 :	1. :	.6 :	0 :	0 :	t :	+	+	+
Conn. :	758 :	0 :	0 :	1. :	9 :	0 :	0 :	t :	+	+	+
N. Y. :	12,557 :	0 :	0 :	.5 :	71 :	0 :	0 :	.5 :	71	71	71
N. J. :	667 :	t :	+	2. :	15 :	1. :	7 :	t :	+	+	+
Pa. :	2,208 :	t :	+	1. :	28 :	1. :	28 :	t :	+	+	+
Del. :	68 :	t :	+	1. :	.7 :	.5 :	.4 :	t :	+	+	+
Md. :	225 :	.5 :	1 :	5. :	13 :	1. :	3 :	1. :	3	3	3
Va. :	708 :	.5 :	4 :	5. :	41 :	t :	+	1. :	8	8	8
W. Va. :	420 :	.5 :	2 :	5. :	25 :	1. :	5 :	1. :	5	5	5
N. C. :	593 :	3. :	26 :	5. :	44 :	10. :	89 :	5. :	44	44	44
S. C. :	293 :	5. :	17 :	- :	- :	- :	- :	2. :	7	7	7
Ga. :	698 :	4. :	34 :	1. :	9 :	1. :	9 :	1. :	9	9	9
Ohio :	3,390 :	t :	+	5. :	207 :	2. :	83 :	.5 :	20	20	20
Ind. :	1,029 :	*0 :	0 :	3. :	35 :	2. :	24 :	t :	+	+	+
Ill. :	2,381 :	t :	+	2. :	64 :	7. :	226 :	t :	+	+	+
Mich. :	6,317 :	0 :	0 :	t :	+	0 :	0 :	0 :	0	0	0
Wis. :	1,050 :	0 :	0 :	t :	+	0 :	0 :	.5 :	6	6	6
Minn. :	900 :	0 :	0 :	t :	+	0 :	0 :	1. :	9	9	9
Iowa :	630 :	0 :	0 :	1. :	8 :	t :	+	t :	+	+	+
Mo. :	480 :	1. :	6 :	- :	- :	3. :	17 :	.5 :	3	3	3
N. D. :	- :	0 :	0 :	t :	+	0 :	0 :	*0 :	0	0	0
S. D. :	126 :	0 :	0 :	t :	+	0 :	0 :	*	-	-	-
Nebr. :	125 :	0 :	0 :	t :	+	4. :	5 :	t :	+	+	+
Kans. :	172 :	0 :	0 :	t :	+	5. :	10 :	t :	+	+	+
Ky. :	636 :	1. :	7 :	2. :	14 :	5. :	35 :	*- :	-	-	-
Tenn. :	754 :	8. :	72 :	1. :	9 :	5. :	45 :	t :	+	+	+
Ala. :	890 :	3. :	28 :	t :	+	- :	- :	*- :	-	-	-
Miss. :	145 :	3. :	5 :	t :	+	4. :	7 :	.5 :	1	1	1
La. :	35 :	3. :	1 :	- :	- :	10. :	4 :	*- :	-	-	-
Texas :	274 :	t :	+	1. :	3 :	3. :	9 :	t :	+	+	+
Okla. :	486 :	0 :	0 :	3. :	17 :	10. :	58 :	*- :	-	-	-
Ark. :	120 :	1. :	1 :	t :	+	3. :	4 :	*0 :	0	0	0
Mont. :	975 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
Wyo. :	19 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
Colo. :	3,200 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
N. Mex. :	483 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
Ariz. :	47 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
Utah :	1,037 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
Nev. :	24 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
Ida. :	4,280 :	0 :	0 :	t :	+	0 :	0 :	0 :	0	0	0
Wash. :	29,062 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
Ore. :	5,571 :	0 :	0 :	*0 :	0 :	0 :	0 :	0 :	0	0	0
Calif. :	6,500 :	0 :	0 :	0 :	0 :	0 :	0 :	0 :	0	0	0
U. S. :	96,881 :	.2 :	204 :	.5 :	624 :	.6 :	668 :	.2 :	186	186	186

Estimated reduction in yield of apples due to fire blight (*Bacillus amylovorus*), scab (*Venturia inaequalis*), and other diseases, 1921.

State	Production:		Estimated reduction in yield due to disease							
	1921		Fire blight		Scab		Other diseases		All diseases	
	Bus. (000	%	Bus. (000	%	Bus. (000	%	Bus. (000	%	Bus. (000	%
	: omitted)	:	: omitted)	:	: omitted)	:	: omitted)	:	: omitted)	:
No.	4,060	-	-	-	-	-	-	-	-	-
N. H.	700	-	-	-	-	-	-	-	-	-
Vt.	600	1.	6	2.	12	-	-	3.	18	
Mass.	1,125	-	-	-	-	1.	11	2.	22+	
R. I.	63	-	-	-	-	1.	.6	2.	1.2+	
Conn.	758	-	-	12.	105	1.	9	14.	123+	
N. Y.	12,557	3.	423	5.	705	2.	282	11.	1,552	
N. J.	667	t	+	3.	21	2.	15	8.	58+	
Pa.	2,203	1.	28	15.	419	3.	84	21.	587+	
Del.	63	t	+	2.	1.4	1.	.7	4.5	3.2+	
Id.	225	2.	5	4.	11	2.	5	15.5	41+	
Va.	706	t	+	4.	32	2.	16	12.5	101+	
W. Va.	420	t	+	5.	25	2.	10	14.5	72+	
N. C.	593	8.	71	-	-	2.	18	33.	292	
S. C.	293	6.	21	-	-	2.	7	15.	52	
Ga.	698	4.	34	5.	43	3.	26	19.	164	
Ohio	3,390	.5	20	8.	331	2.	83	18.	744+	
Ind.	1,029	t	+	5.	59	3.	35	13.	153+	
Ill.	2,381	.1	3	12.	387	5.	161	26.1	841+	
Mich.	6,317	5.	343	2.	137	1.	69	8.	549+	
Wis.	1,050	5.	59	5.	59	1.	12	11.5	136+	
Minn.	900	1.	9	1.	9	1.	9	4.	36+	
Iowa	630	1.	8	10.	76	5.	38	17.	130+	
Mo.	480	t	+	5.	28	5.	28	14.5	82+	
N. D.	-	t	+	-	-	-	-	+	+	
S. D.	126	t	+	-	-	-	-	+	+	
Nebr.	125	t	+	-	-	3.	4	7.	9+	
Kans.	172	1.	2	1.	2	5.	10	12.	24+	
Ky.	636	t	+	-	-	2.	14	10.	70+	
Tenn.	754	t	+	t	+	2.	18	16.	144+	
Ala.	890	-	-	-	-	3.	28	6.	56+	
Miss.	145	8.	15	t	+	5.	9	20.5	37+	
La.	35	-	-	-	-	5.	2	18.	7	
Texas	274	1.	3	0	0	6.	18	11.	33+	
Okla.	485	t	+	1.	6	2.	12	16.	93+	
Ark.	120	0	0	t	+	4.	5	8.	10+	
Mont.	975	3.	31	1.	10	-	-	4.	41	
Wyo.	19	-	-	-	-	-	-	-	-	
Colo.	3,200	-	-	-	-	-	-	-	-	
N. Mex.	483	-	-	-	-	-	-	-	-	
Ariz.	47	-	-	-	-	-	-	-	-	
Utah	1,037	-	-	-	-	-	-	-	-	
Nev.	24	-	-	-	-	-	-	-	-	
Ida.	4,280	.5	24	1.	47	8.	378	9.5	449+	
Wash.	29,062	t	+	8.	2,673	5.	1,670	13.	4,343+	
Ore.	5,571	t	+	15.	1,032	4.	275	19.	1,307+	
Calif.	6,500	-	-	-	-	-	-	-	-	
U. S.	96,881	1.	1,105	5.7	6,230	3.1	3,362	11.3	12,380	

Estimated reduction in yield of peaches due to leaf curl (Exoascus deformans), brown rot (Sclerotinia cinerea), and other diseases,
1921

State	Production:		Estimated reduction in yield due to disease							
	1921		Leaf curl		Brown rot		Other diseases		All diseases	
	:Bus. (000 : omitted)	:	% :Bus. (000 : omitted)	% :Bus. (000 : omitted)	% :Bus. (000 : omitted)	% :Bus. (000 : omitted)	% :Bus. (000 : omitted)	% :Bus. (000 : omitted)	% :Bus. (000 : omitted)	% :Bus. (000 : omitted)
N. H.	29	:	-	-	-	-	-	-	-	-
Mass.	185	:	-	5.	10	1.	2	6.	12	
R. I.	12	:	-	5.	.7	2.	.2	7.	.9	
Conn.	290	:	t	8.	26	2.	6	10.	32+	
N. Y.	1,700	:	1.	17.5	17.5	1.	17.5	3.	52.5	
N. J.	347	:	t	1.	4	2.	7	3.	11+	
Pa.	350	:	3.	13	41	3.	13	16.	67	
Del.	7	:	-	-	-	3.	.2	3.	.2	
Md.	59	:	-	-	-	4.	2	4.	2	
Va.	52	:	t	1.	1	4.	2	5.	3+	
W. Va.	48	:	-	-	-	3.	1	3.	1	
N. C.	644	:	t	25.	215	-	-	25.	215+	
S. C.	566	:	-	20.	155	7.	54	27.	209	
Ga.	6,550	:	t	15.	1,293	9.	775	24.	2,068+	
Fla.	130	:	-	-	-	-	-	-	-	
Ohio	335	:	.5	1	19	5.	19	10.5	39	
Ind.	26	:	.5	.1	t	2.	.5	2.5+	.6+	
Ill.	76	:	1.	1	-	2.	2	3.	3	
Mich.	358	:	t	+	-	-	-	+	+	
Iowa	85	:	1.	1	-	-	-	1.	1	
Mo.	0	:	.5	-	-	-	-	.5	-	
Nebr.	0	:	t	+	0	-	-	+	+	
Kans.	24	:	t	+	0	-	-	+	+	
Ky.	80	:	-	-	-	1.	1	1.	1	
Tenn.	320	:	t	+	10.	36	t	10.	36+	
Ala.	1,230	:	-	15.	217	-	-	15.	217	
Miss.	322	:	1.	5	93	10.	47	31.	145	
La.	264	:	0	0	94	5.	19	30.	113	
Texas	2,200	:	-	3.	76	10.	253	13.	329	
Okla.	360	:	t	+	2.	8	19	7.	27+	
Ark.	435	:	1.	4	4	1.	5	3.	13	
Colo.	860	:	0	0	0	5.	45	5.	45	
N. Mex.	8	:	0	0	0	-	-	-	-	
Ariz.	54	:	0	0	0	-	-	-	-	
Utah	763	:	-	0	0	t	+	+	+	
Nev.	4	:	-	0	0	-	-	-	-	
Ida.	150	:	t	+	0	3.	5	3.	5+	
Wash.	772	:	2.	17	8	5.	42	8.	67	
Ore.	190	:	15.	45	6	20.	61	37.	112	
Calif.	12,848	:	1.	149	448	10.	1,494	14.	2,091	
U. S.	32,733	:	.6	254	7.2	2,772	7.5	2,892	15.3	5,918

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