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UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Administration
Bureau of Entomology and Plant Quarantine

Estimate Of Losses Caused By Certain Insects Injurious To Agriculture*

No estimate has ever been made of the losses caused by all the many injurious insects. It would be difficult, if not impossible, to make such an estimate. The amount of damage caused by any injurious insect pest to a given crop fluctuates from year to year and from one area to another.

Selected examples of estimated losses caused by certain of the more important insect pests in this country are given in the attached tables. Some are based on years during which outbreaks of the pest occurred. Others are based on the best available estimate of the percentage of damage caused by the insect annually, applied to the known or estimated farm value of the particular crop for the period indicated. All estimates of losses given are considered to be conservative.

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* Excerpt from report on Hearings before the Subcommittee of the Committee on Appropriations, House of Representatives, on the Department of Agriculture Appropriation Bill for 1949. pp. 874-877

COTTON INSECTS

Crop	Period covered	Area involved	Insect Concerned	Annual loss for period covered		Remarks
				Dollars	Other	
Cotton-----	1909-29	Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Tennessee, Missouri, Arkansas, Oklahoma	Boll weevil-----	256,015,000	-------	Loss exceeded $500,000,000 during each of 4 years and exceeded $400,000,000 during 1 year.
Do------	1930-46	----do----------	---do----------	116,435,000	-------	Reduction in loss due in part to development of improved control methods and their wider use. New insecticides now in use may further materially reduce losses in next few years.
Do------	1946	----do----------	---do----------	319,349,000	-------	Boll weevil unusually abundant and cotton prices high.
Do------	1946	----do----------	Cotton insects other than boll weevil.	51,415,000	-------	New insecticides now in use may materially reduce losses in next few years.

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CEREAL AND FORAGE INSECTS

Crop	Period covered	Area involved	Insect Concerned	Annual loss for period covered		Remarks
				Dollars	Other	
Corn--------	1945	United States----------	Corn earworm----	140,000,000	--------	Loss equals 4 percent of crop value.
Do------	1946	28 infested States-------	European corn--- borer	37,000,000	--------	Damage increasing as insect populations increase in Corn Belt. New insecticides now in use may materially reduce losses in next few years.
Do------	1934	United States----------	Chinch bug------	27,500,000	--------	Outbreak year: $18 saved for each $1 spent 1934-46
Wheat, barley, rye, oats--	1934	----do----------	---do----------	28,000,000	--------	Outbreak year.
Stored wheat, corn, rice, oats, barley rye, sorghums.	1947	----do----------	Weevils and moths	600,000,000	--------	Loss equals 5 percent of crop value.
Wheat--------	1945	----do----------	Hessian fly------	37,000,000	--------	Loss equals 3 percent of winter-wheat crop value. Also attacks barley and rye. Use of resistant varieties when released will materially help reduce losses.
Principally-- corn, small grains, alfalfa, flax, truck crops & fruits	1946	21 Central, Midwestern, and Western States.	Grasshopper------	22,740,000	--------	Over $41,000,000 worth of crops on about 5,765,000 acres saved by control measures, or crops worth $52 saved for each $1 spent on control

FOREST INSECTS

Crop	Period covered	Area involved	Insect Concerned	Annual loss for period covered		Remarks
				Dollars	Other	
Balsam fir and spruce	1910-20	Minnesota, Maine--	Spruce budworm--	4,500,000	Cords 4,500,000	70 to 90 percent of mature stand killed during outbreak.
Douglas-fir	1946	Idaho, Oregon, Washington	Douglas-fir tussock moth---	----------	Acres 140,000	Severely defoliated by outbreak. Trees subject to complete kill if again defoliated in 1947.
Do----------	1947	---do----------	Douglas-fir tussock moth---	----------	----------	Cooperative spray program on 413,000 infested acres prevented loss of more than 1,500,000,000 board feet of timber, stumpage value in excess of $4,600,000. Suppression of this severe outbreak also protected extensive adjacent timber acreas.
Engelmann spruce-----	1940-46	Colorado----------	Engelmann spruce beetle---------	1,000,000	Board feet 500,000,000	About 20 percent of spruce timber in Colorado killed in this outbreak, which is more than 10 percent of the total annual production of timber in the United States.
Lodgepole pine-------	1946-47	Wyoming----------	Mountain pine beetle---------	----------	60,000,000	Outbreak
Ponderosa pine-------	1947	South Dakota------	Black Hills beetle----------	----------	15,000,000	Do.

FRUIT INSECTS

Crop	Period covered	Area involved	Insect concerned	Annual loss for period covered		Remarks
				Dollars	Other	
Apples----	1940-44	United States ---------	Codling moth ----	50,000,000	-------	Loss includes $25,000,000 control cost. New insecticides now in use may materially reduce loss in next few years. Without control crop would be largely unmarketable.
Citrus----	1943-44	California ---------	California red -- scale	10,000,000	-------	Loss includes control cost.
Peaches---	1943-44	United States east ---- of Rockies	Peachtree borer--	3,200,000	-------	Loss estimate covers cost of control only. If not controlled, borers weaken or kill trees.
Do-----	1943-44	---do----------	Plum curculio ---	7,800,000	-------	Loss includes control cost.

HOUSEHOLD PESTS

Clothing and household furnishings	1940-44	United States ---------	Clothes moths, carpet beetles.-	60,000,000	-------	Estimate includes loss in homes only. Does not include cost of control.

LIVESTOCK PESTS

Crop	Period covered	Area involved	Insect concerned	Annual loss for period covered		Remarks
				Dollars	Other	
Cattle-------	1940-44	United States------	Cattle grubs--------	160,000,000	-------	Loss includes reduced meat and milk production, also reduced value of hides.
Cattle, horses mules-------	1940-44	---do----------	Horn flies, stable flies, deer flies.	100,000,000	-------	Increased use of new control measures against horn flies is reducing losses.
Cattle, horses hogs, sheep, goats-------	1940-44	Southern States----	Screwworms and blowflies ----------	15,000,000	-------	Loss largely restricted to Southern States. Increased use of new control measures is reducing losses.
Cattle, goats hogs, sheep,	1940-44	United States------	Lice----------	30,000,000	-------	
Cattle, sheep-horses------	1940-44	---do----------	Ticks----------	6,500,000	-------	Losses occur largely in Southern and Western States.
Poultry and eggs--------	1940-44	---do----------	Lice, mites, fleas, ticks ----------	85,000,000	-------	Estimate based on 1 percent loss in meat and 5 percent in egg production.

TRUCK CROP INSECTS

Crop	Period covered	Area involved	Insect concerned	Annual loss for period covered		Remarks
				Dollars	Other	
Beans--------	1944	New Mexico, Arizona, Colorado, and eastern United States except Michigan.--------	Mexican bean beetle	5,502,000	-------	Loss would be appreciably greater without extensive use of available control measures.
Beans, dry --	1944	Idaho, Oregon-----	Beet leafhopper-----	2,446,000	-------	Damage due chiefly to curly-top disease transmitted by the insect.
Beets, sugar and table----	1944	Intermountain region----------	---do----------	3,676,000	-------	Do.
Cabbage and cauliflower--	1944	Southern States and California---	Cabbage caterpillars	7,663,000	-------	New insecticides now in use may materially reduce losses in next few years.
Onions--------	1944	United States ----	Onion thrips--------	14,500,000	-------	New insecticides now under test may materially reduce losses in next few years.
Peas, canning and market---	1940-44	---do----------	Pea aphid ----------	3,969,000	-------	Damage increasing in some areas due to mosaic disease transmitted by the aphid.
Potato -------	1944	Northern States except Idaho.----	Aphids ----------	66,467,000	-------	Aphid problem complicated by leaf roll disease transmitted by the insect.
Sweetpotato --	1944	Gulf Coast States-	Sweetpotato weevil--	5,031,000	-------	
Tobacco ------		Southern States --	Tobacco hornworm ---	84,073,000	-------	