

Organic Pesticide Production by Primary Manufacturers*

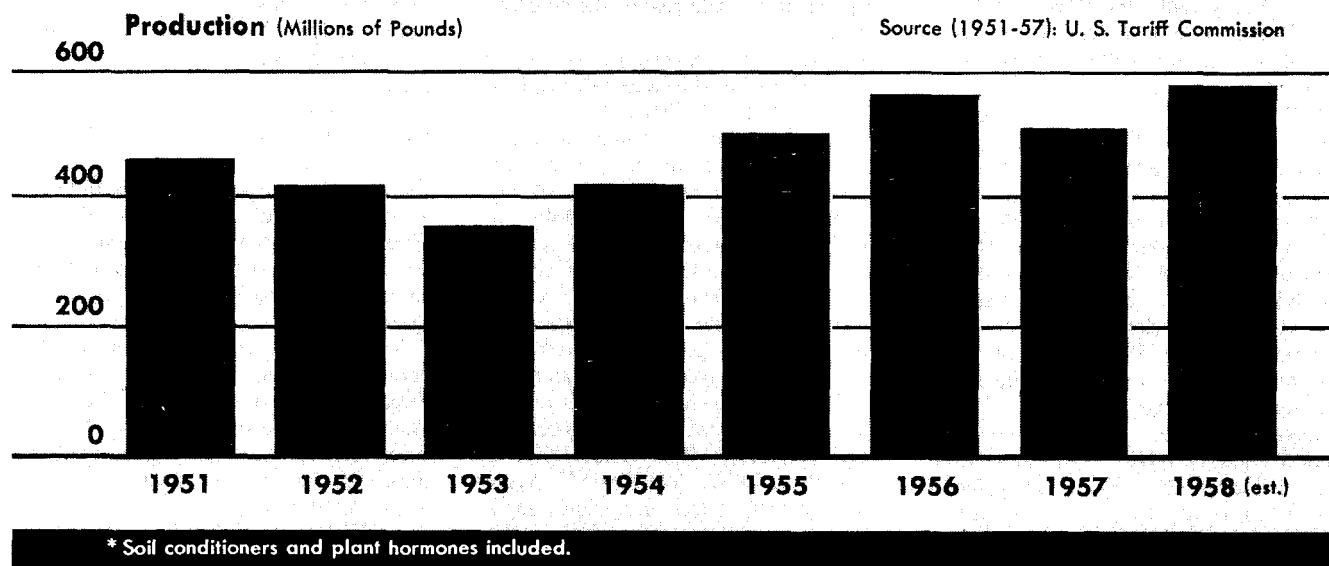


Figure 1

Pesticide Supplies and Requirements

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Output of pesticides up 10% in 1958, a record year for DDT output. Stocks on hand now are 10% lower than in the previous year, but carryover of organophosphates is considerable

Production of synthetic organic pesticides in 1958 amounted to about 575 million pounds, data from government and industry sources indicate. That output was more than 10% above the 1957 level, and slightly over that of 1956 (see Figure). Pesticide sales during 1958 were reported by the industry as "fairly satisfactory."

Numerous new organic compounds, some showing much promise for special uses, went into commercial production in 1958, at least in modest volume. But progress was not limited to new materials; more DDT was made than in any previous year. On the other hand, manufacture of 2,4,5-T was somewhat lower in 1958, and production of calcium arsenate was down to about half the 1957 level. Copper sulfate production fell to below 100 million pounds for the first time since 1939, when production was 86,500,000 pounds (Table 1).

Imports of cube root for the crop year ended Sept. 30, 1958, amounted to only 4,140,000 pounds, decidedly less than for several years. Imports of pyrethrum flowers were slightly lower than in the previous year but receipts

of extract nearly doubled. Total pyrethrum imports in terms of active principles, therefore, were about 17% above those of 1956-57.

Early-season consumption of pesticides in 1958 was affected by freezing weather, especially in Florida, and by the unseasonably late, rainy spring over large areas planned for cultivation. However, usage rose with the arrival of good growing weather and

the presence of more soil moisture in areas that had suffered from severe drouth for several years. Total use in the United States during the year appears to have equaled or exceeded that of 1957. Prospects for 1959 are that new uses will continue to be found for older chemicals, while new compounds will provide pest control where previous materials were ineffective or inadequate. Changes in government-im-

Table 1. Pesticidal Chemicals: Production by Crop Years

	1955-56 (1,000 lb.)	1956-57 (1,000 lb.)	1957-58 (1,000 lb.)
Aldrin, chlordan, dieldrin, endrin, heptachlor, and toxaphene	80,418	73,914	88,879
Benzene hexachloride (gamma) ^a	13,535	9,376	6,000 (estd.)
Calcium arsenate	26,400	20,360	9,250
Copper sulfate	146,056	143,592	98,424
2,4-D acid	29,000 (estd.)	32,258	32,000 (estd.)
DDT	137,747	129,730	131,862
Lead arsenate	13,250	12,500	not available
2,4,5-T acid	4,501	5,494	4,000 (estd.)

^a Does not include lindane.

SOURCES: U. S. Tariff Commission, U. S. Bureau of the Census, and the chemical industry.

Table 2. 1958 Pesticide Exports (January-October, inclusive)

MATERIAL	QUANTITY (× 1000 lb.)
Benzene hexachloride (gamma basis, 6% plus)	1,322
Calcium arsenate	890
Copper sulfate (normal and basic)	12,432
2,4-D and 2,4,5-T (acid basis)	6,496
DDT, technical	19,828
DDT, 20-74% (100% basis)	4,109
DDT, 75% plus (100% basis)	35,975
Disinfectants, household and industrial	7,700
Fumigants	3,587
Fungicides, n.e.c.	12,999
Herbicides, n.e.c.	9,037
Insecticides, agricultural, n.e.c.	70,819
Lead arsenate	1,444
Nicotine sulfate (40% basis)	49
Organic phosphorus insecticides, 15% plus	4,877
p-Dichlorobenzene	2,444
Pesticides, household and industrial, n.e.c.	14,387
Polychlor insecticides, 15% plus ^a	50,200
Pyrethrum extract	45
Sulfur, agricultural, n.e.c.	8,445

^a Includes aldrin, chlordan, DDD, dieldrin, endrin, heptachlor, methoxychlor, toxaphene, and related chemicals and mixtures thereof.

NOTE: No total given because BHC, DDT, 2,4-D, and 2,4,5-T are not reported on the basis of total material.

SOURCE: U. S. Bureau of the Census.

posed crop restrictions for 1959 are expected to favor greater use of pesticides.

Consumption of cotton insecticides was rather heavy in the Southwest last year. Cotton acreage in the Southeast, however, because of the large area put into the Soil Bank, was probably the smallest since soon after the Civil War. The Carolinas, Georgia, and Alabama had 25% of the U. S. cotton acreage in 1930, 19% in 1952, but only 13% in 1958. Formulators in that area are being forced to look for customers other than cotton growers in an effort to maintain sales volume.

Appreciable quantities of insecticides were applied in 1958 to fight the largest grasshopper outbreak since 1939. About 5 million acres of range land and idle land, largely in Colorado and Texas, was treated. The annual federal-state egg survey last fall showed few winter eggs in many treated areas, indicating less of a grasshopper threat in 1959.

Table 3. DDT Production and Exports

CALENDAR YEAR	PRODUCTION (× 1000 lb.)	EXPORTS ^a (× 1000 lb.)	%AGE OF PRODUCTION EXPORTED
1954	97,198	42,329	43.6
1955	129,693	53,252	41.1
1956	137,659	57,194	41.6
1957	124,545	64,096	51.5
1958 ^b	117,789	59,913	50.9

^a 100% basis as technical or in preparations of 25% or more, except 1958 includes 20% and above.

^b First 10 months.

SOURCES: (Production) U. S. Tariff Commission; (Exports) U. S. Bureau of the Census.

The value of pesticide exports reported for the 1957-58 crop year was \$84,257,493, compared to \$85,908,799 in 1956-57 and \$80,779,159 in 1955-56. A sharp drop occurred in copper sulfate exports, from the previous three-year average of 69,230,000 pounds to 22,092,000 pounds during the year ended Sept. 30, 1958. Exports of this material reported for October and November amounted to only 2,072,000 pounds. A breakdown of 1958 pesticide exports is shown in Table 2.

Record Year for DDT

Production of DDT through November of last year amounted to 130 million pounds. At that rate the total for 1958 probably reached 142 million pounds, making it a record year (Table 3). The demands of the foreign malaria eradication program accounted for large quantities, and will continue to do so in 1959. According to latest information, present U. S. rated capacity to produce DDT (172,400,000 pounds, divided among eight plants) is adequate. Contrary to oft-repeated statements that its domestic use has been "waning for the past few years," DDT is still employed within the United States in larger quantities than most other pesticides.

Pesticide carryover from the 1958 growing season, according to a preliminary report based on the annual cooperative survey by the U. S. Department of Agriculture and the National Agricultural Chemicals Association, was about 10% lower than at the end of the previous crop year. One formulator reported his inventory the lowest in 20 years. Larger carryovers of newer materials than in 1957, especially in such classes of pesticides as weed killers and the organic phosphates, were more than offset by shorter inventories of DDT and fumigants. Stocks of copper fungicides and 2,4-D weed killers were up, but 2,4,5-T holdings changed little. Primary stocks of chlorinated hydrocar-

bon insecticides averaged about the same as in 1957, but individual items in the group varied from 40% below the average to 100% above.

Primary stocks in the possession of manufacturers are largely undiluted chemicals but include some formulations such as grain fumigants and 2,4-D esters. Inventory changes for primary producer stocks between Sept. 30, 1957, and a year later, in terms of percentages, are shown in Table 4.

Table 4. Chemical Manufacturers' Primary Pesticide Stocks

MATERIAL	1958 STOCKS AS A %AGE OF 1957 STOCKS
Aldrin, chlordan, dieldrin, endrin, heptachlor, toxaphene	96
Benzene hexachloride (gross basis)	81
10-15% gamma grades	79
36% and above, including lindane	87
Calcium arsenate	152
Copper fungicides	133
2,4-D (acid basis, but includes manufacturers' formulations)	144
DDT	43
Fumigants (grain and soil)	54
Lead arsenate	102
Miticides (miscellaneous)	143
Organic phosphorus compounds	177
Includes:	
Methyl parathion	742
Parathion	115
Others	133
2,4,5-T	106
Fungicides (miscellaneous)	80
Insecticides (miscellaneous)	121
Weed killers (miscellaneous organic)	256
All primary stocks	89