

HEADQUARTERS
U.S. STRATEGIC BOMBING SURVEY
(PACIFIC)
APO #234
C/O POSTMASTER, SAN FRANCISCO

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PLACE: TOKYO.

DATE: 14 Nov. 1945.

INTERROGATION NO. 342

Division of Origin: M. F. C.

Subject: Fertilizer in Japan.

Personnel interrogated and background of each:

Mr. S. KAKIDE, Head Fertilizer Section, Min. of
Agriculture & Forestry.

Mr. H. OEHIAI

Where interviewed: Min. of Agriculture Building.

Interrogator: Lt. Edwards.

Interpreter: Mr. Taji.

Allied Officers Present: Mr. Schaafsma
Lt. W.M. Edwards.

Summary:

General
Nitrogenous Fertilizers
Effect of Bombing
Phosphatic Fertilizers
Potash Fertilizers
Distribution of Fertilizers.

DISTRIBUTION: All Divisions.

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INTERROGATION

Interview with Mr. S. KAKIDE, Head of Fertilizer Section, Ministry of Agriculture and Forestry and Mr. N. OEHIAI on 13 Nov. 1945 at the Ministry's Building. Lt. Edwards acted as interrogator assisted by Mr. Taji as interpreter.

The purpose of the interview was to obtain data regarding the use of fertilizer in Japan and the effect of wartime changes in its supply on agricultural fields and production.

GENERAL:

Japanese agriculture depends on the application of enormous quantities of fertilizers due to the continuous cropping of the land, the scarcity of livestock for the furnishing of manure, and the small production of green manure crops for soil-conserving or soil-building purposes. Chemical fertilizers are therefore especially important. Japan is the largest consumer of fertilizer per unit of land and has the highest yields of rice of any country. The application of nitrogen, phosphoric acid, and potash per hectare of arable land in Japan in 1938 was 64.2 Kg, 39.7 Kg, and 13.7 Kg, respectively.

NITROGENOUS FERTILIZERS:

The consumption of nitrogenous fertilizers declined during the war from 1,805,000 metric tons in the 1940 fertilizer year (August 1, 1940 to July 31, 1941) to 541,000 tons in 1944 (Aug. 1, 1944 to July 31, 1945).

The following table shows the trend in consumption of nitrogenous fertilizers in Japan Proper: (1000 M. Tons).

Fertilizer Year	Ammonium Sulfate	Calcium Cyanamide	Organic Fertilizers	Saltpetre & Ammonium Phosphate	Total
(Aug. 1 of year specified to next July.)					
1937	1128	255	462	56	1,901
1938	1175	227	504	45	1,951
1939	1099	175	274	45	1,593
1940	1180	220	234	171	1,805
1941	1196	220	178	59	1,653
1942	999	170	148	33	1,346
1943	823	160	121	13	1,117
1944	413	107	20	1	541

The proportion of the total ammonia production used for fertilizer production i.e. ammonium sulfate, ranged from 81% in 1941 to 58% in the 1st quarter of 1945 (August to October). The balance went into the production of nitric acid for munitions. Nitric acid production remained practically constant from 1941 to 1945 while ammonium sulfate which consumed the remainder of the reduced ammonia output fell off correspondingly.

EFFECT OF BOMBING:

According to Mr. Kakide bombing during 1945 reduced tremendously the production of ammonium sulfate through destruction and damaging of ammonium sulfate plants. Air raids, impossibility of acquiring raw materials, and disabilities in manufacturing equipment left only 5 of the 16 plants in Japan in operable

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EFFECT OF BOMBING (CONT'D)

condition at the end of the war. (As shown by the preceding table, production this year fell to 541,000 tons). However, the full effect of the fertilizer shortage would not have been felt until next year as the fertilizer is consumed largely in the year following production, moreover, the accumulative effect of a fertilizer shortage would increase annually as the residual nutrients in the soil are consumed and not replaced by fertilizer.

The government directed that fertilizer be applied principally to rice, consequently rice yields had not decreased materially during the war. Rice acreage, however, had decreased and this probably tended to keep yields up because marginal land would have been the first to go out of cultivation. Yields of all other crops were lower during the war.

PHOSPHATIC FERTILIZERS:

The consumption of phosphatic fertilizers in Japan Proper from 1937-1944 was as follows: (1000 M. Tons)

Fertilizer: Year	Super Phosphate	Thomas Phosphate	Synthesized Fertilizers	Aluminum Phosphate & bone meal	Total
(Aug. 1 of 1937	1097	-	354	60	1,522
year speci-1938	1115	30	308	54	1,507
fied to 1939	1307	40	84	65	1,496
July of 1940	1169	77	100	32	1,378
next year 1941	704	86	123	37	950
1942	676	76	115	12	879
1943	400	76	58	10	544
1944	14	35	35	2	86

Imports of phosphorite (the basic material for superphosphate) ranged as follows from 1935 to 1944 (1000 m. Tons)

1935	947	1940	1110
1936	1071	1941	794
1937	1199	1942	578
1938	917	1943	461
1939	1192	1944	187

POTASH FERTILIZERS:

Potash was formerly imported principally from China. It's supply in Japan therefore, became practically non-existent during the war. Import figures and consumption are to be furnished at a later date.

DISTRIBUTION OF FERTILIZER:

The Nippon Hiryo K.K. (Japan Fertilizer Co. Ltd) purchased all fertilizers in Japan which in turn was distributed to the Prefectural Nogiyokai (Agricultural Associations) thence to Town and Village. Nogiyokai who sold it to individual farmers.

No definite data are available concerning the specific crop yields in Japan during the war attributable directly to the shortage of fertilizer but data regarding experiments conducted on comparative yields as affected by various applications of fertilizers are to be furnished.

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