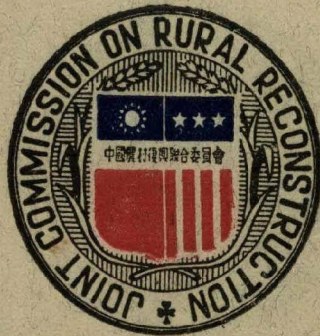# A STUDY OF PEANUTS IN TAIWAN

by

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CHINESE-AMERICAN

JOINT COMMISSION ON RURAL RECONSTRUCTION

Economic Digest Series: No. 6

A STUDY OF PEANUTS IN TAIWAN

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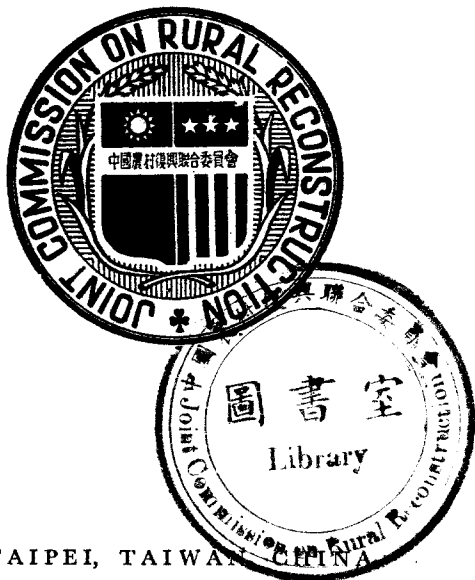
Rural Economics Division

(S. C. Hsieh, Chief)

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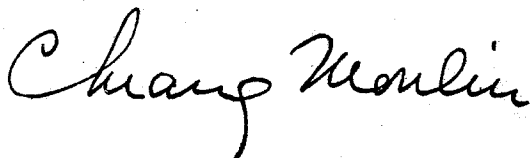
FOREWORD

For the purpose of exploring the possibilities of peanut production, the Rural Economics Division of JCRR initiated in October 1953 a project "An Investigation of the Potentials of Peanuts Industry in Taiwan" which represents the first of a series of projects to be carried out under the general category of "Studies on Economic Potentials of Undeveloped Crops". In addition to this survey, a wheat potential survey was also made and the data collected therefrom are being tabulated. Similar surveys pertaining to soybean, cotton, sesame, jute and flax are presently under contemplation.

This project was sponsored by the JCRR Rural Economics Division with the Economic Analysis Section of the Taiwan Provincial Department of Agriculture and Forestry acting as cooperating agency. The JCRR Plant Industry Division was also requested to cooperate in the study especially on the part of physical factors affecting peanut production.

Preparation of this report has extended over some time. It was originally scheduled for release in March 1954, but the inclusion of peanut oil made it seem advisable to postpone the release. This study is expected to serve as an important reference for economic planners and research workers in tackling the problems of production, marketing, consumption and possibilities of developing both peanuts and peanut oil industry in Taiwan.

Chiang Monlin, Chairman
Joint Commission on Rural
Reconstruction

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A Study of Peanuts in Taiwan

I. Summary

Production of peanuts in Taiwan increased steadily from 1900 throughout 1945. An amazing increase was started immediately after the close of World War II. Over a period of 53 years from 1900 to 1953 production of unhulled peanuts increased from 6,000 m/t to more than 61,000 m/t, showing an increase of more than 10 times.

The yield of peanuts in Taiwan was not only low but fluctuated greatly from year to year in the last 53 years. The highest yield which averaged about 1,000 kg per hectare of land, occurred in 1937 while the lowest yield, averaged only 425 kg happened in 1902. The average yield for the 53 years was 718 kg. There was no marked improvement in yield in post war years, but planted area and total production have increased greatly.

The competition for cultivated land between peanut and its competing crops, including mainly sweet potato, upland rice, beans and cotton, is very keen. Natural factors, however, appear to be much in favor of peanut growing in most of the peanut producing areas, particularly in Yunlin district where about 35 per cent of Taiwan's peanut crop is produced.

The requirement of relatively large quantities of human labor seems to be a limiting factor for peanut production, but the chance of using more woman and child labor for growing this crop has apparently offset the shortcoming, as there is abundant supply of such labor in rural Taiwan. Should the upward trend of peanut prices in the last few years continue, it is most likely that a considerable area now planted with competing crops will give way to peanut growing in the coming years.

The average cost of producing peanuts on per chia of land is a little higher than that of sweet potato which is the strongest competitor of peanuts; but is much lower than that of other competing crops like jute, cotton, and soybean.

Peanuts, sweet potato, upland rice and jute received almost equal amounts of gross returns on per chia of land, averaging around NT$3,500 in the five prefectures investigated. But peanuts in Yunlin received the highest gross returns of all competing crops.

Comparing the average net return per chia, peanut was not as profitable as several other competing crops. The net returns of peanuts ranged from NT$1,200 to NT$1,800, while sweet potato averaged between NT$1, 600 and NT$2,000, varying in the type of land used and the season planted. Many other competing crops, such as cotton and soybean, had net returns ranging from NT$3,000 to NT$4,000.

Comparing returns to family labor and other farm supplied factors, sweet potato was also more profitable than peanuts, being NT$3,500 and NT$3,000 respectively. Returns from upland rice, jute, corn, peas and sesame were not as good as those from peanuts.

In the marketing of peanuts, the producer got almost 80 per cent of the consumer's dollar, while the remaining 20 per cent was shared by all marketing agencies. This low cost of handling is due mainly to the facts that peanut producers are near processing and consuming centers, and that marketing facilities are, as a whole, good.

Peanuts produced in Taiwan are used for three major purposes, namely: seed, oil crushing, and edible food mainly in the form of roasted and salted peanut in the shell. Of the total domestic disappearance of peanuts, the quantity used for seeds occupies approximately 15 to 20 per cent, that for oil crushing about 30 to 35 per cent, and the remaining 50 per cent is consumed as edible food. In 1947-51, the average quantities based on kernel weight used for seed, oil crushing and edible food were about 7,000 m/t, 14,000 m/t and 18,000 m/t respectively. The per capita disappearance as edible food in the same period was 2.45 kg.

In the years 1947-51, Taiwan produced on the average about 5,200 m/t of

peanut oil and imported a little more than 700 m/t, which brought together the total to about 6,000 m/t as total domestic disappearance. The per capita disappearance in the same period was less than three-fourths of a kg.

Although the possibilities of peanut production in Taiwan are not very great, our calculation shows that if the index of multiple cropping for the whole province can reach 200 per cent by 1965 and if the proportion of peanut area to total crop area be maintained at the present level some 20,000 ha. of crop land could be made available for peanut production in the next 10 years in addition to its present area of about 80,000 hectares. However, under the keen competition among crops, the prospect of actual expansion of peanut production will depend largely on the relationship of prices of peanuts and competing crops.

The most promising aspect in increasing peanut production in Taiwan seems to lie on increased yield per hectare. The methods for boosting yield are many; but the best ways for attaining this goal are application of more fertilizer, use of better seed, improved methods of cultivation and a better rotation system.

II. Production of Peanuts

A. Trends in Production

The trends of production of peanuts in Taiwan may be analyzed in two distinct periods. The first period of 1900-40 may be called the pre-war period and the second period of 1946-53 is the post-war period. The war years between these two periods are excluded from our discussion, as conditions in those years were abnormal.

Production of peanuts in Taiwan increased steadily in the pre-war period. In 1900, the year when official record of production was first started, the area planted to peanut was 11,600 ha. and its production was about 6,000 m/t of unhulled peanuts. In the next ten years there was a gradual increase in both the area and production of peanuts so that by 1909, the area was about doubled and production more than tripled. A recession in both area and production occurred in 1910-14. The area planted to peanuts reduced from 21,000 ha. registered in 1909 to 19,000 ha. in 1914. Production dropped from 19,000 m/t to about 10,000 m/t in the same period. A revival began in 1915 and since

then a gradual upward trend was maintained throughout 1940. The area in 1915-1940 increased roughly from a low point of 20,000 ha. to a high level of over 30,000 ha. while production increased from 12,000 m/t to 29,000 m/t with 1937 registered as the peak in both peanut area and production in the pre-war period.

An amazing increase in peanut production was started in 1946, immediately after the close of the World War II. The area was expanded to more than 50,000 ha. representing an increase of 65 per cent over the five year average of 1935-39, or more than twice that in 1945. The production jumped from 12,000 m/t in 1945 to 37,000 m/t in 1946, showing an increase of more than three times in one year. Compared with the five years average of 1935-39, it represented an increase of 27 per cent.

Due to the increase of population and the increased demand for more edible oil, peanut production has been expanded tremendously in recent years. Compared with the 1935-39 average, the average area planted to peanuts in the period of 1946-52 increased by about 43,000 ha. and the production also increased about 23,000 m/t with 1951 registered as the peak year in both area and production, being 85,000 ha. and 61,000 m/t respectively. This fluctuation of area and production of peanuts in past years was due principally to the changes of peanut prices.

The yield of peanuts in Taiwan is very low compared with that in Mainland China. The average yield of peanuts from 1931 to 1937 in Mainland China was about 1,800kg. of unhulled peanuts per ha. while that of Taiwan peanuts in the same period was only 935kg. per ha. This was, however, the period of very high yield for Taiwan peanuts. The average yield in the last 53 years is only 718kg. which is about 40 per cent of that in Mainland China. In some extensive farming regions of the world, such as the U. S. the yield of peanuts in 1952 was about 1,000 kg. per ha. which was still about 30 per cent higher than the yield of Taiwan peanuts in that year.

Furthermore, the yield of Taiwan peanuts varied greatly from year to year. The highest yield occurred in 1937 which average 1,008kg. on per ha. of cultivated land, while the lowest yield appeared in 1902 being only 425kg. per ha. Although the general trend of yield in the last 53 years was an upward

Chart 1. Area, Yield and Production of Peanut, 1900-1954

(Based on Table 3, Appendix C)

Production   Area
(MT)   (Ha)

90,000
60,000   80,000
50,000   70,000
            60,000
40,000   50,000
30,000   40,000
            30,000
20,000   20,000
10,000   10,000
0   0
            1900   1910   1920   1930   1940   1950   1954

Yield (Ha)

Yield
(kg)
1,000
800
600
400
200

Yield

Production
(Unhulled)

Area
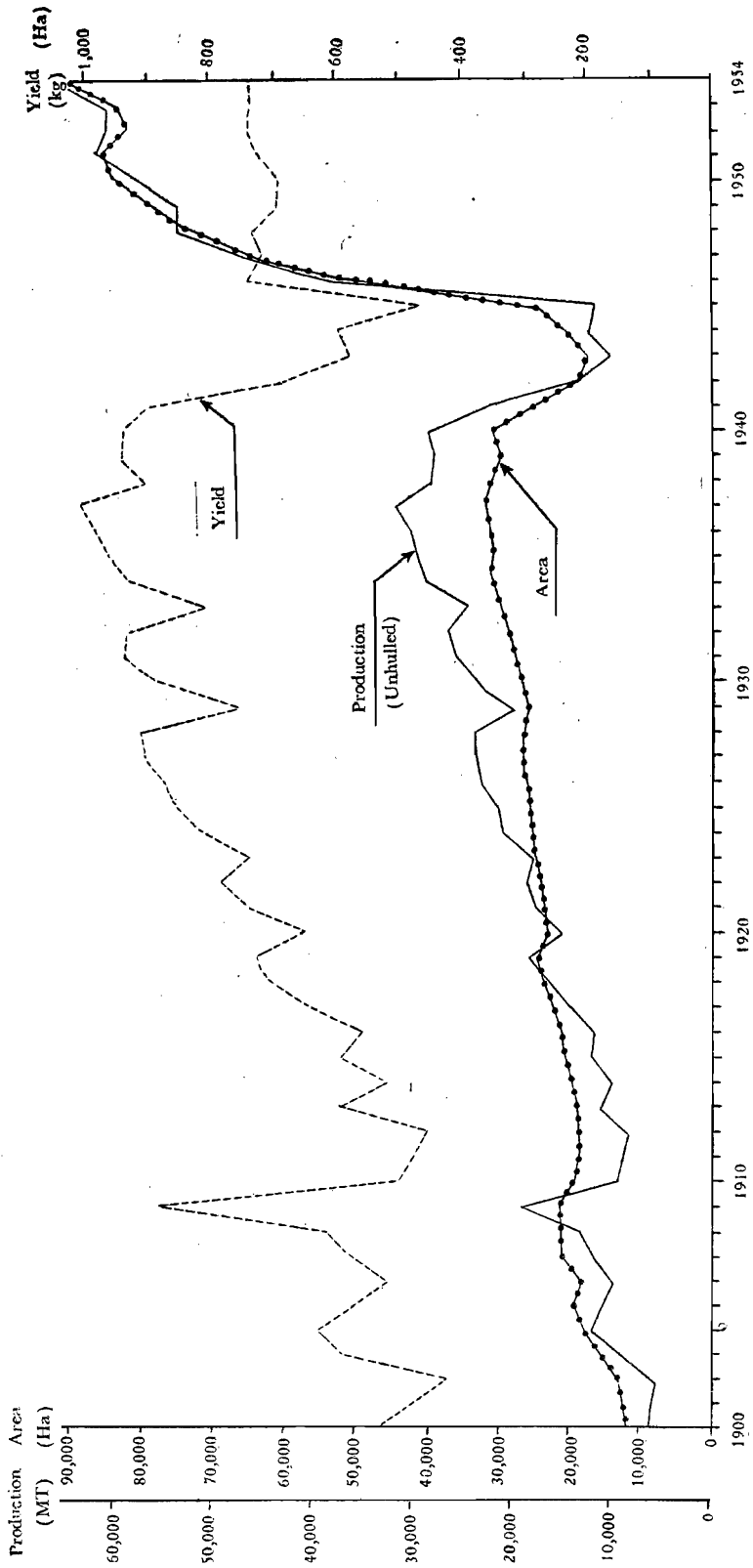
one, the increase was not steady. The very low yields in the years of the two world wars and the relatively low level of yields in post war period are explicit enough to show the variations of yield of peanuts in Taiwan. The change of weather conditions from year to year was the main factor responsible for the variations in yield while the lack of application of fertilizer was the principal factor attributed to the record of low yield.

The following chart shows the trends of production:

Tainan District

Although peanuts can be grown almost in every part of the island, production has been most heavily concentrated in the Tainan district. (comprising Tainan, Chiayi and Yunlin prefectures, and Tainan City). The trend of production in this district has been upward over the last twenty years. In 1932 area planted to peanut in this district was about 12,000 ha. or 42 per cent of the provincial total. Production in the same year was estimated at about 12,000 m/t, accounting for 45 per cent of the total. Twenty years later the area was expanded to 44,000 ha. and production increased to more than 30,000 m/t, representing 45 per cent and 50 per cent of the provincial totals respectively. Production reached a peak of 32,000 m/t in 1950, accounting for 55 per cent of the total. Taking 1935-39 average as the base, the area of peanuts in Tainan district had expanded more than 3 times from 1932 to 1952 while production increased only about 2 times.

Taichung District

Taichung district (comprising Taichung, Changhua, Nantou prefectures and Taichung city), producing roughly one-seventh of the peanuts of Taiwan, is of second importance. The trend of production for the last twenty years was somewhat the same as that in Tainan district except that production increased at a higher rate than the expansion of area. Taking 1935-39 average as a base, the area of peanuts in 1952 expanded about 2.7 times while propuction increased to more than 3 times. The higher yield per ha. of land in Taichung district than in Tainan district may be attributed to the more fertile soil in Taichung than in Tainan area.

The relative position of Taichung district in peanut production in the last

twenty years did not change very much. Area planted to peanuts in 1932 was 4,000 ha. which was 14 per cent of the total. By 1952 it expanded to 10,000 ha. accounting for only 12 per cent of the total. Production increased from 3,600 m/t in 1932 to 8,700 in 1952, representing about 14 per cent of the total in each of the two years. A peak production of 15,000 m/t was reached in 1948.

Hualien and Taitung Districts

Area and production of peanuts increased greatly in these districts both in absolute figures and in percentages to provincial totals in the last twenty years. In 1932 the area planted to peanuts in Hualien district was less than 1,300 ha. or 4.5 per cent of the total, but increased to 6,800 ha. or more than 8 per cent of the total in 1952. Production increased from 1,600 m/t or 6 per cent of the total in 1932 to 5,000 m/t or nearly 9 per cent of the total in 1952. A peak production of about 6,000 m/t, or more than 10 per cent of the total was reached in 1950.

Taking 1935-39 average as 100, the planted area of peanuts in Hualien district was 400 per cent in 1952, while production was a little over 250 per cent. The lagging of the index of production relative to the index of planted area reflected a lower yield on per unit of land and a greater potentiality of cultivated land available for peanut extension.

The expansion of peanut production in Taitung district has been most striking and impressive. In 1932 it had a planted area of only 371 ha. and produced 291 m/t of peanuts. Area and production were both only a little more than 1 per cent of the provincial totals. By 1952 the area was expanded to about 4,000 ha. or nearly 3 per cent of the total and production jumped to more than 3,000 m/t or 5 per cent of the total. Taking 1935-39 average as a base, both the area and production increased to more than 450 per cent in 1952. These figures prove that Taitung district on the average had relatively more land diverted to peanut extension than any other district over the last twenty years. They also indicate that there will be more land for continuous expansion of peanuts, should the farmers think that the price of peanuts is favorable.

Kaohsiung District

Peanut production in Kaohsiung district (comprising Kaohsiung and Pingtung prefectures and Kaohsiung city) has shown very little progress over the last twenty years. The index on area expanded was about 94 per cent while index of production increased only 75 per cent taking 1935-39 average as a base.

The relative position in both area and production to provincial totals had fallen considerably in the period reviewed, especially in recent years. In 1933, for instance, it had a production of 2,200 m/t, occupying more than 9 per cent of the total. By 1948 production dropped to less than 4 per cent of the total although the absolute figure of production stood about the same as that in 1933. Area also showed a decreasing trend relative to the provincial total.

Many factors are attributable to the very slow progress of peanut production in this district, but the expansion of irrigated area driving peanuts out of competition with rice is probably the most important one.

Taipei and Hsinchu District

The northern part of Taiwan (comprising Taipei Pref. Taipei City, Hsinchu Pref. and Miaoli Pref.) is not as favorable for peanut production as the central and southern regions. In addition, the rapid development of irrigation facilities, resulting from the expansion of irrigated paddy fields in recent years, has made the area and production of peanuts in these districts gradually decrease in relation to provincial totals, particularly in and immediately after the war years in the Taipei district.

In 1935 the Taipei district had a peanut area of 1,500 ha. and a production of about 2,000 m/t, accounting for 5 and 7 per cent respectively to the provincial totals. These percentages fell gradually to 2 per cent for area and less than 7 per cent for production in 1946. There has been little gain in recent years. In 1952, it produced about 3,600 m/t or 6 per cent of Taiwan's peanut output. However, in view of the limited area available for various upland crops, it can hardly be expected that peanuts will be expanded to a much greater extent than the present level in the near future.

In the Hsinchu district, the trend of peanut production is even worse than

that of Taipei district. Area and production in 1952 increased only 35 per cent above the 1935-39 average. There was a considerable reduction in the years of 1938-46. Since then a revival has been underway but its relative position to provincial totals is still of minor importance.

Penghu District

Peanut production showed a decreasing trend in both absolute figures and in relative position to provincial totals in the last twenty years. In 1932, area and production of peanuts in this district were about 4,000 ha. and 3,000 m/t, accounting for 14 per cent and 12 per cent of the provincial totals respectively. In 1952 area dropped to 3,000 ha. or less than 4 per cent of the total while production was reduced to only a little over 2,000 m/t or less than 3 per cent of the total. Natural factors in Penghu district are as a whole suitable for peanut production, especially the soil. However, the expansion of upland rice area in recent years has effected a reduction of peanut production (Appendix C, Tables 4a and 4b).

Post-war Production by Prefectures

In 1950, the Provincial Government readjusted the administrative area of the province from 9 prefectures, 8 cities and 1 administration into 16 prefectures, 5 cities and 1 administration. Post war production of peanuts in the latest four years is presented in appendix C, Table 5.

From 1950 to 1953, the planted area of peanut was maintained at well over 80,000 ha. with the 1951 area of 85,000 ha. registered as the largest. Annual production of unhulled peanuts in this period was in the neighborhood of 60,000 m/t and the yield was about 700 kg. per ha.

Production is heavily concentrated on the south central area of the province, particularly in Yunlin prefecture. In 1953, for instance, Yunlin, Changhua, Chiayi and Tainan contributed more than 62 per cent of the total area planted to peanuts and nearly 60 per cent of total production. Yunlin alone occupied about 30 per cent in both area planted and quantity of production.

The yield of well over 1,100 kg. in Yilan Hsien in all these four years was the highest of all areas. The yield of the Yunlin area, the center of peanut production, was only a little above the provincial average which was 728 kg. in

1953 (Appendix C, Table 5).

B. Physical Factors Affecting Peanut Production

1. Soil and Topography

Soil is one of the most important natural factors affecting peanut production. Although peanuts can be grown in nearly all parts of Taiwan, the range of suitability of different soils for peanuts is very wide. On some soils good yields of peanuts can be obtained without difficulty, while on others yields remain low despite the use of more capital and labor.

The best type of soil for peanut production is a well-drained sandy loam type of soil or similar-textured surface layer soil containing friable sandy clay loam or sandy clay subsoil elements. A considerable area of cultivated land in Taiwan contains this type of soil, particularly in Hsinchu and Miaoli prefectures, the west coastal part of central area and a great portion of Tainan district.

A total of 360 cases on types of soil for peanut production were reported by the 219 sample farms investigated. Of the total, 176 cases or almost 50 per cent were on land of sandy loam soils. Of these 176 cases, 84 occurred in 3-year rotation area, 57 in dry land area, and the remaining 35 on double and single cropping paddy and miscellaneous lands. In other words, over 80 per cent of peanuts were planted on sandy loam soil in the 3-year rotation area or upland.

Sandy soils are also good for peanut production. Soils in this group are very similar to those of sandy loam except that the former have lighter texture of surface and quicker internal drainage and gravel. Areas with sandy soils in Taiwan are concentrated largely in Yunlin prefecture, especially along the west coast.

About one-third of the total cases reported for peanut production were on land having sandy soils. Practically all of the peanuts planted on sandy soils were in upland and 3-year rotation lands. Out of 119 cases reported for peanuts growing on sandy soils only 5 cases were on lands other than upland and 3 year rotation lands.

Other types of soil, such as loam, clay loam, loamy clay and others are of very minor importance from the standpoint of peanut production. Out of a

total of 360 cases of peanut growing only 65 cases were reported to have planted peanuts on these types of soil.

Topography favorable for tillage operations is also an important natural factor affecting peanut production. It was found out from spot checks made in the field that practically all peanuts were planted on level land, while only a very small portion were grown on slopping land, hilly land and terrace. Out of 356 cases reported on topography for peanut production 339 cases were on level land including 126 cases on upland and 3-year rotation land. The remaining 77 cases were in double cropping, single cropping and other fields. The following table gives the topography and soil planted to peanuts by sample farmers.

Table 1. Topography and Soil Planted to Peanuts by Sample Farmers, 1953

Type of Land	Topography					Type of Soil						
	Level Land	Slope Land	Hilly Land	Terrace Land	Total	Sand	Sand Loam	Loam	Clay Loam	Loamy Clay	Others	Total
Total	339	10	6	1	356	119	176	25	15	20	5	360
Double Cropping Field	47	—	—	—	47	2	20	17	5	3	—	47
3-year Rotation Area	136	1	—	—	137	43	84	4	2	6	—	139
Single Crop- ping Field {1st Crop	5	—	—	—	5	1	3	—	—	1	—	5
{2nd Crop	18	—	—	—	18	2	10	1	3	2	—	18
Upland	126	2	2	1	133	71	57	3	1	1	2	135
Others	5	7	4	—	16	—	2	—	4	7	3	16

Remarks: Figures represent number of cases reported.

2. Temperature, Rainfall and Sunshine

Generally speaking, peanuts need a growing season of four and a half to five months without frost. They can be adaptable to a rather wide range of climate, but require an optimum temperature from 25°C to 27°C for perfect growth. The temperature in Taiwan is quite suitable for the growing of this

MAP SHOWING THE TEXTURE OF SOILS
IN TAIWAN (SURFACE SOIL)

SANDY SOIL

SANDY LOAM

LOAM & SILTY LOAM

CLAY LOAM &
SILTY CLAY LOAM

LOAMY CLAY
AND CLAY

KEELUNG

TAOYUAN

TAIPEI

HSINCHU

ILAN

MIAOLI

TAICHUNG

CHANGHUA

HUALIEN

NANTOU

YUNLIN

CHIAYI

TAINAN

KAOHSIUNG

PINGTUNG

TAITUNG

SOURCE : REPORT OF SOIL
FERTILITY SURVEY
TAIWAN FERTILIZER
CORP., 1951
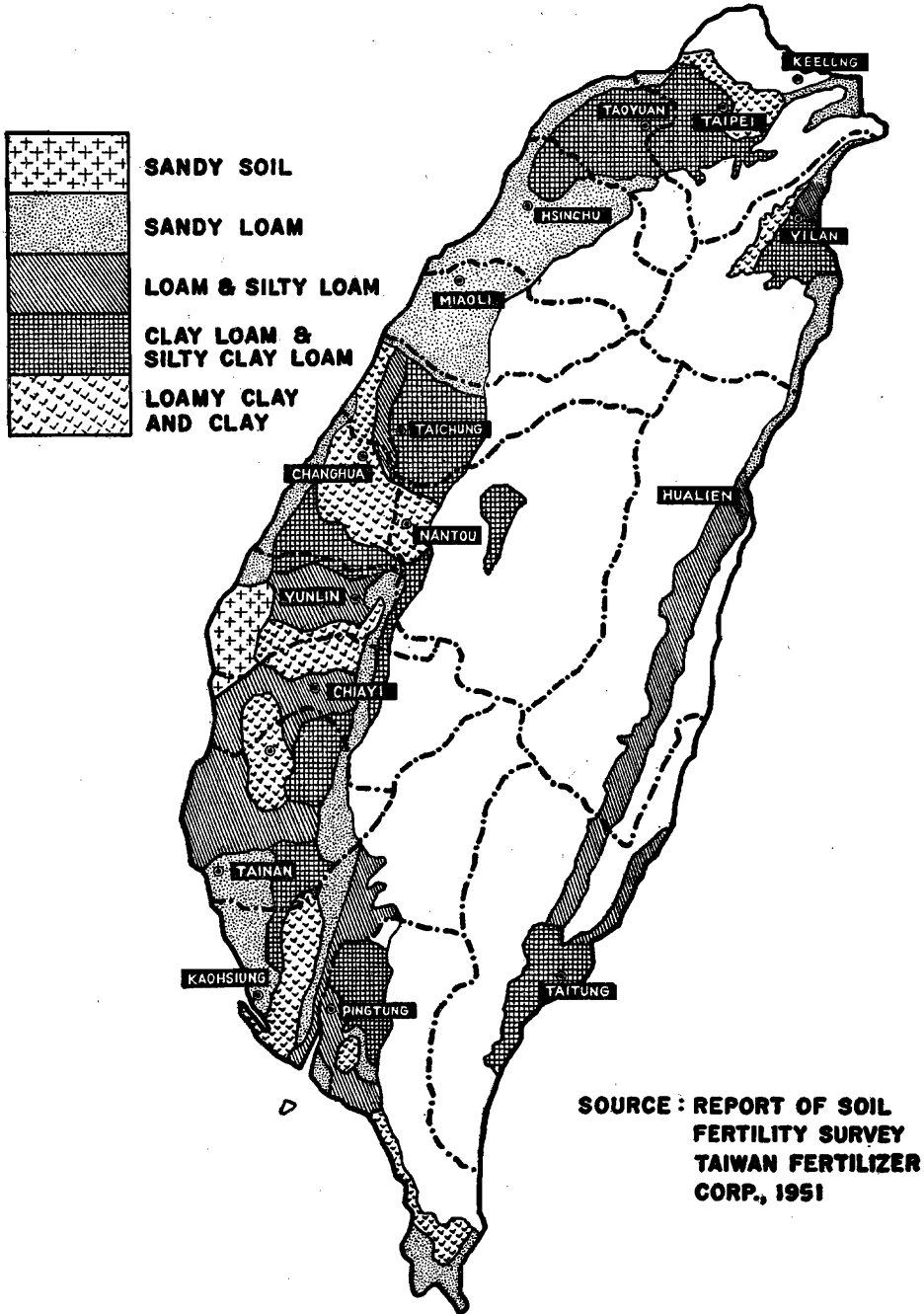
crop, particularly in the southern part of the island. In Kaohsiung and Pingtung prefectures, the average temperature from January to September is about 26°C which is just the ideal temperature for the growth of spring peanut crop. The average temperature in many other districts in the same period is also good for peanuts production. In no prefecture the average temperature in the same period is under 22°C or over 26°C. In other words the average spring and summer temperature in Taiwan as a whole is quite suitable for spring planted peanuts.

The average temperature in autumn and winter is also very close to the optimum temperature required for peanuts planted in autumn. The average July to February temperature in Taichung, Chiayi, Taipei and Hsinchu, for instances, is 24°C or only 1° less than the normally required temperature. The lowest average autumn and winter temperature in all of these prefectures is no less than 22°C and the highest is 26°C. (Appendix C, Table 6)

In the field spot checks made for this study, out of 219 sample farmers interviewed on temperature affecting peanut production 179 cases or 82 per cent reported suitable, 23 cases reported too hot, 9 cases reported warm and the rest said either cool or cold.

Among the five prefectures investigated Yunlin reported the highest percentage of temperature suitable for peanuts production. Out of a total of 108 sample farms, 100 or 93 per cent reported temperature suitable for peanut production. Chiayi reported the smallest proportion of temperature suitable for peanut growth, being 14 of 29 cases reported. (Appendix C, Table 7)

Rainfall and its distribution is a very important factor for peanut production in Taiwan, because excessive or a maldistribution of rainfall will not only greatly affect the quantity of yield but also the quality of yield. On the other hand, too scanty of it will produce the same effect. Only proper amount and well distributed rainfall can contribute to good yield.

Peanut requires a normal precipitation of 500mm in growing period. A relatively lesser amount of rainfall or a drier period is needed in pre-harvesting and harvesting seasons. Generally speaking, from May to September the southern part of the island has more rain than the northern part. The situation is just reversed in the period from October to April. Taichung, Changhua, Yunlin

and Chiayi areas have either optimum or close to optimum rainfall for peanuts planted in January or the spring crop, while Taipei, Hsinchu, Miaoli, Taichung, Yunlin, Chiayi and Pingtung are areas either with optimum or close to optimum rainfall for autumn peanut crops. Taking the province as a whole, Yunlin, Chiayi and Changhua areas are having not only the proper amount of rainfall but also the best distribution for peanut production among all areas.(Appendix C, Table 8).

Peanut is a crop which needs a great deal of sunshine especially during harvesting seasons. The most needed periods for sunshine in peanut production in Taiwan vary not only in growing seasons but also in districts. For spring crops the most needed period for sunshine in northern area is from February to August, for south-central and eastern areas from January to August and for southern area from January to October. For autumn crops sunshine is badly needed in July to January for northern and eastern areas, in July to February for south-central area and in July to March for southern area.

Available data show that Tainan has the largest average number of sunny days both for spring peanut crop (Jan.-Aug.) and for autumn crop (July-Feb.) being 212 and 216 days respectively. Next comes Taichung district being 196 and 215 days respectively for spring and autumn crops. Taipei and Hualien districts accounted for the smallest number of sunny days for both crops. (Appendix C, Table 9)

The result of the field investigation shows that 159 farmers of 219 interviewed reported sunshine suitable for peanut production. Twenty five farmers reported far from being enough, 20 reported not quite enough and only 15 claimed too much or a little too much. Tainan reported the largest percentage of sunny days among the five prefectures investigated, being 97 percent. Chiayi accounted for the lowest percentage of suitable sunshine for peanuts, being less than 45 per cent. (Appendix C, Table 7).

3. Rotation System

Rotation of peanuts with other crops is necessary because peanuts cannot be planted on the same land year after year even where land is very suitable. The crops to be rotated with peanuts will vary with the type of land used for production, local traditional farm practices and conditions of the individual farm.

Due to the year-round growing period, Taiwan has very complicated crop rotation systems. For easy comparision we have classified them with peanut as a rotating crop of sample farms, according to the type of land used and period of rotation. In the 219 sample farms a total of 467 rotation systems were reported. Over one half of these systems were on upland and the rest on 3-year rotation land and single cropping land.

On upland the most commonly practiced system of rotation in one year was as follows: peanuts (or vegetable, green manure)-sweet potato. Sesame, (or upland rice, corn)-peanuts (or sweet potato) system was also of considerable importance. The usually practiced rotation system in 2 years was a combination of peanuts rotating with sugarcane.

As on upland, peanut on 3-year rotation land was also an important crop. The most popular system of rotation practiced in three years was: peanuts (or green manure, sesame, jute, other peas)-rice-peanuts (or sweet potato, upland rice, other peas, jute)-sugarcane system. Out of 217 cases reported on 3-year rotation land, 80 or more than 36 per cent practiced this system. Another system represented by combinations of peanuts (or green manure, upland rice, other peas, sweet potato)-rice-upland rice (or sweet potato, other peas)-peanuts (or upland rice, sweet potato, other peas)-peanuts (or sweet potato) was also widely practiced. Many farmers also practiced the following system; peanuts (or sweet potato, green manure)-rice-peanuts (or sweet potato, other peas)-peanuts (or upland rice, green manure, jute, sweet potato, cotton)-suggarcane. Other rotation systems were relatively of less importance. (Appendix C, Table 10)

4. Planting and Harvesting

Planting of peanuts at proper time is an important factor for boosting the yields. Planting too early results in poor stands; many of the nuts rot before the soil gets warm enough for them to germinate. Early plantings, too, usually need more hoeing and cultivation than later plantings.

Peanut crops in Taiwan are divided roughly into spring planted crop and autumn planted crop. Planting season for spring crop starts from the middle of December and lasts as late as the middle of May, varying in different parts of the island. Autumn crop generally begins in June and lasts as late as Novem-

ber. Thus, peanut planting in Taiwan lasts almost for the whole year. (Appendix C, Chart 1 : Periods of Planting and Harvesting of Peanuts in Taiwan).

According to the experiments made by the Tainan Agricultural Experiment Station from 1926-29, peanuts planted in March and April produced the highest yields and those planted in June and July gave the lowest yields. Planting in september also gave good yields. Peanuts planted in all other months resulted in low yields. September is the best period for peanut growing but the yield is generally not as good as peanuts planted in March and April, owing to the low temperature in the later part of the year. 1

Peanuts may be planted in shells or in kernels. Just which way of planting gives the higher yields depends on the varieities of seeds used. For the Taiwan No. 3 small kernel variety, for instance, planting in kernels usually gives higher yields than planting in shells. For the small kernel of Java type the situation is just reversed. In practice, in northern areas peanuts are usually planted in the shells, while in southern areas planting in kernels is prevalent. The tendency is, however, that shelled seeds are used in practically all of the plantings in recent years.

Generally, peanuts are mature and ready for harvest when the leaves begin to turn yellow, the kernels are fully grown, and the inside of the pods begins to show yellow color and darkened veins. Best grades are obtained by prompt harvesting, as soon as the veins are mature. The limb crop seldom matures, and delay in harvesting will affect both the yield and grade.

Peanuts in Taiwan usually take 4-5 months to mature. Small nuts generally mature in 4-5 months while large ones may take 6-7 months. In Kaohsiung and Taitung areas, spring planted crops are harvested as early as late April and last as late as October. Bulk harvest usually takes place in July. For au tumn planted crops, harvest begins in October and lasts to the end of March of the following year. Major harvest takes place generally in November and December. (Appendix C, Chart 1 : Periods of Planting and Harvesting of Peanuts in Taiwan).

Digging by hands assisted with a hand blade is the method generally used for peanut harvesting in Taiwan. The steps of harvesting are somewhat as

1 / Report on Peanuts Planting Periods, Taiwan Agricultural Experiment Station, 1929.

follows: matured peanut plants are first pulled out from the soil and the earth shaken off from the peanuts. Then all nuts attached to plants are picked by hand and put in a basket carried along by the picker. After a basket has been filled it will be dumped into a sack or a big bamboo container on a cart hauling the peanuts to home for drying. Pickers usually dig the place where the peanut plants are pulled out to see whether there is any nut left in the ground.

5. Application of Fertilizer

The application of fertilizer affects greatly the quantity of yield for most crops. Good yield requires not only proper amount and type of fertilizer but also suitable time of application. On fertile soils, commercial fertilizer usually does not increase the yield of peanuts. But fertilization is generally profitable on soils of medium to low fertility, unless peanuts follow some other crop which has been well fertilized. If winter legumes are fertilized with superphosphate and then plowed under, no additional fertilizer will be needed by peanuts on most soils.

In general, especially in more humid areas, one of the best ways of fertilizing peanuts is to put enough fertilizer the preceeding crop so that some will be left in the soil for use by peanut plants.

6. Natural Hazards

Disease, insect pest, strong wind and damage made by birds are the chief natural hazards peanuts in Taiwan.

The notable disease to peanuts is leaf spot or cercospora personata. The black spots on peanut leaves caused by the cercospora organism are common not only in Taiwan but all over the world. This disease is usually very serious and may injure the plant if there is wet weather during the latter part of the growing season. Control must start before the spots appear on the leaves, by using mesh dusting sulfur.

Another disease is blight or corticium aakii met, et yam. It rots the stems on which the peanuts are borne. As a result, many of the nuts are left in the ground at harvest time. This disease also attacks the large roots and sometimes kills the plants. No satisfactory control is known. Losses can be reduced by

rotating peanuts with crops immune from this disease, such as cotton, corn and small grains. Losses can also be held down by prompt harvesting, as soon as the nuts are mature.

Damage by disease on Taiwan peanuts seems to be not very serious. Of the 219 farmers investigated 193 reported no damage from disease 24 reported light damage and only 2 reported heavy damage.

The most common insects damaging peanuts are crickets, armyworms, stink-bugs and leaf hoppers. Crickets eat the peanut plants when they are very young. The methods used to control crickets are to dig the worms from the soil or pour water into the ground where the insects hide. Army-worms usually attack the foilage of peanut plants. They may appear any time during the growing season, but more generally in late summer and early fall. Excellent control of this pest is made by a dust containing 5 per cent DDT and 75 per cent sulfur. Stink bugs suck the nutrition elements of peanut plants from both stems and leaves. This insect can be controlled by applying DDT dust. Leaf-hopper bites the tender part of the peanut leaves. It can also be controlled by using DDT dust.

Pests in Taiwan appear to be not a very serious factor affecting peanut production. Of the 219 farmer investigated 111 reported no damage from pest, 71 claimed light damage and 37 said heavy damage.

Typhoon or strong wind is a notorious enemy to Taiwan agriculture. However, the wind breaks built throughout the island have reduced wind damage on crops to a relatively low point. Among the 219 farmers visited by investigators 192 reported no wind damage to peanuts, 28 reported light damage and only 9 reported heavy damage.

Peanuts also suffer damage from birds, but the damage is not heavy. Of 219 farmers investigated 167 reported no damage from birds, 41 reported light damage and 11 reported heavy damage (Appendix C, Table 11).

C. Economic Factors Affecting Peanut Production

1. Prices of Peanuts

Since peanut is a cash crop, the price of peanuts received by farmers is undoubtedly of paramount importance in peanut production. Due to the

Chart 2. Indices of Average Monthly Farm Price of Peanuts (Unhulled), July 1949-July 1954.
July 1949-June, 1950=100 (Based on Appendix Table 12, C)

$Y = 3.32 X + 169.87$
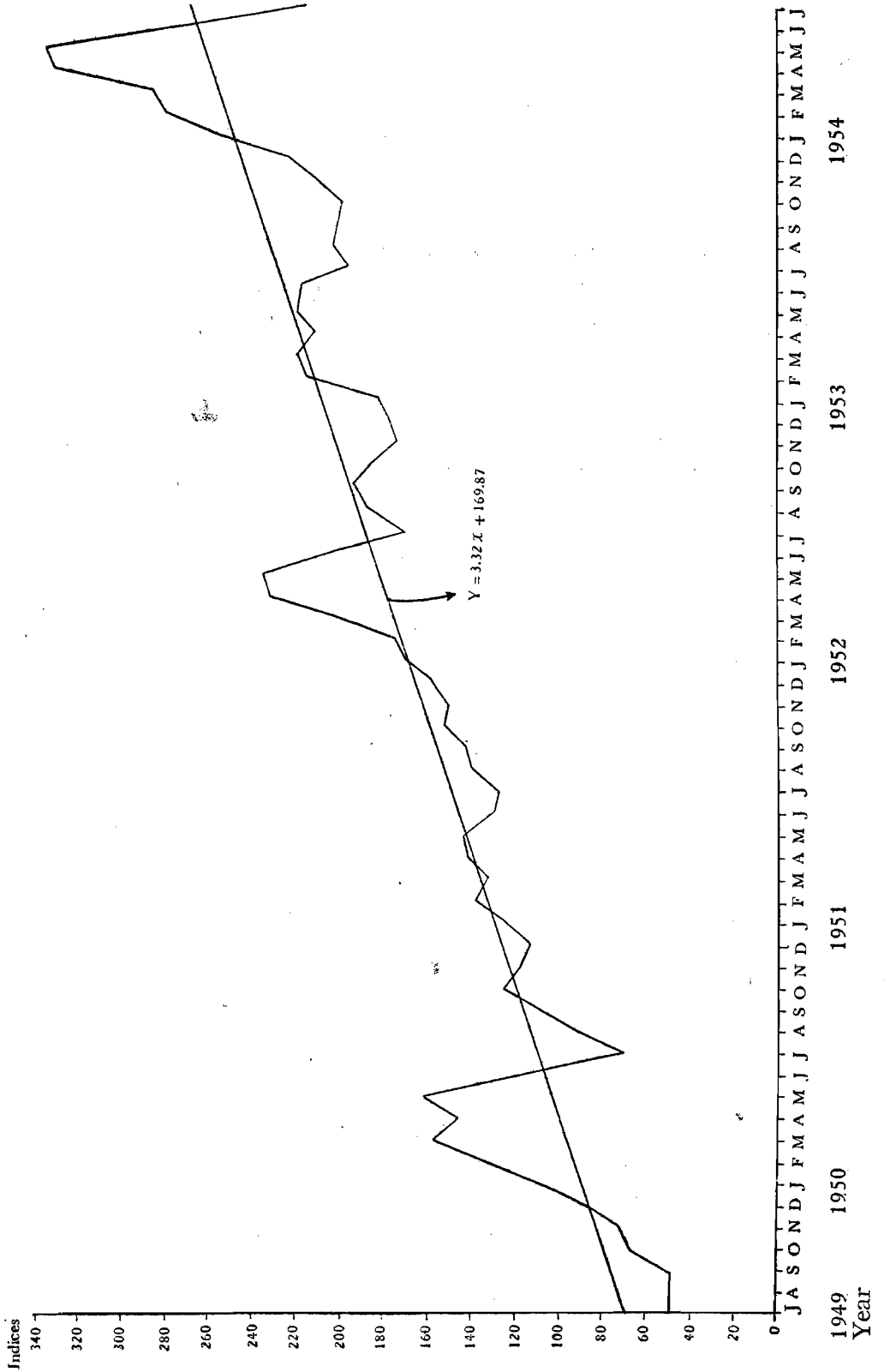
shortage of supply of edible oil in Taiwan, farm price of peanuts has increased continuously in postwar years, particularly in the last several years. For instance, the average farm price per 100 catties of unhulled peanuts was NT$102 in 1950 but increased to NT$221 in 1954, showing an increase of more than 100 per cent. According to the opinion of farmers, the expansion of planted area in postwar years was due largely to the increase in price. The following chart shows the upward trend of farm price of unhulled peanuts in postwar years. (Appendix C. Table 12)

2. Yield and Gross Return of Peanuts and Competing Crops:

(1) Average yield and gross returns of all farms.

The contrast of yields and gross returns between peanut and competing crops is another important factor affecting farmers' choice in crop production. We have computed the per chia yield and gross returns of peanuts and competing crops grown by sample farmers. The results are as follows:

Excluding cucumber and watermelon, which are not comparable with ordinary field crops, sweet potato showed the highest yield of main products harvested on 1 chia of land among all competing crops, being around 20,000 catties. Upland rice yield of about 2,500 catties ranked the 2nd. Peanuts accounted for about 2,000 catties or roughly 10 per cent of that of sweet potato. Sesame had the lowest yield, being only about 500 catties. The yields of all other crops varied from 1,000 to 1,700 catties.

The gross returns of all competing crops varied from as high as NT$7,000 as in the case of cotton to as low as less than NT$1,000 as in the case of sesame. In most cases the gross returns fell within the range between NT$2,000 to NT$4,000 except cotton, watermelon and cucumber. Peanuts, sweet potato, upland rice and jute received almost equal amounts of gross returns on per chia of land, being around NT$3,500. Chart 3 shows the gross returns of all competing crops.

(2) Yield and gross returns in individual prefectures.

Yunlin Prefecture

Crops competing with peanuts in Yunlin prefecture were sweet potato, soybean, peas, corn and jute. But Peanuts had the highest yield compared with all

competing crops except spring sweet potato which yielded over 20,000 catties or about ten times that of peanuts. Corn had about the same yield as that of peanuts. Yields of all other crops were relatively low.

Peanuts had the highest per chia returns among all crops, being NT$3,700. Although the returns of spring planted sweet potato were about as high as peanuts, the returns of the autumn crop were much lower, particularly in 3-year rotation areas. Returns of all other crops were only one-third to two-thirds of peanuts. This is one of the reasons why peanut production in Taiwan has been so heavily concentrated in this district. (Appendix C, Table 13b)

Changhua Prefecture

Watermelon had the highest yield among all competing crops in Changhua prefecture, being close to 23,000 catties. Peanuts yielded about 1,800 catties or a little over one-tenth of that of sweet potato.

Except watermelon, soybean averaged the highest gross returns among all competing crops including peanuts, sweet potato, corn and sesame, being NT$ 3,200. The per chia returns of peanuts were a little less than those of soybean but fell considerably lower compared with the average returns for all farms in all prefectures. (Appendix C, Table 13c)

Chiayi Prefecture

Four crops including sweet potato, upland rice, jute and cotton competed with peanuts in Chiayi prefecture. The yield of spring peanuts was very high compared with similar crops in other districts, ranging from 2,200 to 2,500 catties per chia. For autumn peanuts, however, the yield was exceedingly low, being less than 1,700 catties. Upland rice yielded about the same quantity as that of peanuts. Yields of jute and cotton were relatively low.

Cotton again had the highest returns among all competing crops. Gross returns of sweet potato ranged from NT$3,500 to NT$4,500, varying with the kind of land planted. Spring peanuts planted on upland yielded the highest returns of over NT$4,400, while autumn crop planted in 3-year rotation areas produced only NT$3,000. Upland rice had about the same amount of returns, like spring peanuts planted in 3-year rotation areas. (Appendix C, Table 13d).

Chart 3. Average Gross Return of Peanuts and Competing Crops Produced by
Sample Farms on 1 Chia of Land, 1953 (Average of 219 Samples)
NT$ Per Chia (Based on Table 13a, Appendix C)
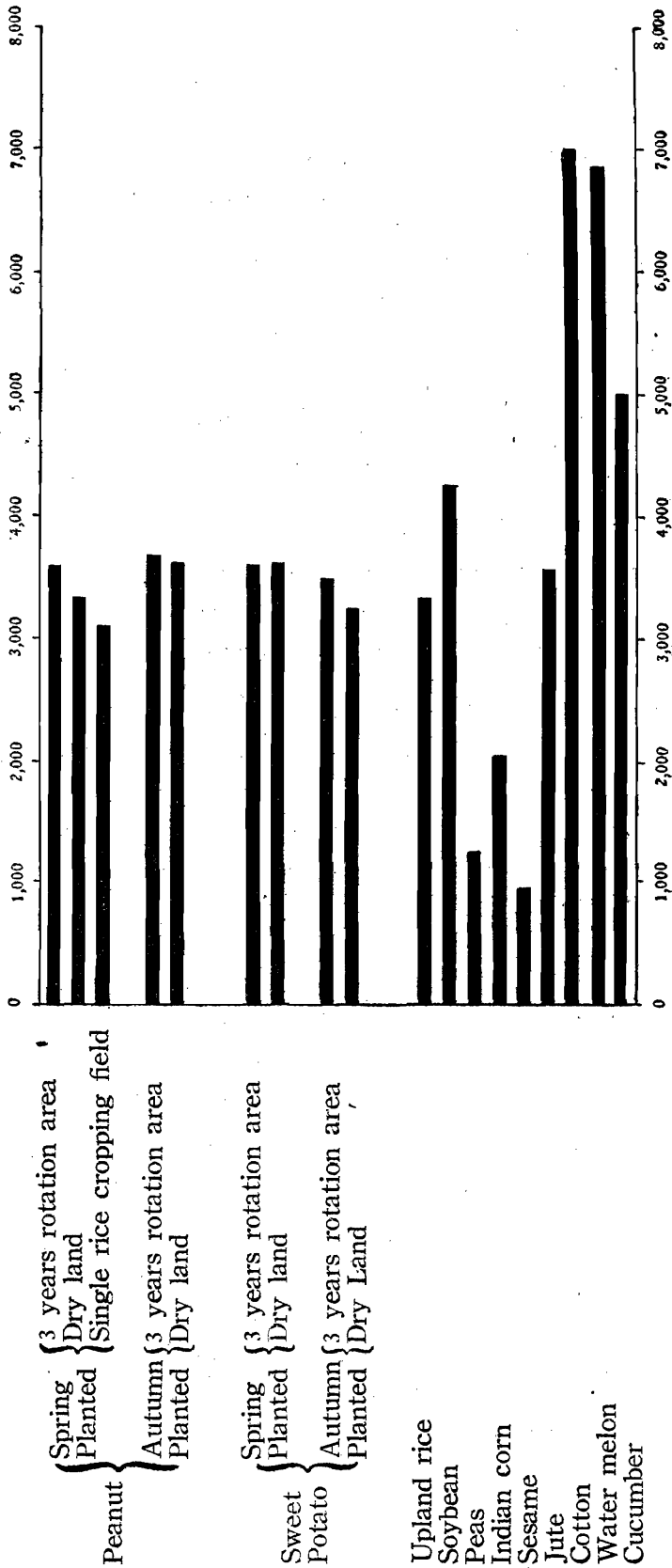
Chart 4. Comparison of Per Chia Costs and Net Returns of Peanuts and Competing Crops.

(Average of 219 Sample Farms, 1953)

(Based on table 15a, Appendix C)
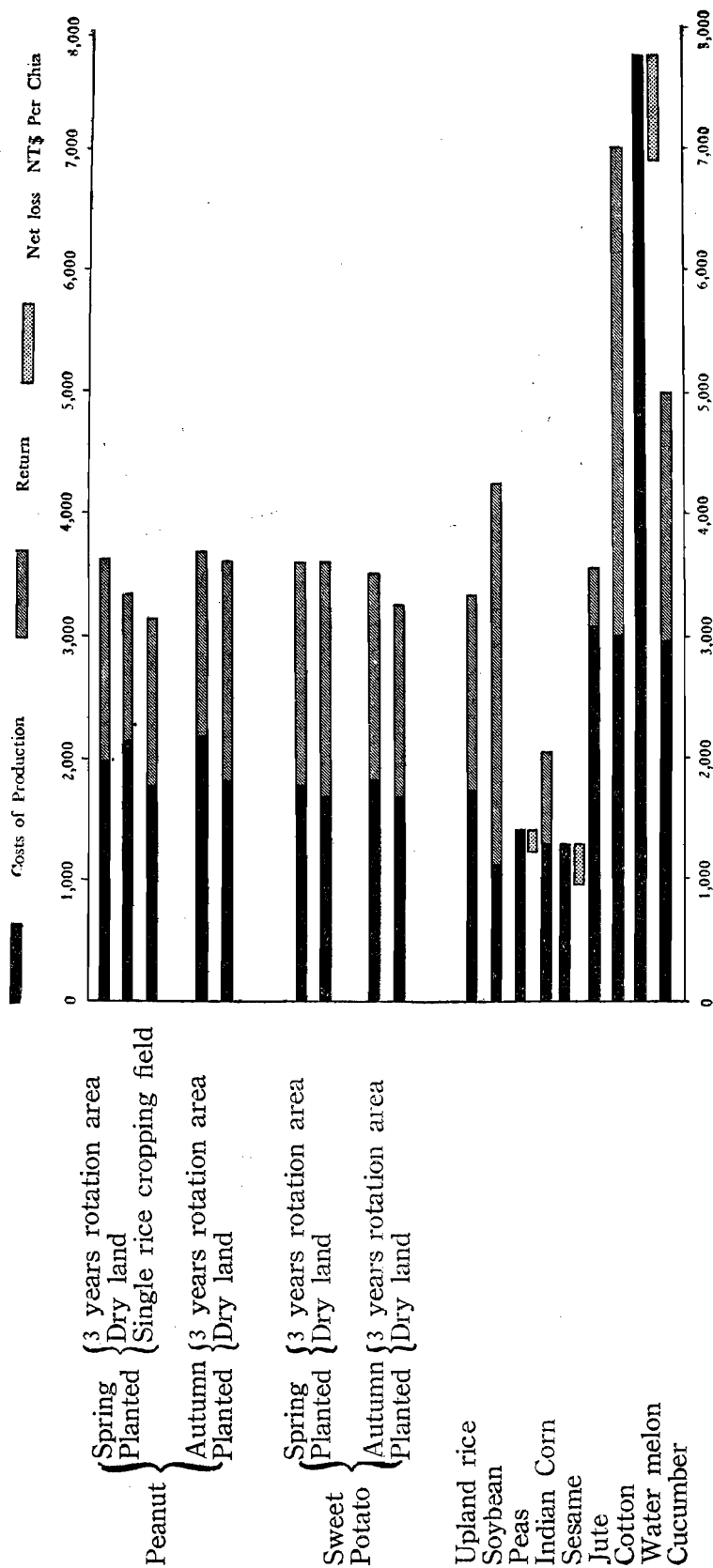
Tainan Prefecture

Only four crops competed actively with peanuts in Tainan prefecture, namely sweet potato, upland rice, sesame and cucumber. Next to cucumber, sweet potato averaged the highest yield among all crops, amounting to over 30,000 catties. Yield of peanuts ranged from 2,100 to 2,400 catties varying in season planted and kind of land used. Upland rice had a yield of over 2,400 catties.

Sweet potato had the highest amount of per chia returns among all competing crops, being over NT$5,000. The returns of Cucumber were next. Autumn peanuts planted on upland yielded the highest returns among all peanuts crops, being more than NT$4,400. Upland rice and autumn peanuts planted in 3-year rotation areas yielded about the same per chia value of over NT$3,500. (Appendix C, Table 13e).

Hualien Prefecture

Peanuts competed with sweet potato, upland rice, soybean and corn in Hualien prefecture. Yields of all these crops were relatively low compared with the same crops in most of the other districts. The yield of spring peanuts planted on upland was 1,700 catties, which was about 200 catties less than the average of the same crop for all districts, or 300 catties less than the yield of the same crop in Yunlin district.

Soybean reaped returns of more than NT$4,600 per chia. The returns of sweet potato of about NT$3,000 were the same as those of spring peanuts. (Appendix C, Table 13f).

3. Net Returns of Peanuts and Competing Crops

(1) Average net returns of all farms

Net returns per chia represent the amount left after total per chia costs of production have been subtracted from the gross value of production. This is an important economic factor affecting farmers' choice of crops. In the subsequent section we shall compare briefly the net returns received from peanuts and competing crops grown by sample farms.

There are many field crops competing with peanuts in Taiwan. At least

10 crops including sweet potato, upland rice, soybean, peas, corn, sesame, jute, cotton, watermelon and cucumber were found competing with peanuts for cultivated land in the five prefectures investigated. Sugarcane is also a competitor of peanuts, but owing to its long growing period and non-comparable nature with ordinary field crops, we have, eliminated it from our comparison.

Watermelon stood on the top in total costs per chia among the 11 crops competing for cultivated land. The cost of this crop ran as high as NT$7,700. Soybean averaged the lowest total per chia cost, being only NT$1,100 or one-seventh of that of watermelon. Per chia cost for peanuts ranged from NT$1,800 to NT$2,200 while that for sweet potato, the most prevalent competor of peanuts, averaged from NT$1,700 to NT$1,800, or about NT$100 to NT$400 less than that of peanuts. (Appendix C, Table 14a-14f).

Comparing average net returns per chia, peanut was not as profitable as several other competing crops in the five prefectures investigated. Cotton which received net returns of about NT$4,000 per chia, was the most profitable crop among all competing crops. Soybean accounted for over NT$3,000 per chia, and hence the second most profitable crop. Cucumber also received high net returns, being over NT$2,000 per chia. Returns for sweet potato ranged from NN$1,600 to NT$2,000 per chia varying with the type of land used and the season planted. Returns for peanuts varied from crops planted in different seasons and different fields. Autumn crop planted on dry land had the highest net returns while spring crop planted on dry land the lowest, being NT$1,800 and NT$1,200 respectively. Upland rice was also in a good competitive position, its returns being over NT$1,600 per chia. Returns for all other crops including corn, jute, watermelon and sesame were very low. The details are shown in Chart 4. (Appendix C, Table 15a).

(2) Net Returns of Peanuts and Competing Crops in Individual Prefectures

Due to the differences of natural conditions and farming practices, there are usually only 4 to 5 crops in each prefecture that compete actively with peanuts. In order to show the relative profitableness of each crop in each particular region more precisely we shall proceed our comparisons by prefec-

tures in the following paragraphs.

Yunlin Prefecture

Of the five competitive crops in Yunlin prefecture only sweet potato was more profitable in per chia net returns than peanuts while the other four including soybean, corn, pea and jute were all in unfavorable positions.

Comparing the per chia net returns between spring peanuts and sweet potato, peanut was in a less profitable position than sweet potato in both 3-year rotation areas and dry land areas. The per chia returns of peanuts were about NT$1,600 while those of sweet potato NT$1,800—NT$2,000.

The situation is reversed when a comparison is made between autumn planted peanuts and sweet potato. Peanut was in a much more favorable position than sweet potato, particularly in dry land areas. The net per chia returns of peanuts ranged between NT$1,600 and NT$2,000, while those of sweet potato ranged only from NT$1,200 to NT$1,300. (Appendix C, Table 15b).

Tainan Prefecture

Sweet potato, upland rice, sesame and cucumber were the competing crops of peanuts in Tainan prefecture. As in Yunlin prefecture, sweet potato again stood as the strongest competitor of all crops. Cucumber came next and sesame was the weakest.

Autumn planted sweet potato on dry land yielded about NT$3,000 of net returns per chia, while peanuts NT$2,600. Spring planted peanuts produced only NT$1,500 of per chia returns, or half the amout of autumn planted sweet potato. Net returns for cucumber were high, amounting to about NT$2,000 per chia, but this vegetable occupied relatively very small area of cultivated land. Upland rice was nearly as profitable as spring planted peanuts. (Appendix C, Table 15c).

Chiayi Prefecture

Generally speaking, four major crops including sweet potato, upland rice, jute and cotton competed with peanuts for cultivated land in Chiayi prefecture. The per chia net returns of cotton were very high, being nearly NT$4,000. Spring planted peanuts on dry land and spring and autumn planted

sweet potato in 3-year rotation areas received about the same amount of per chia returns of NT$2,300. Upland rice and autumn planted sweet potato on dry land yielded about NT$2,000 of returns per chia. For all other crops the net returns ranged from NT$1,100 to NT$1,600. Hence cotton, sweet potato and upland rice competed strongly with peanuts in Chiayi prefecture. (Appendix C, Table 15d).

Changhua Prefecture

Soybean, sweet potato, corn, sesame and watermelon were the competing crops of peanuts in Changhua prefecture. Soybean received the largest per chia net returns of NT$2,400 among all competing crops. Autumn planted sweet potato was the next most profitable crop, receiving half as much as the net returns of soybean. Indian corn yileded over NT$900, while spring planted peanuts got about NT$750. Sesame and watermelon had shown negative net returns. (Appendix C, Table 15e).

Hualien Prefecture

Sweet potato, upland rice, soybean and corn competed with peanuts in Hualien prefecture. Among these crops soybean was by far the most profitable crop, receiving nearly NT$3,500 of net returns on per chia of cultivated land. About NT$2,000 of net returns per chia were gathered from both spring and autumn sweet potato, while the total returns of spring planted peanuts ranged from NT$1,100 to NT$1,300. Returns for autumn planted peanuts were very low, being only about NT$350. Upland rice yielded about NT$1,300 of returns per chia. (Appendix C, Table 15f).

4. Returns to Family Labor and Other Farm Supplied Factors

(1) Average Returns of All Farms

Returns to family labor and other farm supplied factors are obtained by deducting cash expenses from gross returns or value of production. They represent the accrued value of farm family labor and other home provided factors for production. A comparison of returns accrued to these factors for the production of various crops is more indicative to farmers' choice of crop production than comparisons of their net returns, particularly in self-sufficiency type of farming areas where the aggregage rewards for home provided factors

are more important than factors secured by cash.

The results of the field investigation show that some competing crops yielded very high returns to family labor and other farm supplied factors, like cotton, soybean, cucumber and watermelon. But these are either minor crops or of a very particular category not comparable to peanuts. The per chia returns of various types of peanut crops averaged about NT$3,000, while returns of different sweet potato crops, the strongest competitor of peanuts, averaged around NT$3,300. Autumn peanut planted in dry land areas had the highest returns to family labor and other farm-supplied factors among all peanut crops. Other competing crops, including upland rice, jute, corn, peas and sesame all received relatively less returns than peanuts. The following table shows the returns to family labor and other farm supplied factors of all competing crops.

Table 2, Average Per Chia Returns to Family Labor and Other Farm
Supplied Factors of All Farms, 1953

Item	(1) Gross Return	(2) Cash Expenses	(3) (1) - (2) NT$ per Chia
Peanut: Spring planted 3-years rotation area	3,585	455	3,130
Dry land	3,321	332	2,989
Spring rice cropping field	3,097	814	2,283
Peanut: Autumn planted 3-years rotation area	3,693	476	3,217
Dry land	3,588	295	3,293
Sweet potato: Spring planted			
3-years rotation area	3,611	315	3,296
Dry land	3,617	121	3,496
Sweet potato: Autumn planted			
3-years rotation area	3,495	271	3,224
Dry land	3,234	220	3,014

Upland rice	3,331	616	2,715
Soybean	4,224	192	4,032
Peas	1,222	294	928
Indian corn	2,058	432	1,626
Sesame	975	141	834
Jute	3,555	1,089	2,466
Cotton	7,001	700	6,301
Water melon	6,855	1,500	5,355
Cucumber	5,000	1,160	3,840

(2) Returns in Individual Prefectures :

Yunlin Prefecture

Findings of per chia returns to family labor and other farm supplied factors also explain why peanuts production in Taiwan has been concentrated in Yunlin prefecture. Peanut crops planted on dry land had the highest returns among all competing crops, including sweet potato, soybean, peas, corn and jute. The average returns for all peanut crops were around NT$ 3,400, or about NT$100 more than the average returns of sweet potato crops. None of the returns received by other competing crops was comparable to returns of peanuts and sweet potato. (Appendix C, Table 16a).

Changhua Prefecture

Except watermelon, soybean had the highest returns to family labor and other home provided factors among all competing crops, being NT$3,000. Returns for peanuts were about NT$2,750 while those for sweet potato NT$2,500. (Appendix C, Table 16b).

Chiayi Prefecture

Cotton had the largest returns to family labor and other home supplied factors, amounting to NT$6,300 or about NT$2,000 more than those of spring peanut crops planted on dry land. Sweet potato planted in 3-year rotation

areas received a little less than spring peanuts grown in dry land areas. All other competing crops including upland rice and jute were either as profitable as or more profitable than all peanut crops except spring crop planted on dry land. (Appendix C, Table 16c).

Autumn sweet potatoes planted on dry land had the largest per chia returns to family labor and other home provided factors among all competing crops in Tainan, being over NT$4,800. Next came autumn peanuts planted on dry land, amounting to over NT$4,800. However, spring peanuts planted in 3-year rotation areas accounted for only about 40 per cent of the returns of autumn peanuts grown on dry land. Antumn peanuts grown in 3-year rotation areas and upland rice had almost the same amount of returns of about NT$3,000. (Appendix C, Table 16d).

Hualien Prefecture

From the standpoint of returns to family labor and other farm supplied factors, soybean was the most profitable crop in Hualien prefecture, receiving nearly NT$4,500. Sweet potato crops had returns from NT$3,200 to NT$3,400 and ranked as the 2nd most profitable. Returns for the various peanut crops ranged only from NT$1,800 to NT$2,500. Corn had the lowest returns among all competing crops. (Appendix C, Table 16e).

5. The Use of Land and Labor: 1/

Peanut is a legume which has great effect in maintaining the fertility of the soil. Our field investigation revealed that in many cases peanut crops were planted simply as a green manure for upkeeping the fertility of the soil for the next crop. This indicates that many farmers know the character and value of peanuts in land use. Should this practice be properly directed and extended to a greater number of farms it will not only help conserve the productivity of the soil but will boost the yield of peanuts on individual farms. (Appendix C, Table 17).

Human labor is of particular importance in peanut production in Taiwan, because peanut production requires relatively more human labor than most of the competing crops. As there is plenty of supply of human labor, particularly women and child labor in rural areas, peanut has the advantage over

1/ See Appendix C, Tables 20 and 21.

most of the competing crops in the use of human labor.

Data collected in the field show that roughly 90 to 105 human labor days are required for producing one chia of peanuts varying with planting seasons and kinds of land used. Sweet potato requires only 60 days while upland rice needs about 80 days. (Appendix C, Table 18a-18f and 19a-19f).

III. Marketing and Processing of Peanuts and Peanut Oil: 1/

A. Marketing Agencies and Costs of Marketing

Peanuts and peanut oil are generally marketed through five major types of agencies in Taiwan: namely, the dealer, threshing factory, crushing mill, wholesaler and retailer. A minor portion of peanuts and peanut oil are also sold to confectioneries for making candies and cakes and to chemical plants for manufacturing soap. Chart 5 shows the various agencies handling peanuts and peanut oil.

In order to understand the functions performed and the costs involved in discharging the various functions of these respective agencies, data were collected from 110 such agencies for analysis. The major functions by the agencies performed and their costs are briefly described as follows:

1. Dealer's functions and costs

The principal functions of the dealer are to buy peanuts from farmers and sell them to threshing factories or oil crushing mills. While the peanuts he bought are peanuts in the shell, he may sell them either in their original form or in kernels. A dealer is not an organized firm but an individual. In addition to the functions of buying and selling, he may also give financial assistance to the producers by pre-purchase at a price generally lower than the market price.

The average receipts of dealer for 100 catties of peanuts sold were NT$266. The distribution was NT$248 or 93 per cent for total costs and NT$18 or 7 per cent for porfit. Among the various cost items, purchasing of unhulled peanuts accounted for more than NT$238 or 89 per cent of the total, while the remaining NT$11 were mostly for service charges including

1/ Appendix C, Table 22

transportation, processing, handling and other minor expenses. Of all kinds of service charges, transportation costed about NT$4 or 1.6 per cent, processing took about NT$2.90 or 1 per cent and handling expenses NT$1.67.

Marketing costs varied in the five prefectures investigated. Yunlin had both the highest total sales receipt and the total cost, being NT$288 and NT$270 respectively. On the other hand, Hualien received the lowest sales value and bore the lowest total cost, NT$227 and NT$218 respectively. The cost in the purchase of unhulled nuts in Hualien was also the lowest. Sales receipts for the other three prefectures including Changhua, Chiayi and Tainan varied from NT$250 to NT$280. Total costs for these prefectures varied from NT$220 to more than NT$260.

The profit margin per 100 catties of hulled peanuts for dealers in Changhua was the highest among the five prefectures, being NT$32. It was almost twice as high as that averaged for the five prefectures. Tainan had the lowest margin of profit, being NT$5 or 2 per cent of the total receipt gathered. (Appendix C, Tables 23a-23b).

2. Functions and Costs of Threshing Factory

Threshing factory plays an important part in peanut marketing, because most of the peanuts produced by farmers have to go through this agency before being processed into edible oil or consumed as food.

The principal function of the threshing factory is to process unhulled peanuts into kernels. The processing is generally made on consignment basis and a definite sum of money is charged by the threshing factory for the service. The factory also retains the shells and residue after processing.

According to our investigation of 4 threshing factories, the average charge for processing 100 catties of peanuts was NT$2.53 In addition they received an average of NT$1.15 from 35 catties of shells and residue, thus bringing the total receipt to NT$3.68. Of this total NT$2.98 were the threshing costs including wages, power expenses, depreciation charges, tax, repair and other minor expenses, while the remaining NT$0.70 was the factory's profit.

Threshing costs varied in different factories and districts. In Changhua prefecture, for instance, of the total receipt of NT$4.41 gathered by threshing

Chart 5. Domestic Marketing System of Peanuts and Peanut Oil in Taiwan
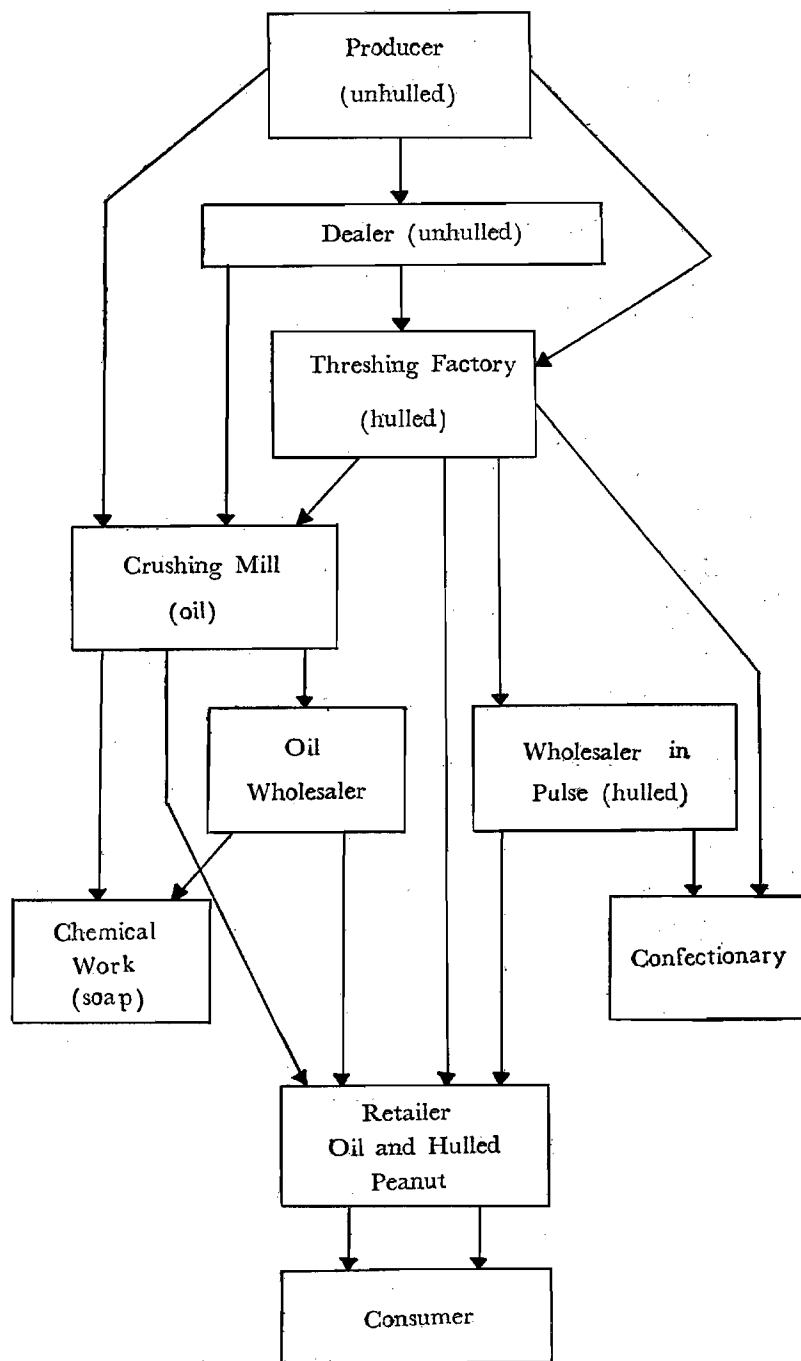
factories for every 100 catties of peanuts threshed, the costs accounted for NT$3.08 while the remaining NT$1.33 was profit which was almost twice as high as the profit averaged for all prefectures. The situation in Tainan prefecture was somewhat abnormal. The total receipt gathered for processing was NT$4.03 but the total cost of processing was NT$4.90, resulting in a loss of NT$0.89.

Although the charges for peanut threshing were not high in absolute amount, the profit margin was as high as 20 to 30 per cent of the total receipt in most of the districts investigated. This was due to the fact that, in addition to the receipt obtained from the legal contract service, the threshing factory usually earned extra benefit by underming the contracted processing rate given to the consignees. For full ripe dry peanuts, the contracted processing rate varied from 68 to 69 per cent (from unhulled peanuts to kernels), but the actual processing rate may come out to 71 per cent, thus giving 1 to 2 per cent of invisible extra benefit to the consignor. This explains why the consignors charge low threshing fees and are still willing to do the business. (Appendix C, Tables 24a,-24b).

3. Functions and Costs of Wholesaler

The principal functions of peanut wholesalers are to buy peanuts and peanut oil from dealers and sell them to retailers, confectionaries and chemical plants. As most peanuts are marketed right after harvesting and the period of marketing in a year is rather short, the wholesalers usually handle not only peanuts and peanut oil but also beans, small grains and feeds to secure enough volume of business to cover their overhead costs. Only a few wholesale houses recently organized handle peanuts only.

According to our investigation of 24 wholesalers in seven cities, out of the average sales proceeds of NT$333 per 100 catties of peanuts received by them, the marketing cost accounted for NT$314.20 including NT$310 or 95 per cent for the purchase of peanuts and NT$4.20 or 1.34 per cent for handling expenses, while the remaining NT$8.80 or 2.73 per cent were profit.

Peanut wholesaler's cost and profit varied considerably in different cities. Taichung City received the largest amount of sales proceeds of NT$339 among all districts, while Chiayi City gathered the lowest of NT$260. Taipei

city had the largest total marketing cost NT$330 or 99 per cent of the total receipt. Chiavi city registered the lowest total cost in absolute dollars. Kaohsiung city gathered the largest amount of profit among all districts both in absolute figure and in percentage of its tatal receipt, being NT$5.00 and 1.43 per cent respectively. (Appendix C, Tables 25a-25b)

In December 1953 the wholesale price of peanut oil of sample wholesalers averaged about NT$535 per 100 catties. Out of this sum the wholesalers spent about NT$517 or 96.63 per cent for the oil bought and NT$5.00 or 0.95 per cent for handling expenses including transportation, salaries and wages, management and other charges. The remaining NT$13.00 or 2.42 per cent went to profit.

The distribution of various cost items and profit in peanut oil marketing varied considerably in the cities. Tainan city received the highest margin of profit of NT$26 per 100 catties of oil among all cities, or twice the average profit for all cities. In contrast, only a small profit of NT$2.00 was received in Changhua city. (Appendix C, Tables 26a-26b)

4. Functions and Costs of Retailer

The functions of retailers are to buy peanuts and peanut oil from wholesalers and oil crushing mills and sell them to consumers. They usually retail a wide range of articles including beans, peas, small grain, canned food, fruit, vegetables and other sundry articles.

Our investigation of 30 retail shops in 7 districts shows that, of the average sales proceeds of about NT$319 received by them per 100 catties of peanuts, NT$310 or 97 per cent were for the purchase of peanuts and handling expenses while the remaining NT$9.00 or 2.85 per cent went to profit.

Marketing costs and profit margins in retailing peanuts varied in different cities. In Taipei city, the cost of marketing including peanut purchasing cost occupied a little less than 96 per cent of the total sales proceeds, while the balance went to profit. In Hualien city, however the cost of marketing took more than 99 per cent of the total receipt leaving only 0.75 per cent as profit. (Appendix C, Tables 27a-27b and 28a-28b).

B. The Distribution of Consumers' Dollar

The middlemen's profit margin in the marketing of peanuts and peanut oil was small. Farmers got the bulk share of the consumer's dollar of hulled peanuts sold on the market. According to the investigation of 110 samples, farmers got almost 79 cents of every dollar received from the selling of hulled peanuts, profit shared about 11 cents, transportation over 3 cents and the remaining 7 cents were spent for general administration, tax, salaries, wages, threshing, and other minor expenses.

The distribution of consumer's dollar in the marketing of peanut oil was somewhat similar to that of peanuts except that the share attributed to profit increased considerably. The farmer's share of the dollar was 71 cents while profit took as high as 20 cents. The other 9 cents were for transportation, salaries and wages, tax, general administration, threshing, crushing, material and other expenses.

It can be seen that in the marketing of peanuts and peanut oil, the marketing charges are quite low and that farmer's share of consumer's dollar is very high. It seems that the share of profit in oil marketing is a little too high compared with margins for other agencies. (Appendix C, Table 29).

C. Marketing Costs of Peanut Oil and Cake

Total marketing costs including purchasing value of raw materials of both peanut oil and peanut cake occupied about 90 per cent of the sales proceeds of 100 catties of oil or cake sold. Profit accounted for the remaining 10 per cent. Raw materials occupied by far the bulk share of total costs, accounting for about 86 per cent. The remaining 4 per cent represented the actual costs for processing peanut oil or cake including salaries and wages, power, fuel depreciation and other minor costs. Thus the costs for processing peanut oil and cake are quite low. This is due largely to the fact that peanut oil and cake processing facilities are simple and primitive, requiring relatively less capital and labor. (Appendix C, Table 30).

IV. Use and Consumption of Peanuts, Peanut Oil and Related Items

A. Disposition of Peanuts by Farmers

For ascertaining the approximate proportion of peanuts disposed for

different purposes on farms, farmers were asked to report the amount of peanuts sold for cash and that reserved for home use. The results of the queries show that about 58 to 73 percent of spring peanuts produced per chia of land was sold for cash and 21 to 42 percent was retained by farmers for home use including seeds, food, feeds and other undecided purposes. Among the various home use items, seeds took 10 to 11 percent, food 14 to 16 percent, feeds from less than 1 percent to about 2.5 percent, while 1 to 2 percent was for other purposes and the remaining was kept undisposed. 1/

The disposal of autumn peanuts is somewhat different from that of spring peanuts. Instead of selling for cash, a great portion of autumn peanuts was kept by farmers for unknown purposes. Only 18 to 37 percent was sold for cash, 20 to 30 percent was reserved for home use and the remaining 33 to 62 percent was undisposed. This was due mainly to the fact that the investigation was made just at the time of harvest, and it was not time yet for farmers to dispose their harvest. (Appendix C, Tables 31a-31b and 32a-32b).

B. Uses of Peanuts

Aside from the quantities retained by farmers, a very great portion of the peanuts produced in Taiwan was moved to commercial channels and used for oil crushing and edible food in the form of nuts roasted and salted and boiled in the shell, shelled nuts roasted and salted, peanut candy or peanut butter. Most of the oil crushed were used for human consumption and a small portion was directed to industrial purposes for manufacturing grease, cigars, cigarettes, soaps and other articles with smell. After oil had been extracted, the cakes or meat were used for feeds or fertilizer.

1. Use for Seed

a. Seed Used Per Chia

The quantity of peanuts used for seed per chia of land varied not only from year to year but also with the variety of nuts and kind of land used .

1/ A much lower percentage of spring peanuts planted on single rice cropping field was reserved for seed, compared with those planted on other fields. This was due to the fact that farmers in single rice cropping field, particularly in Hualien district, usually reserve only a small amount of spring peanuts for planting seed patch in autumn season.

and the region and season of planting. Our spot check investigations revealed that about 178 catties of shelled peanuts were used for planting per chia of spring crop in 3-year rotation field, 186 catties on upland and 202 catties in single rice cropping field. The amounts used for autumn crop on 3-year rotation land and upland were 189 and 177 catties respectively.

Among the five prefectures investigated, Changhua had the largest seed requirement of 225 catties per chia for spring planted crop on upland, 53 catties more than that required for the same crop in Hualien prefecture. Most peanut crops planted on different kinds of land in the other three prefectures required from 170 to 190 catties.

Taking all peanut crops together, the average quantity of seed required per chia was about 10 percent of the average yield. The following table shows the detailed distribution of the seed requirement for different crops in the five prefectures.

Table 3. Average quantity of Shelled Peanut Seed Required Per Chia by Season of Planting, Type of Field and Prefecture (Average of 219 Samples)

Unit: Tai catty

Prefecture	Spring Planted			Autumn Planted	
	3-year rotation area	Upland	Single rice cropping field	3-year rotation area	Upland
Average 1/	178	186	202	189	177
Changhua	—	225	—	—	—
Yunlin	178	182	—	190	186
Chiayi	183	173	—	194	178
Tainan	110	—	—	141	175
Hualien	—	168	202	—	170

1/ The seed requirement for inter-crop planting was not investigated in this survey, which generally is much less than that for full planting. The ratio is roughly about 2 : 1 between full planting and inter-crop planting.

There is no great difference between the data on seed requirement obtained from this survey and that from the peanut costs survey made by PDAF in 1953 _1_/, but comparing with the data in the prewar period _2_/, the per chia seed requirement in recent years has more than doubled. According to the peanut extension specialist of PDAF, the heavy seeding of peanuts practiced in recent years has caused a waste of peanuts in Taiwan. This amazing increase in seed is due mainly to the lack of high grade seeds supplied formerly by extension agencies in prewar years. In order to maintain or boost a good yield, farmers tend to put more seed on per chia of land. This suggests that more careful selection and treatment of peanut seed are urgently needed in Taiwan.

In order to know the approximate quantity of peanuts used for different purposes, we have roughly calculated the total quantity of peanuts disappeared in each year since 1912 according to three major uses; namely use for seed, for oil crushing and for edible food. In the following paragraphs we shall present a brief analysis of each of these uses:

b. Total Quantity Used for Seed

There is no yearly record of total quantity of peants used for seed in Taiwan. Based on a converted figure of 88.4 kg. of shelled peanuts required per hectare and the area planted to peanuts each year we have, however, calculated the total amount of shelled peanuts required annually for seed and its percentage to domestic disappearance for the last 42 years. _3_/

_1_/ In 1953 the PDAF conducted a survey on the cost of peanut on 50 farms, which shows that 100 kg. and 112 kg. of shelled peanut were required for planting spring peanut crop and autumn peanut crop respectively.

_2_/ The Japanese made three surveys on peanut seed requirements respectively in 1935, 1937 and 1942. The result shows that a weighted average quantity of 50 kg. of shelled peanut was required per ha.

_3_/ The original figure in Farms Handbook was 451 L of unhulled peanuts for planting 1 hectare. It was converted to kg at the ratio of 100 L of unhulled peanuts = 19.6 kg. of shelled peanuts.

The total quantity of peanuts used for seed in the last 42 years increased greatly with the expansion of area planted to peanuts. The 5 year average of 1912-16 was less than 1800m/t. It increased slowly to about 2400m/t in 1927-31 and jumped to 2700 m/t in 1932-36, but dropped again to 1927-31 level in 1937-41. The peak in prewar period was reached in 1942-46, when an average of 3100 m/t was used annually for seed. As the area planted to peanuts expanded greatly in post-war years, the quantity used for seed also increased tremendously. The average quantity used in 1947-51 reached as high as over 7000 m/t which is more than twice the level of the war years, or about three times of pre-war years.

Total quantity of peanuts used for seed in percentage of domestic disappearance varied from year to year. In the early years, the average quantity used for seed in 1912-16 was almost 25 percent of domestic disappearance; it dropped to 16-19 percent in the years 1917-1926 and had since then remained around 15 percent until 1942. It was increased to about 28 per cent during the war years of 1942-46, but dropped considerably in post war years. The average percentage to domestic disappearance in the years of 1947-51 was about 18 per cent.

2. Use for Oil Crushing

The quantity of peanuts used for oil crushing is a matter of guess. As in seed use we have made a similar calculation on peanut use for oil crushing for the last 42 years. The calculation was made by taking 38 percent as standard oil content of shelled peanuts. Annual total production of crushed peanut oil was converted into peanuts on this basis, excluding peanut oil imported. The result of this calculation is shown in chart 6 and table 4.

Shelled peanuts used for oil crushing were 3,000-4,000 m/t in the years 1912-21 and increased to about 4,500 m/t in the period of 1922-36. The quantity increased considerably in the years of 1937-41, but dropped sharply in the period of World War II. A tremendous increase was made in post-war years when a high record of 13,500 m/t was established between the years of 1947-51.

In proportion to total domestic disappearance the amount of peanuts used for oil crushing was roughly around 35 percent in most of the years from 1912 to date, except the ten year period of 1927-36 in which the percentage dropped to only a little over one fourth of the total.

3. Use as Edible Food

    a Total Consumption

The quantity of peanuts used as edible food is calculated after deducting the amounts used for seed and oil crushing from the total domestic disappearance of shelled peanuts.

The consumption of peanuts as edible food has increased tremendously in the last 42 years. From 1912-16, the five year average consumption was less than 2,700 m/t but increased to almost 7,000 m/t in the period of 1922-26. Ten years later it showed another 50 percent average increase, reaching a figure of more than 10,000 m/t in 1927-36. A sharp reduction occurred immediately before and during the period of World War II. From 1948 to date the average annual consumption increased from the very low level of the war years to well over 18,000 m/t.

Consumption as edible food constitutes the bulk share of the total domestic disappearance of shelled peanuts. In many of the years from 1912 to 1953, this share occupied well over one half of the total and averaged over 62 per cent in the 5 years of 1932-36. In post-war years the average was around 45-50 percent thich is about 15 percent less than the level established in the early thirties.

    b. Per Capita Consumption

Per capita consumption of shelled peanuts as edible food is derived from their total annual consumption dividing by the number of population in the respective years. The results of the calculation show that the average per capita consumption was 0.75kg. in the period of 1912-16, but increased to nearly 2.5 kg. in recent years. The total domestic disappearance of shelled peanuts for different uses and per capita disappearance as edible food are presented in the following chart and table. (Appendix C, Table 33).

Chart 6. Domestic Disappearance of Peanuts by Major Uses in Taiwan, 1912-1952

(Based on Table 33, Appendix C)
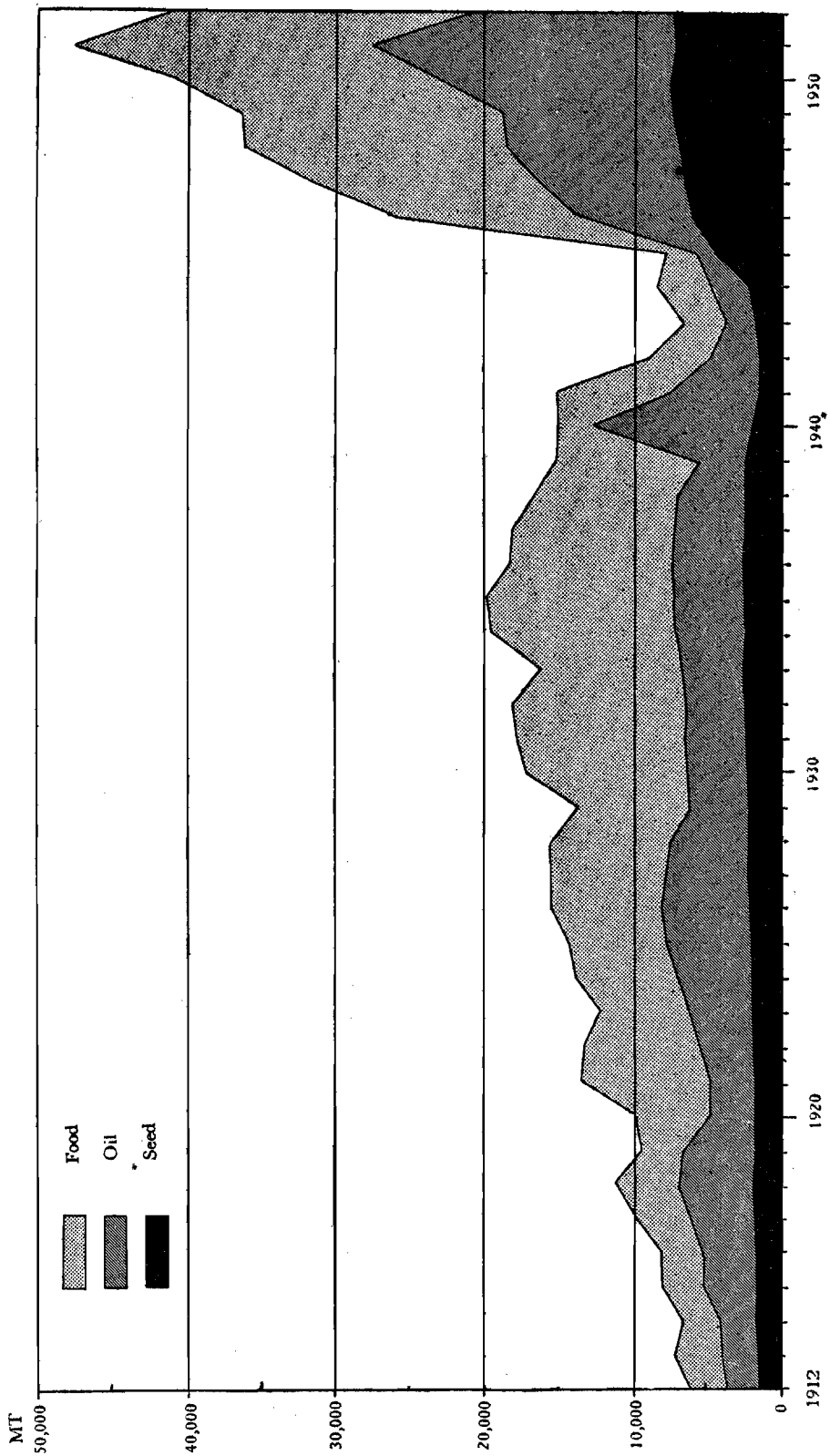
Table 4. Shelled Peanuts: Domestic Disappearance for Seed, Oil Crushing, Edible Food Uses, and Per Capita Disappearance for Edible Food in 5 Year Averages, 1912-51, and 1952.

Period	Domestic Disappearance		Use for Seed		Crushed for Oil		Edible Food		Population	Per Capita Disappearance of Edible Food
	MT	%	MT	%	MT	%	MT	%	Person	kg
1912-16	7,195	100	1,786	25	2,749	38	2,660	37	3,531,529	0.75
1917-21	10,764	100	2,095	19	3,912	36	4,757	44	3,724,953	1.28
1922-26	13,879	100	2,253	16	4,690	34	6,936	50	4,062,343	1.71
1927-31	16,004	100	2,374	15	4,572	29	9,058	57	4,561,375	1.99
1932-36	18,504	100	2,710	15	4,403	24	11,391	62	5,190,591	2.19
1937-41	16,047	100	2,377	15	5,705	36	7,965	50	5,915,762	1.35
1942-46	11,413	100	3,152	28	3,382	30	4,879	43	6,283,326	0.78
1947-51	38,535	100	7,066	18	13,758	36	17,711	46	7,225,947	2.45
1952	40,825	100	7,300	18	13,642	33	19,883	49	8,128,374	2.45
1953	40,905	100	8,381	20	15,526	38	16,998	42	8,438,016	2.01
1954	46,867	100	8,398	18	14,105	30	24,364	52	8,725,744	2.79

Source: Compiled by RED, JCRR based on data furnished by the Bank of Taiwan.

D. Consumption of Peanut Oil and Related Items on Farms

1. Per Family Consumption

Data on peanut oil, lard, sesame oil and other oil consumed on farms were gathered from the 219 farm families interviewed. The tabulation results showed that peanut oil and lard were the two most important items of edible oil consumed by Taiwan farmers. Of an average total of more than 91 catties of all kinds of edible oil consumed per farm family averaging about 10 persons in a year, peanut oil occupied more than 50 catties or 55 percent of the total, lard about 37 catties or 40 percent of the total, and sesame oil and other oil shared the remaining 5 percent.

The consumption of these items varied considerably among the five prefectures surveyed. In Changhua, for instance, peanut oil consumption was four and half times that of lard, while in Tainan the consumption of lard was more than six times that of peanut oil. The consumption of lard was also nearly five times that of peanut oil in Hualien. As a whole, much more lard was consumed than peanut oil in Chiayi, Tainan and Hualien.

Variations in the annual consumption of individual items per farm among these prefectures were also great. In Changhua the per farm peanut oil consumption of more than 77 catties was the highest, which was more than twelve times that consumed in Tainan or 40 percent more than the average accounted for all prefectures. Yunlin's consumption of peanut oil was also high being about 72 catties per farm.

Chiayi had the largest lard consumption of 62 catties per family, 25 catties more than the average for all prefectures and 45 catties more than that in Changhua. Lard consumption in Hualien was also high, being about 60 catties per family.

These variations in edible oil consumption are due to many factors. Availability of local production of the items is one important factor affecting farmers' choice. The level of peanut oil consumption was high in Changhua and Yunlin prefectures, because these are the areas where most of the peanuts are produced and peanut oil is crushed in relatively large quantities. Similarly the high level of lard consumption averaged in Chiayi prefecture reflects it as a hog producing area. Another factor is the economic status of individual farm families. Families in better economic conditions usually take lard as first choice, while families with relatively poor economic means often consume peanut oil or other cheaper types of oil. In addition, food habit and religion also have great bearings on the farmers' choice of edible oil.

There was a general trend of insufficiency of all items consumed and a demand for their increase, but the expected increase was not great. Farmers hoped to have an annual average increase of 6.8 catties of peanut oil per family and a similar quantity of lard. (Appendix C, Table 34).

2. Per Capita Consumption

Annual per capita consumption of all items of edible oil averaged about

9 catties for the 219 farm families investigated. Out of this total peanut oil occupied more than 5 catties or 55 percent, lard 3.6 catties or 40 percent, while the balance was shared by sesame oil and other oil.

Comparing individual prefectures, Chiayi had the highest per capita oil consumption of 10.7 catties. Yunlin reported almost the same amount as that in Chiayi, while per capita consumption in Changhua and Hualien was both about 7.7 catties. The lowest was found in Tainan, being less than 5 catties.

Comparing different items of oil consumed, Yunlin led in the per capita consumption of peanut oil which was well over 7.6 catties, while Chiayi and Hualien led in that of lard, being over 6 catties. Tainan and Changhua reported very low figures both in peanut oil and lard consumption. (Appendix C, Table 35).

D. Total and Per Capita Domestic Disappearance of Peanut Oil

1. Total Domestic Disappearance

There is no record of annual peanut oil consumption in Taiwan. According to our calculation the domestic disappearance of peanut oil has increased greatly in the last 40 years, particularly in post war years. Before World War I, it was less than 1000 m/t but increased to about 1,500 m/t in the years of 1917-21. A new level of over 1,800 m/t was established in 1922-26, but dropped to around 1,700 m/t in the next ten years. A recovery was made in 1936 and an average of about 2,200 m/t was reached in 1937-41. No analysis was made of figures for war years because they were inaccurate.

Because of the increase in domestic production of peanuts and increased importation of both peanuts and peanut oil, a new high record of domestic disappearance of peanut oil was set in the post war years. Starting from 4,500 m/t established in 1947 it reached an all time high of nearly 8,500 m/t in 1950. The average for the last three years was about 7,000 m/t.

2. Per Capita Disappearance

Due to the sharp increase in population, there was no marked improvement in per capita disappearance of peanut oil since 1912 through World War II. In most of the pre-war years the per capita disappearance was between 0.30kg. and 0.40kg. and in very few years was over 0.50kg.

Some improvement was made in post-war years but the level was still very low. The highest record averaged in 1951 was only .97kg. and in the entire post-war period of 1946-53, the disappearance was between 0.50 and less than 1kg. The details are shown in Table 5. (Appendix C. Table 36).

Table 5. Domestic Disappearance and Per Capita Disappearance of Peanut Oil in 5 year Averages, 1912-51 and '52,'53,'54 in Taiwan

Period	Production (MT)	Excess of Import(+) or Export (−) (MT)	Demestic Disappearance (MT)	Per Capita Disappearance of Oil (kg)
1912-16	1,044	+17	1,061	0.30
1917-21	1,487	+21	1,508	0.40
1922-26	1,782	+42	1,824	0.45
1927-31	1,737	+17	1,720	0.38
1932-36	1,673	+1	1,674	0.32
1937-41	2,168	+4	2,164	0.36
1942-46	1,366	+18	1,384	0.22
1947-51	5,220	+711	5,931	0.74
1952	5,184	+1,599	6,783	0.83
1953	5,900	+335	6,235	0.74
1954	5,360	—	5,360	0.61

Source: Compiled by RED, JCRR, based on data furnished by the Bank of Taiwan.

Comparing with the level of per capita consumption of peanut oil on the farm, the per capita disappearance of peanut oil for the entire population is very low, averaging only about one fourth the quantity consumed by sample farmers. This is due to the fact that all farmers investigated are located in peanut producing and peanut oil crushing centers and consumed therefore, more peanut oil than the average person on the island.

V. Prospects of Increasing Production

A. Expansion of Crop Area

One of the commonly practiced ways to increase the production of a certain crop is to expand its area. Theoretically as well as practically,

there is still room for peanut expansion in Taiwan, but under the complicated conditions of crop competition, rotation system, economic factors affecting the choice of crops and the lack of standard and control in determining areas most suitable, suitable and least suitable for peanut production, it is rather hard to predict to what extent can peanuts be expanded. In other words, it is difficult to give an outright estimate of crop land which can be made available for peanut expansion.

A rough calculation was, however, made on the potential number of hectares which could be directed for peanut production. The calculation was made on the assumptions that the index of multiple cropping in Taiwan could be developed to 200 per cent and that the total crop area of the province could be developed to 1,798,000 ha. 1/ in 1965 at the present rate of expansion. The percentages of peanut crop area to total crop area for the last 15 years were calculated and an average percentage of peanut area to total crop area in 1949-53 was used for calculating the potential area of peanuts.

According to this calculation, when the total crop area is expanded to the assumed maximum of 1,798,000 ha. in 1965, peanuts area would increase to 101,407 ha., showing an increase of about 20,000 ha. over the present level of planting. To spread it over 10 years, it means that an annual increase of about 2,000 ha. of crop land area could be made available for peanut produc- tion in the next 10 years. At the present average yield of about 720 kg. per hectare, it will give annually an additional production of about 1,400 m/t of unhulled peanuts. Should a part of the area of competing crops be shifted for peanut production which is very possible as a result of the increasing trend of prices of peanuts in recent years, the total potential area for peanuts would be greater than the calculated figure. Comparing the figure so calculated with the projected peanut area for 1954 in the Four-year- Plan, (about 2,500 ha. more than the area in 1953) the projected area seems quite realistic and perhaps leans on the conservative side, taking into consid- eration all factors favorable to peanut expansion. (Appendix C, Table 37).

1/ This figure is calculated by RED, JCRR based on data in the Agricultural Yearbooks of PDAF; Farm Income Report of JCRR & Land Utilization in Taiwan, by Prof. C. S. Chen.

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More accurate figures for potential development can be estimated for each district only after thorough investigations on local conditions, necessarily on individual farm basis, have been made. From the standpoint of per hectare return to family labor and other farm supplied factors, it seems that some of the areas planted to sweet potato, soybean, peas, corn and jute in Yunlin, about 38,575 ha. in 1952, could be shifted to peanut production. But this is only an assumption that all other factors working in favor of or against the development of peanut production remain unchanged. More precise data can be obtained by detailed analysis of the combination of production factors on individual farms.

B. Increasing Yield

To boost per chia yield is the most promising way to increase the output of peanuts. The yield of peanut in Taiwan is very low compared with the yields of other Asiatic peanut producing countries, particularly Mainland China. According to farmers' opinion reflected in the field survey, peanut yield in Taiwan can be boosted considerably if the following measures are adopted:

1. Increased Application of Fertilizer

The response of peanut to fertilization is not as consistant as that of other field crops. The relationship between peanut and the soil is not easily understood, but experienced growers maintain that harvested peanuts are definitely soil-depleting. Proper application of fertilizer will not only increase production but also reduce the drain on plant food in the soil. Being a legume, peanut obtains most of its nitrogen from the air, but drains from the soil phosphoric acid, potash and calcium.

Relatively little fertilizer is used by Taiwan peanut growers, particularly chemical fertilizer. Many farmers apply a small amount of compost manure produced on farms and some use no fertilizer at all. A very small amount of chemical fertilizer was distributed by the PFB this year. According to farmers, more chemical fertilizer is required if peanut yield is to be increased.

2. Use of Good Seeds

The use of good seeds is another way of improving the yield of peanuts.

The survey shows that many farmers wanted to use good seeds, but due to the lack of standard grading and without the habit of careful selection, they had to use whatever seed was available at the time of planting. In many cases the seed was of poor quality. This explains why peanut yield in Taiwan has been so low and why farmers have used more seed per chia of land in recent years.

It is quite obvious that for the years to come, more effort is required to provide high quality seed. Farmers should be given advice and technical assistance to save seed only from mature plants having the largest number of good pods. A seed patch should be planted with seed selected from a few of the best plants to produce good seed for next year. Seed obtained by this method should also be carefully cured, treated, inoculated and stored. These are the things to be undertaken by extension agencies.

3. Other Measures

Other measures for increasing peanut yield include improved methods of cultivation, proper planting schedules and drainage, insect and disease control, good rotation system and improved methods of harvesting. Experimental data show very clearly that the time of peanut planting has a very great effect on the yield 1/. Peanuts should be cultivated carefully and close during the early stages of growth to prevent grass and weeds from getting a heat start.

The extension of more low interest loans to peanut growers is also necessary for the improvement of yield and production of peanuts. (Appendix C, Table 38).

If these measures can be carried out successfully, it would be possible to increase peanut yield in Taiwan by 25 per cent over the present level and bring the average yield per ha. to 900kg, 100kg. higher than the projected goal set in the Four-Year-Plan. In view of the yield data gathered from the sample farms in the survey (averaged 1,100-1,200kg.) and the possible increase of yields in the Four-Year-Plan (20-30 percent), this 25 percent increase is not hard to reach.

1/ See pages 15-17.

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APPENDIX A. MAP SHOWING TOWNSHIPS INVESTIGATED,
1953
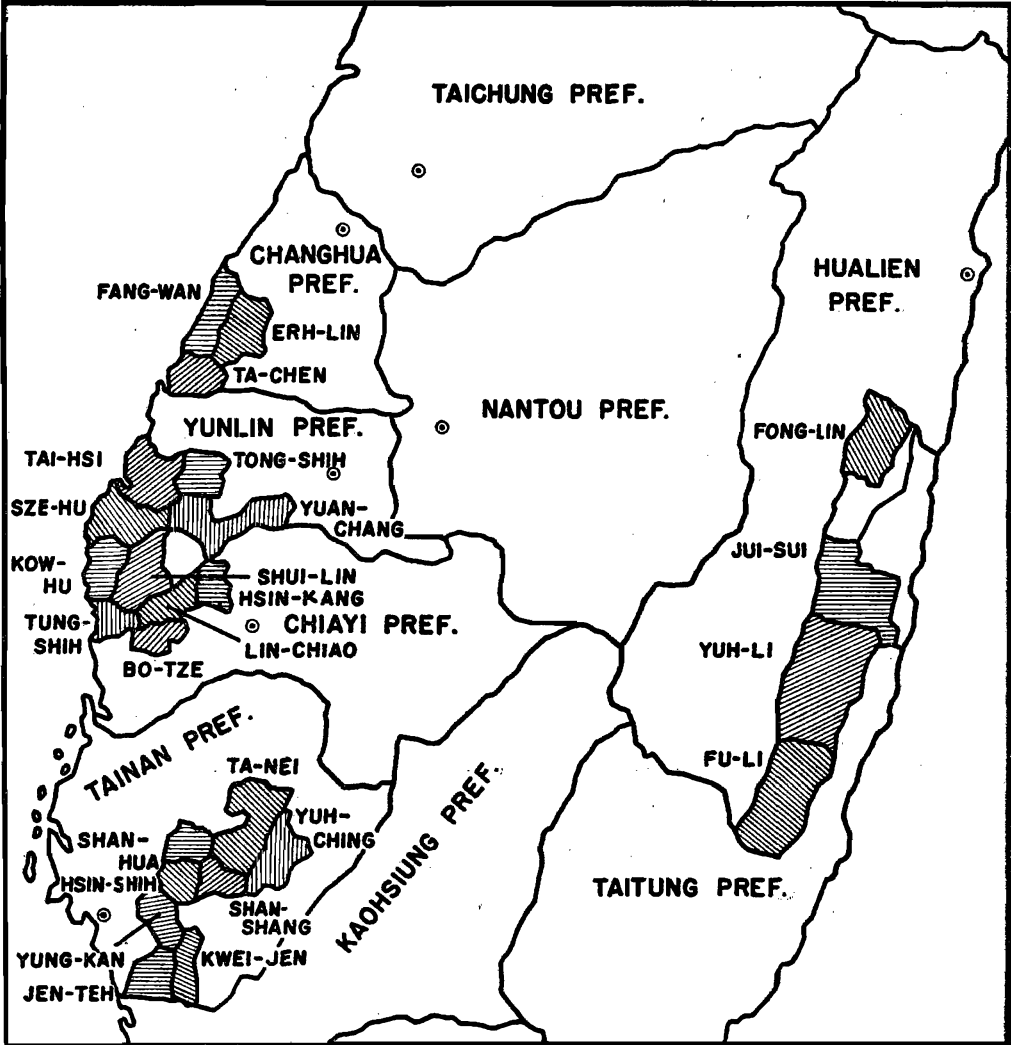
Appendix B. Distribution of Samples, 1953

Prefecture	Townships	No. of Farms Investigated
Changhua Pref.	Ta-chen Hsiang	8
	Fang-wan Hsiang	8
	Erh-lin chen	5
	Sub-total	21
Yunlin Pref.	Sze-hu Hsiang	32
	Tai-hsi Hsiang	18
	Kow-hu Hsiang	16
	Shui-lin Hsiang	15
	Tong-shih Hsiang	14
	Yuan-chang Hsiang	13
	Sub-total	108
Chiayi Pref.	Liu-chiao Hsiang	12
	Tung-shih Hsiang	7
	Bo-tze Chen	5
	Hsin-kang Hsiang	5
	Sub-total	29
Tainan Pref.	Kwei-jen Hsiang	6
	Jen-teh Hsiang	5
	Shan-shang Hsiang	5
	Hsin-shih Hsiang	4
	Yuh-ching Hsiang	4
	Shan-hua Chen	4
	Ta-nei Hsiang	3
	Yung-kan Hsiang	3
	Sub-total	34
Hualien Pref.	Jui-sui Hsiang	8
	Fong-lin Chen	7
	Yuh-li Chen	6
	Fu-li Hsiang	6
	Sub-total	27
Total	25 Townships	219

Appendix C. Table 1 Type of Farm, Size of Farm Family and Number of Man-Equivalent Units on Sample Farms, by District, 1953

District	Type of Farm				Size of Family and Man-Equivalent					
	Total	Owner Cultivators	Part Owners	Tenants	Total		Male		Female	
					No. of Persons	No. of M-E	No. of Persons	No. of M-E	No. of Persons	No. of M-E 1/
Total or average	219	188	23	8	10.11	4.34	5.16	2.34	4.95	2.00
Changhua District	21	18	3	—	13.29	4.86	6.38	2.62	6.91	2.24
Yunlin District	108	91	12	5	9.50	4.36	4.82	2.30	4.68	2.06
Chiayi District	29	28	1	—	10.17	4.96	5.54	2.59	4.72	2.37
Tainan District	34	32	1	1	10.29	4.19	5.12	2.29	5.15	1.90
Hualien District	27	19	6	2	9.77	3.36	5.22	2.13	4.55	1.23

1/ One woman equals 0.8 man-equivalent, one child equals 0.5 man equivalent.

Appendix C. Table 2 Conditions of Land of Sample Farms
Suitable to Peanut Production, 1953

Type of Land		Irrigation			Drainage			Suitable for Peanut planting or not			Planted Peanut or not		
		Good	Bad	Total	Good	Bad	Total	Yes	No.	Total	Yes	No.	Total
Total		173	182	355	216	94	355	302	53	355	259	96	355
Double Cropping Field		38	9	47	36	11	47	19	28	47	1	46	47
3-years Rotation Area		114	22	136	112	24	136	135	1	136	125	11	136
Single Cropping Field	1st	3	2	5	3	2	5	5	—	5	2	3	5
	2nd	6	12	18	12	6	18	4	14	18	1	17	18
Dry Land		7	126	133	93	40	133	132	1	133	124	9	133
Others		5	11	16	5	11	16	7	9	16	6	10	16

Appendix C. Table 3 Area, Yield and Production of Peanuts, 1900-1954

(1935-1939＝100)   (on unhulled basis)

Year	Area		Yield		Production	
	ha.	Index	kg.	Index	MT	Index
1900	11,598	38	526	55	6,103	21
1901	12,267	40	470	49	5,771	20
1902	12,939	42	425	44	5,501	19
1903	15,171	50	589	61	8,937	30
1904	18,991	62	635	66	12,067	41
1905	19,199	63	569	59	10,926	37
1906	18,391	60	516	54	9,485	32
1907	21,028	69	580	60	12,196	42
1908	21,127	69	616	64	13,007	44
1909	21,427	70	885	92	18,952	65
1910	19,166	63	503	52	9,645	33
1911	18,149	59	479	50	8,686	30
1912	18,015	59	459	48	8,272	28
1913	18,831	61	590	62	11,109	38
1914	19,279	63	515	54	9,936	34
1915	20,447	67	591	62	12,083	41
1916	20,880	68	558	58	11,659	40
1017	21,593	71	640	67	13,827	47
1918	23,565	77	700	73	16,488	56
1919	24,714	81	723	75	17,870	61
1920	22,835	75	648	68	14,793	50
1921	23,647	77	739	77	17,482	60
1922	23,758	78	780	81	18,520	63
1923	24,253	79	734	77	17,792	61
1924	25,261	82	826	86	20,866	71

1925	25,296	83	855	89	21,618	74
1926	26,292	86	873	91	22,957	78
1927	26,334	86	902	94	23,748	81
1928	26,239	86	906	94	23,769	81
1929	25,676	84	755	79	19,393	66
1930	26,712	87	880	92	23,497	80
1931	27,243	89	934	97	25,446	87
1932	28,421	93	926	97	26,326	90
1933	29,800	97	806	84	24,018	82
1934	30,772	100	929	97	28,598	97
1935	30,520	100	961	100	29,339	100
1936	30,734	100	980	102	30,113	103
1937	31,465	103	1,008	105	31,705	108
1938	31,086	102	904	94	28,095	96
1939	29,334	96	942	98	27,637	94
1935-39 average	30,628	100	959	100	29,378	100
1940	30,617	100	936	98	28,671	98
1941	24,778	81	898	94	22,247	76
1942	18,659	61	692	72	12,907	44
1943	17,194	56	575	60	9,884	34
1944	20,568	67	592	62	12,185	41
1945	24,626	80	470	49	11,565	39
1946	50,797	166	736	77	37,379	127
1947	65,106	213	715	75	46,572	159
1948	73,387	240	727	76	53,348	182
1949	77,059	252	691	72	53,284	181
1950	83,387	272	685	71	57,110	194
1951	84,889	277	720	75	61,158	208
1952	80,975	264	741	77	60,037	204
1953	82,580	270	728	76	60,104	205
1954	94,808	310	727	76	68,922	235

Source: Agricultural Yearbooks, PDAF

Appendix C. Table 4a Area and Production of Peanuts in Taiwan, by District, 1932-1954

Year	Taipei Area Ha	Taipei Area %	Taipei Prod MT	Taipei Prod %	Hsinchu Area Ha	Hsinchu Area %	Hsinchu Prod MT	Hsinchu Prod %	Taichung Area Ha	Taichung Area %	Taichung Prod MT	Taichung Prod %	Tainan Area Ha	Tainan Area %	Tainan Prod MT	Tainan Prod %	Kaohsiung Area Ha	Kaohsiung Area %	Kaohsiung Prod MT	Kaohsiung Prod %	Taitung Area Ha	Taitung Area %	Taitung Prod MT	Taitung Prod %	Hualien Area Ha	Hualien Area %	Hualien Prod MT	Hualien Prod %	Penghu Area Ha	Penghu Area %	Penghu Prod MT	Penghu Prod %	Total Area Ha	Total Area %	Total Prod MT	Total Prod %
1932	1,177	4.14	1,590	6.04	2,683	9.44	1,955	7.43	4,112	14.47	3,578	13.59	11,886	41.82	11,758	44.66	2,930	10.31	2,380	9.04	371	1.31	291	1.11	1,286	4.52	1,551	5.89	3,976	13.99	3,222	12.24	28,421	100	26,325	100
1933	1,346	4.52	1,619	6.74	3,109	10.43	2,243	9.34	4,098	13.75	2,857	11.89	12,544	42.09	12,041	50.13	3,013	10.11	2,178	9.07	362	1.21	302	1.26	1,358	4.56	1,491	6.21	3,970	13.32	1,288	5.36	29,800	100	24,019	100
1934	1,426	4.63	1,671	5.84	3,375	10.97	2,302	8.05	4,292	13.95	3,112	10.88	12,677	41.20	12,432	43.47	2,826	9.18	2,040	7.13	613	1.99	494	1.73	1,583	5.14	1,858	6.50	3,979	12.93	4,689	16.40	30,771	100	28,598	100
1935	1,477	4.84	1,964	6.69	3,551	11.63	2,844	9.69	3,979	13.04	3,185	10.86	12,704	41.63	13,512	46.05	2,749	9.01	2,036	6.94	724	2.37	530	1.81	1,354	4.44	1,545	5.27	3,982	13.05	3,724	12.69	30,520	100	29,340	100
1936	1,446	4.70	1,812	6.02	3,361	10.94	2,493	8.28	3,862	12.57	3,231	10.73	12,938	42.10	14,681	48.75	2,741	8.92	1,969	6.54	860	2.82	718	2.38	1,582	5.15	1,799	5.97	3,938	12.81	3,410	11.32	30,734	100	30,113	100
1937	1,397	4.44	1,760	5.55	3,501	11.13	2,605	8.22	3,788	12.04	3,247	10.24	13,307	42.29	15,102	47.63	2,836	9.01	2,272	7.17	939	2.98	782	2.47	1,818	5.78	2,136	6.74	3,880	12.33	3,801	11.99	31,466	100	31,705	100
1938	1,414	4.55	1,622	5.77	3,282	10.56	2,117	7.54	3,589	11.55	2,251	8.01	13,258	42.65	14,211	50.58	2,935	9.44	2,354	8.38	931	2.99	725	2.58	1,839	5.92	2,168	7.72	3,839	12.35	2,648	9.43	31,087	100	28,096	100
1939	988	3.37	1,063	3.85	2,963	10.10	1,948	7.05	3,169	10.80	2,483	8.98	13,333	45.45	15,156	54.84	2,776	9.46	1,972	7.14	870	2.97	658	2.38	1,688	5.75	2,052	7.42	3,547	12.09	2,306	8.34	29,334	100	27,638	100
1940	849	2.77	859	3.00	2,547	8.32	1,630	5.68	3,635	11.87	2,833	9.88	14,619	47.75	15,696	54.74	2,706	8.84	1,858	6.48	773	2.52	753	2.63	2,187	7.14	2,105	7.34	3,302	10.79	2,939	10.25	30,616	100	28,673	100
1941	693	2.80	706	3.17	2,628	10.60	1,687	7.58	2,289	9.23	2,084	9.37	11,443	46.16	11,900	53.49	2,636	10.63	1,809	8.13	929	3.75	833	3.74	1,140	4.60	1,003	4.51	3,032	12.23	2,224	10.00	24,790	100	22,246	100
1942	430	2.30	279	2.16	2,186	11.71	1,320	10.23	1,596	8.55	1,327	10.28	7,972	42.72	5,332	41.31	1,585	8.49	1,001	7.76	913	4.89	792	6.14	974	5.22	816	6.32	3,004	16.11	2,040	15.81	18,660	100	12,907	100
1943	740	4.30	446	4.51	2,225	12.94	1,008	10.20	1,605	9.33	1,258	12.73	6,885	40.04	4,385	44.37	1,127	6.55	644	6.52	816	4.75	490	4.96	843	4.90	673	6.81	2,954	17.18	979	9.91	17,195	100	9,883	100
1944																																				
1945	826	3.35	470	4.06	1,193	4.84	624	5.40	4,694	19.06	2,176	18.82	12,086	49.08	5,754	49.75	1,944	7.89	952	8.23	410	1.66	266	2.30	772	3.13	674	5.83	2,701	10.97	649	5.62	24,626	100	11,565	100
1946	1,170	2.30	617	1.65	3,006	5.92	1,315	3.52	6,520	12.84	4,057	10.85	28,648	56.40	23,564	63.04	2,370	4.67	1,602	4.29	1,911	3.76	1,227	3.28	3,935	7.75	3,330	8.91	3,237	6.37	1,667	4.46	50,797	100	37,379	100
1947	1,463	2.25	2,026	4.35	4,389	6.74	3,576	7.68	6,868	10.55	7,593	16.30	39,913	61.30	23,588	50.65	2,701	4.15	2,206	4.74	2,454	3.77	2,015	4.33	4,319	6.63	3,830	8.22	2,999	4.61	1,738	3.73	65,106	100	46,572	100
1948	1,849	2.52	2,470	4.63	4,580	6.24	2,629	4.93	10,519	14.33	14,535	27.25	40,783	55.57	21,758	40.79	4,159	5.67	2,117	3.97	2,719	3.71	2,883	5.40	5,626	7.67	5,027	9.42	3,151	4.29	1,928	3.61	73,386	100	53,347	100
1949	2,246	2.91	2,532	4.75	5,462	7.09	3,380	6.34	11,733	15.23	11,809	22.16	40,144	52.10	24,106	45.24	5,165	6.70	3,071	5.76	2,924	3.79	2,044	3.84	6,223	8.08	4,309	8.09	3,162	4.10	2,034	3.82	77,059	100	53,285	100
1950	3,153	3.78	2,927	5.13	4,174	5.01	2,297	4.02	7,793	9.35	6,311	11.05	49,475	59.33	31,875	55.82	4,821	5.78	2,965	5.19	3,859	4.63	3,029	5.30	6,982	8.37	5,940	10.40	3,129	3.75	1,764	3.09	83,386	100	57,108	100
1951	3,717	4.38	3,748	6.13	4,342	5.11	3,141	5.14	10,160	11.97	9,755	15.95	47,156	55.55	30,492	49.86	5,238	6.17	3,574	5.84	4,158	4.90	3,161	5.17	7,026	8.28	5,503	9.00	3,092	3.64	1,783	2.92	84,889	100	61,157	100
1952	3,542	4.37	3,658	6.09	4,486	5.54	3,235	5.39	9,977	12.32	8,665	14.43	43,742	54.02	30,332	50.52	5,457	6.74	3,708	6.18	3,923	4.84	3,043	5.07	6,786	8.38	5,218	8.69	3,061	3.78	2,179	3.63	80,974	100	60,038	100
1953	3,416	4.14	3,425	5.70	4,452	5.39	2,961	4.93	11,341	13.73	10,441	17.37	44,672	54.10	29,967	49.86	5,032	6.09	3,469	5.77	3,918	4.75	3,134	5.21	6,708	8.12	4,882	8.12	3,041	3.68	1,825	3.04	82,580	100	60,104	100
1954	3,515	3.71	3,575	5.19	4,674	4.93	2,432	3.53	11,136	11.75	9,655	14.01	54,305	57.28	36,681	53.22	6,261	6.60	4,511	6.54	4,707	4.96	4,077	5.92	7,010	7.39	5,687	8.25	3,200	3.38	2,304	3.34	94,808	100	68,922	100

Source: Compiled by RED, JCRR, based on data in Agricultural Year Books, DAF

Appendix C. Table 4b Indices of Area and Production of Peanuts, by District, 1932-54

1935-1939=100

Year	Taipei Area	Taipei Production	Hsinchu Area	Hsinchu Production	Taichung Area	Taichung Production	Tainan Area	Tainan Production	Kaohsiung Area	Kaohsiung Production	Taitung Area	Taitung Production	Hualien Area	Hualien Production	Penghu Area	Penghu Production	Total Area	Total Production
1932	87.57	96.72	80.53	81.40	111.82	124.26	90.68	80.91	104.36	112.24	42.78	42.70	77.67	79.95	103.62	101.41	92.79	89.61
1933	100.10	98.47	93.32	93.41	111.44	99.21	95.70	82.85	107.34	102.70	41.74	44.20	82.01	76.87	103.45	40.53	97.30	81.75
1934	106.10	101.60	101.31	95.85	116.72	108.07	96.71	85.54	100.66	96.21	70.78	72.36	95.58	95.81	103.71	147.56	100.47	97.34
1935	109.85	119.45	106.58	118.42	108.20	110.61	96.92	92.98	97.93	96.01	83.62	77.61	81.75	79.67	103.78	117.18	99.65	99.87
1936	107.58	110.22	100.89	103.83	105.02	112.21	98.70	101.02	97.64	92.83	99.97	105.20	95.55	92.72	102.63	107.31	100.35	102.50
1937	103.88	107.02	105.09	118.49	103.02	112.77	101.52	103.92	101.01	107.13	108.43	114.57	109.75	110.09	101.10	119.62	102.73	107.92
1938	105.20	98.66	98.50	88.15	97.59	78.17	101.15	97.79	104.54	111.02	107.52	106.22	111.03	111.75	100.04	83.33	101.50	95.63
1939	77.49	64.65	88.94	81.10	86.17	86.23	101.72	104.29	98.89	93.00	100.47	96.40	101.92	105.76	92.44	72.58	95.78	94.08
1940	63.18	58.22	76.46	67.87	98.79	98.40	111.53	108.00	96.41	87.59	89.19	110.31	132.06	108.52	86.06	92.48	99.96	97.59
1941	51.53	42.94	78.89	70.26	62.25	72.37	87.30	81.88	93.89	85.32	107.21	122.13	68.82	51.70	79.01	70.00	80.93	75.73
1942	31.95	10.99	65.62	54.98	43.40	46.10	69.82	36.69	56.45	47.20	105.39	116.02	58.84	42.05	78.29	64.18	60.92	43.93
1943	55.01	27.12	66.78	41.98	43.64	43.69	52.53	30.18	40.16	30.39	94.15	71.82	50.89	34.70	76.99	30.81	56.14	33.64
1944																		
1945	61.43	28.56	35.84	25.99	127.65	75.56	92.20	39.60	69.24	44.91	47.31	38.94	46.59	34.75	70.39	20.44	80.40	39.37
1946	87.02	37.50	90.22	54.77	177.30	140.89	218.55	162.15	84.41	75.56	220.60	179.76	237.58	171.67	84.36	52.47	165.85	127.23
1947	108.81	123.20	131.73	148.93	186.77	263.71	304.49	162.31	96.23	104.01	283.23	295.31	260.80	197.45	78.15	54.69	212.57	158.53
1948	137.54	150.21	137.48	109.49	286.06	504.78	311.13	149.72	148.14	99.82	313.89	422.54	339.69	259.16	82.13	60.68	239.60	181.59
1949	167.06	153.97	163.94	140.75	319.07	410.10	306.25	165.88	183.99	144.82	337.48	299.52	375.77	222.15	82.40	64.01	251.59	181.37
1950	233.18	178.05	125.30	95.67	211.91	219.19	377.44	219.34	171.73	139.80	445.43	443.91	421.59	306.23	81.54	55.53	272.25	194.40
1951	276.43	227.98	130.34	130.79	276.30	338.78	359.75	209.82	186.59	168.55	479.88	463.27	424.23	283.68	80.57	56.11	277.16	208.18
1952	263.47	222.48	134.67	134.72	271.32	300.93	333.70	208.72	194.40	174.84	452.80	445.99	409.77	268.98	79.76	68.56	264.38	204.36
1953	254.06	208.28	133.64	123.28	308.40	362.60	340.80	206.21	179.26	163.58	452.17	459.34	405.05	251.69	79.26	57.45	269.62	204.59
1954	261.43	217.41	140.30	101.26	302.82	335.30	414.29	252.41	223.06	212.73	543.31	597.53	423.26	293.17	83.39	72.50	309.54	234.60

Appendix C. Table 5 Area, Yield and Production of Peanuts, by Prefecture,
1951-1954 (unhulled Peanuts)

Prefecture	1951 Area Ha.	%	Yield Kg.per ha.	Production MT	%	1952 Area Ha.	%	Yield Kg.per ha.	Production MT	%	1953 Area Ha.	%	Yield Kg.per ha.	Production MT	%	1954 Area Ha.	%	Yield Kg.per ha.	Production MT	%
Taipei Prefecture	1,782	2.10	1,016	1,810	2.96	1,247	1.54	947	1,181	1.97	1,061	1.29	837	888	1.48	1,199	1.26	971	1,163	1.69
Yilan Prefecture	1,132	1.33	1,096	1,241	2.03	1,517	1.87	1,236	1,874	3.12	1,625	1.97	1,193	1,938	3.23	1,596	1.68	1,280	2,043	2.96
Taoyuan Prefecture	803	0.95	869	698	1.14	779	0.96	774	603	1.00	730	0.88	819	598	0.99	721	0.76	511	368	0.53
Hsinchu Prefecture	1,376	1.62	714	983	1.61	1,320	1.63	694	915	1.52	1,254	1.52	731	917	1.53	1,419	1.50	466	661	0.96
Miaoli Prefecture	2,966	3.49	728	2,158	3.53	3,167	3.91	733	2,320	3.86	3,198	3.87	639	2,044	3.40	3,255	3.43	544	1,771	2.57
Taichung Prefecture	2,497	2.94	911	2,275	3.72	2,560	3.16	967	2,475	4.12	2,590	3.14	988	2,559	4.26	2,708	2.86	1,108	3,002	4.36
Changhua Prefecture	5,481	6.46	1,030	5,646	9.23	5,216	6.44	823	4,292	7.15	6,503	7.88	902	5,865	9.76	5,903	6.23	749	4,418	6.41
Nantou Prefecture	2,182	2.57	840	1,834	3.00	2,201	2.72	903	1,988	3.31	2,248	2.72	897	2,017	3.36	2,524	2.66	885	2,235	3.24
Yunlin Prefecture	28,368	33.42	711	20,164	32.97	26,815	33.11	783	20,985	34.95	28,337	34.31	745	21,102	35.11	36,913	38.93	704	25,994	37.71
Chiayi Prefecture	9,016	10.62	508	4,579	7.49	7,576	9.36	572	4,332	7.22	8,035	9.73	530	4,262	7.09	7,897	8.33	589	4,653	6.75
Tainan Prefecture	9,773	11.51	588	5,749	9.40	9,351	11.55	536	5,015	8.35	8,299	10.05	555	4,603	7.66	9,495	10.02	636	6,035	8.76
Kaohsiung Prefecture	2,978	3.51	843	2,509	4.10	2,851	3.52	844	2,408	4.01	2,499	3.03	864	2,160	3.59	3,197	3.37	834	2,666	3.87
Pingtung Prefecture	2,261	2.66	471	1,065	1.74	2,606	3.22	464	1,210	2.02	2,533	3.07	517	1,309	2.18	3,964	3.23	692	1,845	2.68
Taitung Prefecture	4,158	4.90	760	3,161	5.17	3,923	4.84	776	3,043	5.07	3,917	4.74	800	3,134	5.21	4,707	4.97	866	4,077	5.92
Hualien Prefecture	7,026	8.28	783	5,503	9.00	6,786	8.38	769	5,218	8.69	6,708	8.12	728	4,882	8.21	7,010	7.39	811	5,687	8.25
Penghu Prefecture	3,092	3.64	577	1,783	2.92	3,061	3.78	712	2,179	3.63	3,041	3.68	600	1,826	3.04	3,200	3.38	720	2,304	3.34
Total or Average	84,889	100	720	61,158	100	80,975	100	741	60,037	100	82,580	100	728	60,104	100	94,808	100	727	68,922	100

Source: Compiled by RED, JCRR, based on data furnished by PDAF and in Agricultural Year Books.

Appendix C. Table 6 Average Temperature in Relation
to Peanuts Production

Prefecture	Spring Peanut Crop		Autumn Peanut Crop	
	Month	Av. temperature in C.	Month	Av. temperature in C.
Yilan Pref.	Feb.—July	23	July—Dec.	24
Taipei Pref.	Feb.—Sept.	25	July—Jan.	24
Hsinchu Pref.	Mar.—Aug.	25	July—Jan.	24
Miaoli Pref.	Feb.—Aug.	24	Aug.—Jan.	23
Taichung Pref.	Jan.—Aug.	23	July—Jan.	24
Changhua Pref.	Jan.—Aug.	22	July—Feb.	22
Yunlin Pref.	Jan.—Aug.	23	July—Feb.	22
Chiayi Pref.	Jan.—Aug.	24	July—Feb.	24
Tainan Pref.	Jan.—Aug.	23	July—Feb.	23
Kaohsiung Pref.	Feb.—Sept.	26	Aug.—Mar.	24
Pingtung Pref.	Jan.—Oct.	25	July—Mar.	24
Hualien Pref.	Jan.—July	22	July—Jan.	23
Taitung Pref.	Jan.—Aug.	24	June—Dec.	26

Source: Compiled by RED, based on data in Sugar Hand Book, TSC.

Appendix C. Table 7, Temperature, Rainfall and Sunshine in Peanut Production, by Prefecture, 1953 (Reported by Sample Farms)

	Item	Total No. of cases Reported	Total %	Changhua No. of cases Reported	Changhua %	Yunlin No. of cases Reported	Yunlin %	Chiayi No. of cases Reported	Chiayi %	Tainan No. of cases Reported	Tainan %	Hualien No. of cases Reported	Hualien %
Temperature	Total	219	100	21	100	108	100	29	100	34	100	27	100
	Suitable	179	81.74	17	80.95	100	92.59	14	48.28	31	91.18	17	62.96
	Too hot	23	10.50	—	—	6	5.56	9	31.03	2	5.88	6	22.22
	Warm	9	4.11	—	—	1	0.93	6	20.69	1	2.94	1	3.70
	Cool	6	2.74	4	19.05	1	0.93	—	—	—	—	1	3.70
	Cold	2	0.91	—	—	—	—	—	—	—	—	2	7.41
Rain Fall	Total	219	100	21	100	108	100	29	100	34	100	27	100
	Suitable	87	39.73	6	28.57	47	43.52	8	27.59	19	55.88	7	25.93
	Too much	80	36.53	12	57.14	28	25.93	18	62.07	7	20.59	15	55.56
	A little too much	48	21.92	3	14.29	32	29.63	3	10.34	7	20.59	3	11.11
	Dry	2	0.91	—	—	1	0.93	—	—	1	2.94	—	—
	Too dry	2	0.91	—	—	—	—	—	—	—	—	2	7.41
Sunshine	Total	219	100	21	100	108	100	29	100	34	100	27	100
	Suitable	159	72.60	19	90.48	74	68.52	13	44.83	33	97.06	20	74.07
	Too much	6	2.74	—	—	3	2.78	3	10.34	—	—	—	—
	A little too much	9	4.11	—	—	4	3.70	4	13.79	—	—	1	3.70
	Not quite enough	20	9.13	1	4.76	17	15.74	1	3.45	—	—	1	3.70
	Far from enough	25	11.42	1	4.76	10	9.26	8	27.59	1	2.94	5	18.52

Appendix C. Table 8   Average Rainfall in Relation to Peanut Production by month of Planting, (in mm)

District	Spring Peanut Crop						Autumn Peanut Crop					
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Yilan	—	778	837	—	—	—	1,383	1,530	1,539	—	—	—
Taipei	—	991	1,113	1,174	—	—	875	699	523	—	—	—
Hsinchu	—	—	1,042	1,051	—	—	441	351	251	—	—	—
Miaoli	—	1,092	1,236	1,344	—	—	—	470	255	—	—	—
Taichung	599	994	1,196	—	—	—	696	453	—	—	—	—
Changhua	505	828	981	1,133	—	—	586	398	173	—	—	—
Yunlin	398	719	1,026	—	—	—	815	500	204	—	—	—
Chiayi	385	786	1,152	—	—	—	861	494	191	130	—	—
Tainan	364	776	1,248	1,621	—	—	—	734	302	116	—	—
Kaohsiung	—	811	1,419	1,826	1,960	—	—	716	279	110	—	—
Pingtung	341	833	1,508	2,065	—	—	1,729	1,046	461	168	—	—
Hualien	619	821	991	—	—	—	1,385	1,239	1,056	—	—	—
Taitung	348	674	853	—	—	1,330	1,051	873	—	—	—	—

Source : Compiled by RED, based on data in Sugar Hand Book, TSC.
Note : Figures represent aggregate amount of rainfall received in the period indicated.

Appendix C. Table 9   Sunshine Days in Relation to
Peanut Production by District,

District	Spring Peanut Crop		Autumn Peanut Crop	
	Month	Av. Sunny Days	Month	Av. Sunny Days
Taipei	Feb. —Aug.	146	July —Jan.	152
Taichung	Jan. —Aug.	196	July —Feb.	215
Tainan	Jan. —Aug.	212	July —Feb.	216
Pingtung	Jan. —Oct.	202	July —Mar.	192
Taitung	Jan. —Aug.	162	July —Jan.	169
Hualien	Jan. —Aug.	145	July —Jan.	153

Source: Compiled by RED, based on data in Sugar Hand Book, TSC.

Appendix C. Table 10 System of Rotation with Peanut as a Rotating Crop on Sample Farms, by Type of Land and by District, 1953

Type of land	Rotation Period	System of rotation	Changhua area	Yunlin area	Chiayi area	Tainan area	Hwalien area	Total No. of cases reported
Dry land	1 year rotation	Peanut, Vegetable, Green manure, Sweet potato, (cotton)	24	30	2	4	24	84
		Peanut,-Peanut, Other peas, Tobacco, Rice, Vegetable, soybean.	2	2	—	-1	3	8
		Peanut-Rice-Wheat	1	—	—	—	—	1
		Sweet potato (cotton).-Peanut, Soybean, Sweet potato, Upland rice.	—	10	1	1	15	27
		Peant-Sweet potato-Tobacco,Other peas.	1	1	—	—	—	2
		Sweet potato-Peanut, Tobacco	—	—	—	—	2	2
		Sesame, Up-land rice, Corn-Peanut, Sweet potato.	12	—	—	30	—	42
		Sesame, Other peas-Upland rice, Vegetable-Peanut, Vegetable	—	—	—	22	—	22
		Sesame-Wheat, Sweet potato	—	—	—	—	4	4
	2 years rotation	Peanut, Sweet potato, Sesame, Upland rice, corn, vegetable, Peas-Sugarcane	9	5	—	10	7	31
		Peanut-Sweet potato,-Peanut, Peas,-Peanut, Sesame, Jute-Peanut, Sweet potato	—	2	2	—	—	4
		Sesame-Peanut, Sweet potato-Sweet potato, Sesame-Peanut	—	—	2	—	—	2
		Green peas-Upland rice,-Sugarcane	—	—	—	1	—	1

Appendix C. Table 10. System of Rotation with Peanut as a Rotating Crop on Sample Farms, by Type of Land and by District, 1953

Type of land	Rotation period	System of rotation	Changhua area	Yunlin area	Chiayi area	Tainan area	Hwalien area	Total No. of cases reported
Dry land	3 years rotation	Peanut-Sweet potato-Peanut-Sugarcane	—	1	1	—	—	2
		Peanut, Sweet potato, Sesame-Sugarcane,-Sesame Green manure, Rice-Peanut	2	—	3	—	—	5
		Peanut, Sweet potato, Sesame-Corn, Sweet potato, Vegetable, Peanut, Rice-Peanut, Sesame, Sweet potato-Sesame	—	2	3	—	—	5
		Peanut, Other peas-Sweet potato-Peanut, Sweet potato, Other peas-Sweet potato-peanut, Rice	—	3	—	—	—	3
3 years rotation area	3 years rotation	Sweet potato, Green manure, Peanut-Rice-Sweet potato, Other peas, Peanut-Green Manure, Upland rice, Cotton, Jute, Peanut, Sweet potato-Sugarcane	—	34	4	4	—	42
		Green manure, Sesame, Other peas, Jute, Peanut-rice-peanut, sweet potato, Upland rice, other peas, jute-sugarcane	—	65	12	3	—	80
		Green manure, Upland rice, Other peas, Sweet potato, peanut-Rice-Upland rice, Sweet potato, other peas-other peas, Sweet potato, peanut, Upland rice-sweet potato, peanut,-Sweet potato,peanut	—	38	6	7	—	51

Appendix C. Table 10   System of Rotation with Peanut as a Rotating Crop on
Sample Farms, by Type of Land and by District, 1953

Type of land	Rotation period	System of rotation	Changhua area	Yunlin area	Chiayi area	Tainan area	Hwalien area	Total no. of cases reported
3 years rotation area	3 years rotation	Green manure, peanut, Sweet potato-Other peas, Peanut, Sweet-potato,-Sweet potato, peanut, Jute-Sweet potato, Peanut-Other peas, Peanut, Sweet potato-Upland rice, Sweet potato, Peanut	—	20	—	1	—	21
		Peanut-Rice-Sugarcane	—	—	1	—	—	1
		Peanut-Rice-Sweet potato-Peanut, Sweet potato-Peanut, Sweet potato	—	2	—	—	—	2
		Green manure,-Rice,-Sugarcane-Peanut-Jute-Sweet potato	—	1	—	—	—	1
		Sweet potato, Peanut-sweet potato, peanut-Upland rice, Sweet potato, Peanut-sugarcane	—	7	1	1	—	9
		Rice-Sugarcane-Peanut, Sweet potato-Peanut, Sweet potato	—	2	—	—	—	2
		Peanut-Sugarcane-Peanut-Sweet potato	—	5	—	—	—	5
		Rice-Rice-Sweet potato-Peanut-Peanut-Sweet potato	—	1	—	—	—	1
		Other peas-Other peas-Sweet potato-Peanut-Sweet potato-Peanut	—	1	—	—	—	1
		Peanut-Rice-Other peas-Sugarcane-Peanut-peanut	—	1	—	—	—	1

Appendix C. Table 10 System of Rotation with Peanut as a Rotating Crop on Sample Farms, by Type of Land and by District, 1953

Type of land	Rotation period	System of rotation	Changhua area	Yunlin area	Chiayi area	Tainan area	Hwalien area	Total no. of cases reported
Single-cropping field	1 year rotation	Peanut-Rice-Other peas	1	—	—	—	—	1
		Peanut-Rice-Green manure	—	—	—	—	2	2
		Peanut-Rice	1	—	—	—	—	1
	2 years rotation	Peanut-sweet potato-sugarcane	1	—	—	—	—	1
Total			54	233	38	85	57	467

APPENDIX C, CHART I PERIODS OF PLANTING & HARVESTING PEANUT IN TAIWAN

PLANTING
HARVESTING

PREFECTURE	DEC.	JAN.	FEB.	MAR.	APR.	MAY.	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.
YILAN																	
TAIPEI																	
TAOYUAN																	
HSINCHU																	
MIAOLI																	
TAICHUNG																	
CHANGHUA																	
NANTOU																	
YUNLIN																	
CHIAYI																	
TAINAN																	
KAOHSIUNG																	
PENGTUNG																	
PENGHU																	
TAITUNG																	
HWALIEN																	
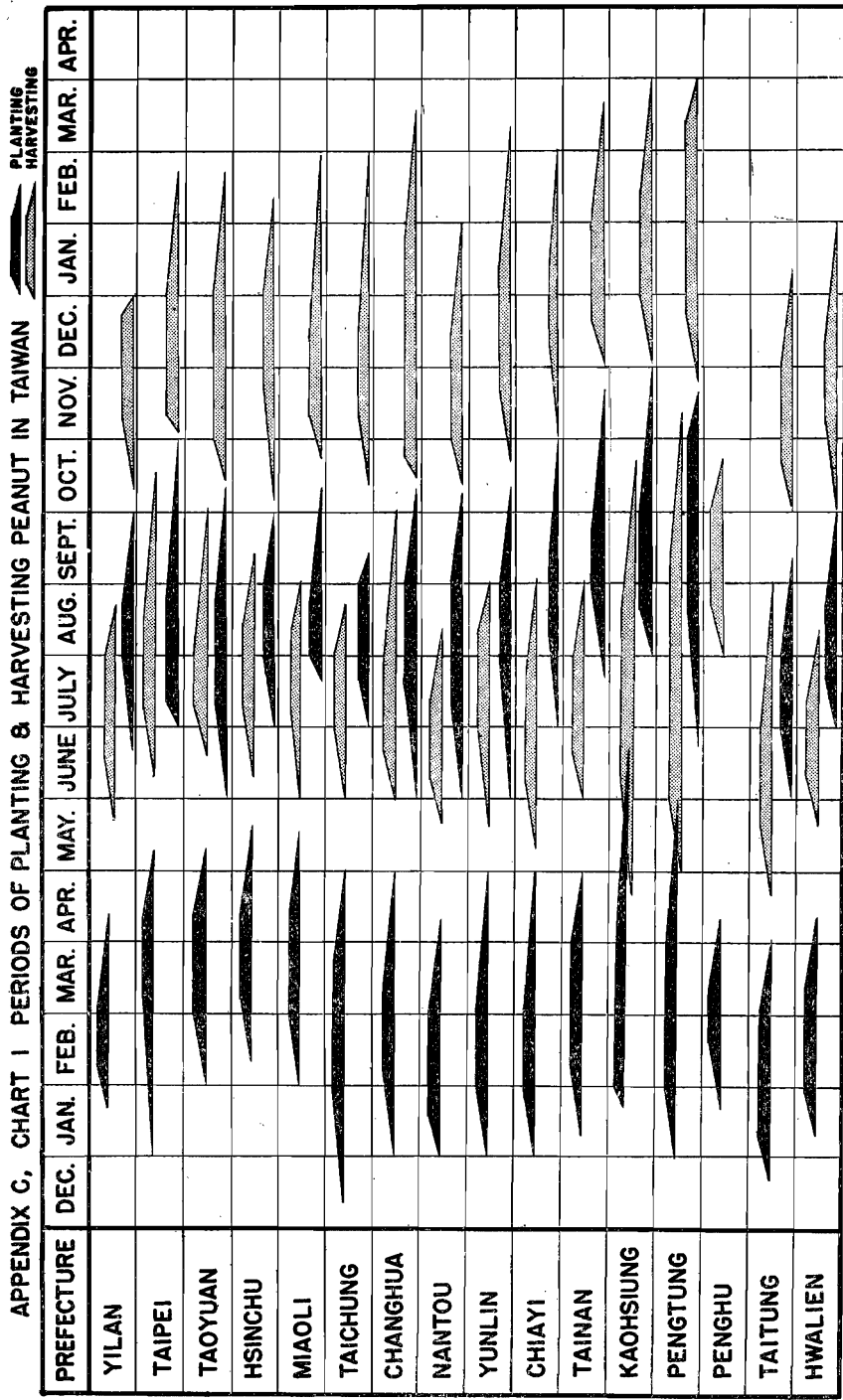
SOURCE : BASED ON DATA FURNISHED BY PID,JCRR

Appendix C. Table 11 Natural Hazard in Peanut Production by Pref. 1953

Item		Total No. of Cases Reported	Total %	Changhua No. of Cases Reported	Changhua %	Yunlin No. of Cases Reported	Yunlin %	Chiayi No. of Cases Reported	Chiayi %	Tainan No. of Cases Reported	Tainan %	Hualien No. of Cases Reported	Hualien %
Damaged by Disease	Heavy	2	0.91	—	—	—	—	—	—	1	2.94	1	3.70
	Light	24	10.96	3	14.29	16	14.81	—	—	1	2.94	4	14.81
	None	193	88.13	18	85.71	92	85.19	29	100	32	94.12	22	81.48
	Total	219	100	21	100	108	100	29	100	34	100	27	100
Insect Pest	Heavy	37	16.89	—	—	9	8.33	19	65.52	5	14.71	4	14.81
	Light	71	32.42	2	9.52	42	38.89	8	27.59	13	38.24	6	22.22
	None	111	50.68	19	90.48	57	52.78	2	6.90	16	47.06	17	62.96
	Total	219	100	21	100	108	100	29	100	34	100	27	100
Wind Damage	Heavy	9	4.11	5	23.81	4	3.70	—	—	—	—	—	—
	Light	28	12.79	13	61.90	10	9.26	—	—	4	11.76	1	3.70
	None	182	83.11	3	14.29	94	87.04	29	100	30	88.24	26	96.30
	Total	219	100	21	100	108	100	29	100	34	100	27	100
Damage from Birds	Heavy	11	5.02	1	4.76	6	5.56	—	—	4	11.76	—	—
	Light	41	18.72	2	9.52	22	20.37	—	—	12	35.29	5	18.52
	None	167	76.26	18	85.71	80	74.07	29	100	18	52.94	22	81.48
	Total	219	100	21	100	108	100	29	100	34	100	27	100

Appendix C. Table 12. Average Monthly Farm Price of Peanuts (Unshelled), in Taiwan (July 1949-Dec. 1954)

Base year: July 1949-June 1950=100

Unit: NT$, per 100 Tai Catty

Month	1949		1950		1951		1952		1953		1954	
	Price	Index	Price	Index	Price	Index	Price	Index	Price	Index	Price	Index
Average			102	121	118	141	162	193	177	211	221	263
January			92	109	105	125	143	170	155	185	216	257
February			110	131	116	138	148	177	183	218	237	282
March			133	158	112	133	166	198	186	221	243	289
April			123	147	119	142	195	232	180	215	280	334
May			136	162	122	145	199	237	187	222	284	338
June			99	118	109	130	171	204	185	220	231	275
July	42	50	59	70	108	129	143	171	167	198	184	219
August	42	50	76	91	117	140	159	189	174	207	184	219
September	41	49	91	109	120	143	164	195	172	205	192	229
October	56	67	106	127	129	153	157	187	170	203	195	232
November	61	72	98	117	128	153	149	177	179	213	190	226
December	73	87	95	113	133	158	151	179	190	227	222	264

Source: P.F.B.

Appendix C. Table 13a Per Chia Average Yield and Gross Returns of Peanuts and Competing Crops

(Average of 219 sample farms, 1953)

Amount: Tai catty
Value: NT$

Item	Total value			Main products						By-products	
	Total	Cash	Non-cash	Sub-total		Cash		Non-cash			
				Amt	Value	Amt	Value	Amt	Value	Amt	Value
Peanut: spring planted											
3 years rotation area	2,585	2,483	1,102	2,107	3,397	1,543	2,483	564	914	6,102	188
Dry land	3,321	1,803	1,518	1,860	3,167	1,075	1,803	785	1,364	5,168	154
Spring rice cropping field	3,097	2,349	748	1,840	3,017	1,448	2,349	392	668	3,606	80
Peanut: autumn planted											
3 years rotation area	3,693	1,318	2,375	2,013	3,520	739	1,318	1,274	2,202	5,113	173
Dry land	3,588	597	2,991	1,913	3,428	342	597	1,571	2,831	4,535	160
Sweet potato: spring planted											
3 years rotation area	3,611	936	2,675	21,912	3,406	6,120	936	15,792	2,470	5,888	205
Dry land	3,617	517	3,100	19,826	3,346	3,083	517	16,743	2,829	7,454	271
Sweet potato: autumn planted											
3 years rotation area	3,495	672	2,823	19,617	3,232	4,656	672	14,961	2,559	4,078	264
Dry land	3,234	487	2,747	18,368	3,005	3,159	487	15,209	2,518	5,755	228
Upland rice	3,331	826	2,505	2,536	3,117	580	826	1,956	2,291	2,582	214
Soybean	4,224	3,259	965	1,562	4,127	1,245	3,259	317	869	1,629	96
Peas	1,222	629	593	1,010	1,048	619	629	391	419	5,476	174
Indian corn	2,058	1,865	193	1,766	2,002	1,653	1,865	113	137	1,609	56
Sesame	975	570	405	514	884	391	570	123	314	984	91
Jute	3,555	3,290	265	1,722	3,306	1,708	3,290	14	16	3,167	249
Cotton	7,001	6,668	333	1,333	6,667	1,333	6,667	—	—	3,333	333
Water melon	6,855	6,750	105	22,850	6,855	22,500	6,750	350	105	—	—
Cucumber	5,000	5,000	—	33,333	5,000	33,333	5,000	—	—	—	—

Appendix C. Table 13b Per Chia Average Yield and Gross Returns
of Peanuts and Competing Crops in Yunlin Pref.

Amount: Tai catty
Value: NT$

(Average of 108 sample farms, 1953)

Item	Total value			Main products						By-products	
	Total	Cash	Non-cash	Sob-total		Cash		Non-cash			
				Amt	Value	Amt	Value	Amt	Value	Amt	Value
Peanut: spring planted											
3 years rotation area	3,599	2,476	1,123	2,103	3,409	1,527	2,476	576	933	6,221	190
Dry land	3,656	2,160	1,496	1,987	3,485	1,232	2,160	755	1,324	5,739	172
Peanut: autumn planted											
3 years rotation area	3,841	1,472	2,369	2,081	3,652	826	1,47		2,180	5,723	189
Dry land	3,870	1,906	1,964	2,055	3,678	1,091	1,90		1,772	6,429	192
Sweet potato: spring planted											
3 years rotation area	3,538	900	2,638	21,472	3,346	5,886	900	15,586	2,445	5,665	193
Dry land	3,668	792	2,876	20,200	3,490	4,687	792	15,513	2,697	4,676	179
Sweet potato: autumn planted											
3 years rotation area	2,697	334	2,363	14,749	2,485	2,430	334	12,319	2,152	2,876	211
Dry land	3,018	439	2,579	15,306	2,830	2,242	439	13,064	2,391	4,594	188
Soybean	2,430	—	2,430	880	2,160	—	—	880	2,160	4,333	270
Peas	1,222	629	593	1,010	1,048	619	629	391	419	5,476	174
Indian corn	2,480	2,400	80	2,000	2,400	2,000	2,400	—	—	1,000	80
Jute	2,480	2,195	285	1,410	2,195	1,410	2,195	—	—	3,250	285

Appendix C. Table 13c Per Chia Average Yield and Gross Returns of
Peanuts and Competing Crops in Changhua Prefecture
(Average of 21 sample farms, 1953)

Amount: Tai catty
Value: NT$

Item	Total value			Main products						By-products	
	Total	Cash	Non-cash	Sub-total		Cash		Non-cash		Amt	Value
				Amt	Value	Amt	Value	Amt	Value		
Peanut : spring planted											
Dry land	3,134	1,725	1,409	1,808	3,003	1,071	1,725	737	1,279	3,302	130
Sweet potato : autumn planted											
Dry land	2,674	891	1,783	17,601	2,489	6,348	891	11,253	1,598	4,879	185
Soybean	3,168	2,468	700	1,373	2,948	1,205	2,468	168	480	2,067	220
Indian corn	2,666	2,340	326	2,020	2,626	1,800	2,340	220	286	800	40
Sesame	573	—	573	198	—	—	—	198	503	825	70
Water melon	6,855	6,750	105	22,850	6,855	22,500	6,750	350	105	—	—

Appendix C. Table 13d Per Chia Average Yield and Gross Returns of Peanuts and Competing Crops in Chiayi Prefecture

Amount: Tai catty
Value: NT$

(Average of 29 sample farms, 1953)

Item	Total value			Main products						By-products	
				Sub-total		Cash		Non-cash			
	Total	Cash	Non-cash	Amt	Value	Amt	Value	Amt	Value	Amt	Value
Peanut: spring planted											
3 years rotation area	3,561	2,790	771	2,229	3,426	1,848	2,790	381	636	3,556	135
Dry land	4,437	2,822	1,615	2,478	4,251	1,667	2,822	811	1,429	5,862	186
Peanut: Autumn planted:											
3 years rotation area	3,179	1,057	2,122	1,695	3,059	592	1,057	1,103	2,002	3,027	120
Dry land	3,045	1,442	1,603	1,625	2,894	819	1,442	806	1,452	4,314	151
Sweet potato : spring planted											
3 years rotation area	4,458	1,354	3,104	27,000	4,109	8,829	1,354	18,171	2,755	8,471	349
Dry land	3,584	711	2,873	19,611	3,327	4,444	711	15,167	2,616	4,611	257
Sweet potato : autumn planted											
3 years rotation area	4,382	1,726	2,656	26,472	4,089	11,393	1,726	15,079	2,363	6,404	293
Dry land	3,864	322	3,542	19,511	3,585	2,146	322	17,365	3,263	6,451	279
Upland rice	3,586	1,611	1,975	2,322	3,313	1,130	1,611	1,192	1,702	2,648	273
Jute	4,069	3,776	293	1,861	3,800	1,841	3,776	20	24	3,130	269
Cotton	7,000	6,667	333	1,333	6,667	1,333	6,667	—	—	3,333	333

Appendix C. Table 13e Per Chia Average Yield and Gross Returns of Peanuts and Competing Crops in Tainan Prefecture

Amount: Tai catty
Value: NT$

(Average of 34 sample farms, 1953)

Item	Total value			Main products						By-products	
				Sub-total		Cash		Non-cash			
	Total	Cash	Non-cash	Amt	Value	Amt	Value	Amt	Value	Amt	Value
Peanut : spring planted											
3 years rotation area	2,670	2,160	510	2,100	2,520	1,800	2,160	300	360	5,000	150
Peanut : autumn planted											
3 years rotation area	3,572	--	3,572	2,299	3,422	—	—	2,299	3,422	4,390	150
Dry land	4,444	—	4,444	2,366	4,274	—	—	2,366	4,274	4,480	170
Sweet potato : autumn planted											
Dry land	5,251	—	5,251	30,179	4,934	—	—	30,179	4,934	6,088	317
Upland rice	3,546	700	2,846	2,417	3,308	500	700	1,917	2,608	3,083	238
Sesame	1,646	1,521	125	1,042	1,521	1,042	1,521	—	—	1,250	125
Cucumber	5,000	5,000	—	33,333	5,000	33,333	5,000	—	—	—	—

Appendix C. Table 13f Per Chia Average. Yield and Gross Returns of Peanuts and Competing Crops in Hualien Pref.

Amount: Tai catty
Value: NT$

(Average of 27 sample farms, 1953)

Item	Total value			Main products						By-products	
	Total	Cash	Non-cash	Sub-total		Cash		Non-cash			
				Amt	Value	Amt	Value	Amt	Value	Amt	Value
Peanut: spring planted											
Dry land	2,973	1,306	1,667	1,674	2,816	795	1,306	879	1,510	6,720	157
Single rice cropping field	3,097	2,349	748	1,840	3,017	1,448	2,349	392	668	3,606	80
Peanut: autumn planted											
Dry land	1,946	52	1,894	1,050	1,827	35	52	1,015	1,775	3,353	119
Sweet potato: spring planted											
Dry land	3,546	74	3,472	19,319	3,135	459	74	18,860	3,065	12,093	407
Sweet potato: autumn planted											
Dry land	3,431	56	3,375	18,597	3,102	313	56	18,284	3,046	9,486	329
Upland rice	2,962	—	2,962	2,822	2,823	—	—	2,822	2,823	2,310	139
Soybean	4,642	3,685	957	1,661	4,592	1,333	3,685	328	907	1,340	50
Indian corn	1,036	938	98	1,300	976	1,250	938	50	38	3,000	60

Appendix C. Table 14a   Per Chia Costs of Production of Peanuts and Competing Crops

(Average of 219 sample farms, 1953)

Unit: NT$

Item	Total expenses			Seeding expenses			Fertilizer expenses			Man-labor expenses			Man-animal Labor Expenses			Animal labor expenses			Other expenses		
	Total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash
Peanut: spring planted																					
3 years rotation area	1,964	1,509	455	435	347	88	648	541	107	509	308	201	343	292	51	2	1	1	27	20	7
Dry land	2,114	1,782	332	557	525	32	417	379	38	635	392	243	424	414	10	9	8	1	72	64	8
Single rice cropping field	1,756	942	814	416	195	221	150	150	—	792	400	392	355	175	180	43	22	21	—	—	—
Peanut: autumn planted																					
3 years rotation area	2,157	1,681	476	483	394	89	574	488	86	658	391	267	430	395	34	12	12	—	—	—	—
Dry land	1,778	1,483	295	449	430	19	297	244	53	609	396	213	407	398	9	5	5	—	11	10	1
Sweet potato: spring planted																					
3 years rotation area	1,769	1,454	315	220	189	31	584	437	147	387	298	89	550	502	48	2	2	—	26	26	—
Dry land	1,663	1,542	121	259	256	3	457	390	67	425	380	45	460	457	3	7	4	3	55	55	—
Sweet potato: autumn planted																					
3 years rotation area	1,787	1,516	271	254	206	48	503	363	140	435	370	65	595	577	18	—	—	—	—	—	—
Dry land	1,667	1,447	220	232	202	30	488	372	116	364	302	62	552	542	10	8	6	2	23	23	—
Upland rice	1,685	1,069	616	103	91	12	481	135	346	599	375	224	461	427	34	—	—	—	41	41	—
Soybean	1,101	909	192	113	67	46	269	242	27	372	253	119	303	303	—	38	38	—	6	6	—
Peas	1,379	1,085	294	522	322	200	429	381	48	190	144	46	238	238	—	—	—	—	—	—	—
Indian corn	1,282	850	432	229	196	33	393	187	206	299	228	71	361	239	122	—	—	—	—	—	—
Sesame	1,283	1,142	141	40	40	—	625	531	94	397	350	47	162	162	—	—	—	—	59	59	—
Jute	3,065	1,976	1,089	241	118	123	1,266	558	708	1,094	836	258	464	464	—	—	—	—	—	—	—
Cotton	3,009	2,309	700	17	17	—	500	200	300	1,300	900	400	333	333	—	—	—	—	859	859	—
Water melon	7,743	6,243	1,500	30	30	—	2,550	1,050	1,500	4,500	4,500	—	263	263	—	—	—	—	400	400	—
Cucumber	2,967	1,807	1,160	167	—	167	1,560	800	760	373	140	233	700	700	—	—	—	—	167	167	—

Appendix C. Table 14b Per Chia Costs of Production of Peanuts and Competing Crops in Yunlin Pref.

(Average of 108 sample farms, 1953)

Unit: NT$

Item	Total expenses			Seeding expenses			Fertilizer expenses			Man-labor expenses			Man-animal Labor expenses			Animal labor expenses			Other expenses		
	Total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash
Peanut: spring planted																					
3 years rotation area	1,972	1,533	439	436	348	88	667	560	107	500	306	194	339	297	42	2	1	1	28	21	7
Dry land	2,042	1,834	208	455	429	26	574	550	24	491	361	130	381	378	3	22	20	2	119	96	23
Peanut: autumn planted																					
3 years rotation area	2,204	1,772	432	483	430	53	659	570	89	644	381	263	403	376	27	15	15	—	—	—	—
Dry land	1,717	1,513	204	426	426	—	323	288	35	489	324	165	383	379	4	33	33	—	63	63	—
Sweet potato: spring planted																					
3 years rotation area	1,734	1,427	307	214	184	30	590	444	146	364	273	91	536	496	40	2	2	—	28	28	—
Dry land	1,697	1,572	125	183	177	6	462	405	57	404	352	52	543	537	6	5	1	4	100	100	—
Sweet potato: autumn																					
3 years rotation area	1,426	1,230	196	198	149	49	411	321	90	344	297	47	473	463	10	—	—	—	—	—	—
Dry land	1,823	1,606	217	248	237	11	561	397	164	397	369	28	595	587	8	13	7	6	9	9	—
Soybean	1,702	1,582	120	225	105	120	740	740	—	310	310	—	400	400	—	—	—	—	27	27	—
Peas	1,379	1,085	294	522	322	200	429	381	48	190	144	46	238	238	—	—	—	—	—	—	—
Indian corn	1,499	860	639	500	500	—	639	360	279	100	—	100	260	—	260	—	—	—	—	—	—
Jute	3,308	1,335	1,973	183	—	183	1,879	304	1,575	983	768	215	263	263	—	—	—	—	—	—	—

Appendix C. Table 14c. Per Chia Costs of Production of Peanut and Competing Crops in Tainan Prefecture

Unit: NT$

(Average of 34 sample farms, 1953)

Item	Total expenses			Seeding expenses			Fertilizer expenses			Man-labor expenses			Man-animal labor expenses			Animal labor expenses			Other expenses		
	Total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash
Peanut: spring planted																					
3 years rotation Area	1,161	25	1,136	264	—	264	312	—	312	310	25	285	275	—	275	—	—	—	—	—	—
Peanut: autumn planted																					
3 years rotation Area	1,740	1,178	562	377	285	92	533	322	211	386	212	174	444	359	85	—	—	—	—	—	—
Dry land	1,852	1,503	349	478	460	18	354	252	102	599	386	213	419	405	14	—	—	—	2	—	2
Sweet potato: autumn planted																					
Dry land	2,264	1,858	406	308	287	21	857	568	289	296	209	87	791	782	9	12	12	—	—	—	—
Upland rice	2,172	1,533	639	156	156	—	1,004	475	529	454	344	110	558	558	—	—	—	—	—	—	—
Sesame	1,818	1,568	250	38	38	—	1,250	1,000	250	317	317	—	213	213	—	—	—	—	—	—	—
Cucumber	2,967	1,807	1,160	167	—	167	1,560	800	760	373	140	233	700	700	—	—	—	—	167	167	—

Appendix C. Table. 14d. Per Chia Costs of Production of Peanut and Competing Crops in Chiayi Prefecture

Unit: NT$

(Average of 29 sample farms, 1953)

Item	Total expenses			Seeding expenses			Fertilizer expenses			Man-labor expenses			Man-animal labor expenses			Animal labor expenses			Other expenses		
	Total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash
Peanut: spring planted																					
3 years rotation Area	2,025	1,454	571	453	453	—	296	263	33	818	461	357	458	277	181	—	—	—	—	—	—
Dry land	2,098	1,898	200	448	448	—	687	671	16	597	413	184	366	366	—	—	—	—	—	—	—
Peanut: autumn planted																					
3 years rotation Area	2,069	1,452	617	507	285	222	267	222	45	773	469	304	522	476	46	—	—	—	—	—	—
Dry land	1,845	1,497	348	433	380	53	293	293	—	630	335	295	489	489	—	—	—	—	—	—	—
Sweet potato: spring planted																					
3 years rotation Area	2,137	1,746	391	281	247	34	510	355	155	639	579	60	707	565	142	—	—	—	—	—	—
Dry land	1,968	1,756	212	261	261	—	758	639	119	457	364	93	492	492	—	—	—	—	—	—	—
Sweet potato : autumn planted																					
3 years rotation Area	2,003	1,604	399	305	305	—	519	258	261	504	407	97	675	634	41	—	—	—	—	—	—
Dry land	1,941	1,653	288	245	245	—	771	668	103	396	284	112	529	456	73	—	—	—	—	—	—
Upland rice	1,502	881	621	105	78	27	286	—	286	616	383	233	403	328	75	—	—	—	92	92	—
Jute	2,956	2,260	696	266	170	96	993	670	323	1,143	866	277	554	554	—	—	—	—	—	—	—
Cotton	3,009	2,309	700	17	17	—	500	200	300	1,300	900	400	333	333	—	—	—	—	9	9	—

Appendix C. Table 14e.　Per chia Costs of Production of Peanut and Competing Crops in Changhua Pref.

(Average of 21 sample farms, 1953)

Unit : NT$

Item	Total expenses			Seeding expenses			Fertilizer expenses			Man-labor expenses			Man-animal labor expenses			Animal labor expenses			Other expenses		
	Total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash
Peanut : spring planted																					
Dry land	2,386	2,037	349	792	726	66	372	361	11	622	355	267	509	504	5	—	—	—	91	91	—
Sweet potato : autumn planted																					
Dry land	1,431	1,251	180	223	156	67	337	304	33	305	225	80	509	509	—	—	—	—	57	57	—
Soybean	767	646	121	129	65	64	83	83	—	215	158	57	340	340	—	—	—	—	—	—	—
Indian corn	1,740	1,300	440	200	200	—	465	250	215	530	455	75	545	395	150	—	—	—	—	—	—
Sesame	961	886	75	41	41	—	250	250	—	445	370	75	131	131	—	—	—	—	94	94	—
Water melon	7,743	6,243	1,500	30	30	—	2,550	1,050	1,500	4,500	4,500	—	263	263	—	—	—	—	400	400	—

Appendix C. Table 14f Per Chia Costs of Production of Peanut and Competing Crops in Hualien Pref.

(Average of 27 sample farms, 1953)

Unit: NT$

Item	Total expenses			Seeding expenses			Fertilizer expenses			Man-labor expenses			Man-animal labor expenses			Animal expenses			Other expenses		
	Total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash	Sub-total	Non-cash	Cash
Peanut: spring planted																					
Dry land	1,858	1,381	477	399	399	—	239	148	91	834	474	360	376	352	24	8	6	2	2	2	—
Single rice cropping field	1,756	942	814	416	195	221	150	150	—	792	400	392	355	175	180	43	22	21	—	—	—
Peanut: autumn planted																					
Dry land	1,593	1,400	193	416	416	—	152	140	12	707	538	169	318	306	12	—	—	—	—	—	—
Sweet potato: spring planted																					
Dry land	1,553	1,455	98	371	371	—	390	318	72	447	423	24	334	334	—	11	9	2	—	—	—
Sweet potato: autumn planted																					
Dry land	1,411	1,234	177	167	167	—	343	239	104	452	396	56	430	415	15	19	17	2	—	—	—
Upland rice	1,693	1,095	598	80	80	—	489	150	339	638	379	259	486	486	—	—	—	—	—	—	—
Soybean	1,165	948	217	102	66	36	296	259	37	422	278	144	287	287	—	52	52	—	6	6	—
Indian corn	570	279	291	94	—	94	150	—	150	133	86	47	193	193	—	—	—	—	—	—	—

Appendix C. Table 15a Comparison of Per Chia Costs and Net Returns
of Peanut and Competing Crops

(Average of 219 sample farms, 1953)

Unit : NT$

Item	Value of production			Cost of production			Net Return		
	Total	Cash	Non-cash	Total	Cash	Non-cash	Total	Cash	Non-cash
Peanut : spring planted									
3 years rotation area	3,585	2,483	1,102	1,964	455	1,509	1,621	2,028	-407
Dry land	3,321	1,803	1,518	2,114	332	1,782	1,207	1,471	-264
Single rice cropping field	3,097	2,349	748	1,756	814	942	1,341	1,535	-194
Peanut : autumn planted									
3 years rotation area	3,693	1,318	2,375	2,157	476	1,681	1,536	842	694
Dry land	3,588	597	2,991	1,778	295	1,483	1,810	302	1,508
Sweet potato : spring planted									
3 years rotation area	3,611	936	2,675	1,769	315	1,454	1,842	621	1,221
Dry land	3,617	517	3,100	1,663	121	1,542	1,954	396	1,558
Sweet potato : autumn planted									
3 years rotation area	3,495	672	2,823	1,787	271	1,516	1,708	401	1,307
Dry land	3,234	487	2,747	1,667	220	1,447	1,567	267	1,300
Upland rice	3,331	826	2,505	1,685	616	1,069	1,646	210	1,436
Soybean	4,224	3,259	965	1,101	192	909	3,123	3,067	56
Peas	1,222	629	593	1,379	294	1,085	-157	335	-492
Indian corn	2,058	1,865	193	1,282	432	850	776	1,433	-657
Sesame	975	570	405	1,283	141	1,142	-308	429	-737
Jute	3,555	3,290	265	3,065	1,089	1,976	490	2,201	-1,711
Cotton	7,001	6,668	333	3,009	700	2,309	3,992	5,968	-1,976
Water melon	6,855	6,750	105	7,743	1,500	6,243	-888	5,250	-6,138
Cucumber	5,000	5,000	—	2,967	1,160	1,807	2,033	3,480	-1,807

Appendix C. Table 15b Comparison of Per Chia Costs and Net Returns of
Peanut and Competing Crops in Yunlin Prefecture

(Average of 108 sample farms, 1953)　　　　Unit: NT$

Item	Value of production			Cost of production			Net Return		
	Total	Cash	Non-cash	Total	Cash	Non-cash	Total	Cash	Non-cash
Peanut: spring planted									
3 years rotation area	3,599	2,476	1,123	1,972	439	1,533	1,627	2,037	-410
Dry land	3,656	2,160	1,496	2,042	208	1,834	1,614	1,952	-333
Peanut: autumn planted									
3 years rotation area	3,841	1,472	2,369	2,204	432	1,772	1,637	1,040	597
Dry land	3,870	1,906	1,964	1,717	204	1,513	2,153	1,702	451
Sweet potato: spring planted									
3 years rotation area	3,538	900	2,638	1,734	307	1,427	1,804	593	1,211
Dry land	3,668	792	2,876	1,697	125	1,572	1,971	667	1,304
Sweet potato: autumn planted									
3 years rotation area	2,697	334	2,363	1,426	196	1,230	1,271	138	1,133
Dry land	3,018	439	2,579	1,823	217	1,606	1,195	222	973
Soybean	2,430	—	2,430	1,702	120	1,582	728	-120	848
Peas	1,222	629	593	1,379	294	1,085	-157	335	-492
Indian corn	2,480	2,400	80	1,499	639	860	981	1,761	-780
Jute	2,480	2,195	285	3,308	1,973	1,335	-828	222	-1,050

Appendix C. Table 15c, Comparison of Per Chia Costs and Net Returns of
Peanut and Competing Crops in Tainan Prefecture

Unit : NT$

Item	Value of production			Cost of production			Net Return		
	Total	Cash	Non-cash	Total	Cash	Non-cash	Total	Cash	Non-cash
Peanut : spring planted									
3 years rotation area	2,670	2,160	510	1,161	1,136	25	1,509	1,024	485
Peanut : autumn planted									
3 years rotation area	3,572	—	3,572	1,740	562	1,178	1,832	-562	2,394
Dry land	4,444	—	4,444	1,852	349	1,503	2,592	-349	2,941
Sweet potato : autumn planted									
Dry land	5,251	—	5,251	2,264	406	1,858	2,987	-406	3,393
Upland rice	3,546	700	2,846	2,172	639	1,533	1,374	61	1,313
Sesame	1,646	1,521	125	1,818	250	1,568	-172	1,271	-1,433
Cucumber	5,000	5,000	—	2,967	1,160	1,807	2,033	3,840	-1,807

Appendix C. Table 15d Comparison of Per Chia Costs and Net Returns of Peanut and Competing Crops in Chiayi Prefecture

(Average of 29 sample farms, 1953). Unit: NT$

Item	Value of production			Cost of production			Net Return		
	Total	Cash	Non-cash	Total	Cash	Non-cash	Total	Cash	Non-cash
Peanut: spring planted									
3 years rotation area	3,561	2,790	771	2,025	571	1,454	1,536	2,219	-683
Dry land	4,437	2,822	1,615	2,095	200	1,898	2,339	2,622	-283
Peanut: autumn planted									
3 years rotation area	3,179	1,057	2,122	2,069	617	1,452	1,110	440	670
Dry land	3,045	1,442	1,603	1,845	348	1,497	1,200	1,094	106
Sweet potato: spring planted									
3 year rotation area	4,458	1,354	3,104	2,137	391	1,746	2,321	963	1,358
Dry land	3,584	711	2,873	1,968	212	1,756	1,616	498	1,118
Sweet potato: autumn planted									
3 years rotation area	4,382	1,726	2,656	2,003	399	1,604	2,379	1,327	1,052
Dry land	3,864	322	3,542	1,941	288	1,653	1,923	34	1,889
Upland rice	3,586	1,611	1,975	1,502	621	881	2,084	990	1,094
Jute	4,069	3,776	293	2,956	696	2,260	1,113	3,080	-1,967
Cotton	7,000	6,667	333	3,009	700	2,309	3,991	5,967	-1,976

Appendix C. Table 15e   Comparison of Per Chia Costs and Net Returns of
Peanut and Competing Crops in Changhua Prefecture

(Average of 21 sample farms, 1953)   Unit : NT$

Item	Value of Production			Cost of production			Net Return		
	Total	Cash	Non-cash	Total	Cash	Non-cash	Total	Cash	Non-cash
Peanut : spring planted									
Dry land	3,134	1,725	1,409	2,386	349	2,037	748	1,376	-628
Sweet potato : autumn planted									
Dry land	2,674	891	1,783	1,431	180	1,251	1,243	711	532
Soybean	3,168	2,468	700	767	121	646	2,401	2,347	54
Indian corn	2,666	2,340	326	1,740	440	1,300	926	1,900	-974
Sesame	573	—	573	961	75	886	-388	-75	-313
Water melon	6,855	6,750	105	7,743	1,500	6,243	-888	5,250	-6,138

Appendix C. Table 15f Comparison of Per Chia Costs and Net Returns of
Peanuts and Competing Crops in Hualien Prefecture.

(Average of 27 sample farms, 1953)   Unit : NT$

Item	Value of production			Cost of production			Net Return		
	Total	Cash	Non-cash	Total	Cash	Non-cash	Total	Cash	Non-cash
Peanut : spring planted									
Dry land	2,973	1,306	1,667	1,858	477	1,381	1,115	829	286
Single rice cropping field	3,097	2,349	748	1,756	814	942	1,341	1,535	-194
Peanut : autumn planted									
Dry land	1,946	52	1,894	1,593	193	1,400	353	-141	494
Sweet potato : spring planted									
Dry land	3,546	74	3,472	1,553	98	1,454	1,993	-24	2,017
Sweet potato : autumn planted									
Dry land	3,431	56	3,375	1,411	177	1,234	2,020	-121	2,141
Upland rice	4,962	—	2,962	1,693	598	1,095	1,269	-598	1,867
Soybean	4,642	3,685	957	1,165	217	948	3,477	3,468	9
Indian corn	1,036	938	98	570	291	279	466	647	-181

Appendix C. Table 16a Average Per Chia Returns to Family
Labor and Other Farm Supplied Factors
in Yunlin Prefecture
(Average of 108 sample farms, 1953)

Item	Gross Return (1)	Cash Expenses (2)	NT$ Per Chia (3)=(1)-(2)
Peanut: Spring Planted			
3 years rotation area	3,599	439	3,160
Dry land	3,656	208	3,448
Peanut: Autumn Planted			
3 years rotation area	3,841	432	3,409
Dry land	3,870	204	3,666
Sweet potato: Spring Planted			
3 years rotation area	3,538	307	3,231
Dry land	3,668	125	3,543
Sweet potato: Autumn Planted			
3 years rotation area	2,697	196	2,501
Dry land	3,018	217	2,801
Soybean	2,430	120	2,310
Peas	1,222	294	928
Indian Corn	2,480	639	1,841
Jute	2,480	1,973	507

Appendix C. Table 16b Average Per Chia Returns to Family
Labor and Other Farm Supplied Factors
in Changhua Prefecture
(Average of 21 sample farms, 1953)

Item	Gross Return (1)	Cash Expenses (2)	NT$ Per Chia (3)=(1)-(2)
Peanut: Spring Planted			
Dry land	3,134	349	2,785
Sweet potato: Autumn Planted			
Dry land	2,674	180	2,494
Soybean	3,168	121	3,047
Indian Corn	2,666	440	2,226
Sesame	573	75	498
Water melon	6,855	1,500	5,355

Appendix C. Table 16c Average Per Chia Returns to Family
Labor and Other Farm Supplied Factors
in Chiayi Prefecture
(Average of 29 sample farms, 1953)

Item	Gross Return (1)	Cash Expenses (2)	NT$ Per Chia (3)=(1)−(2)
Peanut: Spring Planted			
3 years rotation area	3,561	571	2,990
Dry land	4,437	200	4,237
Peanut: Autumn Planted			
3 years rotation area	3,179	617	2,562
Dry land	3,045	348	2,697
Sweetpotato: Spring Planted			
3 years rotation area	4,458	391	4,067
Dry land	3,584	212	3,372
Sweetpotato: Autumn Planted			
3 years rotation area	4,382	399	3,983
Dry land	3,864	288	3,576
Upland rice	3,586	621	2,965
Jute	4,069	696	3,373
Cotton	7,000	700	6,300

Appendix C. Table 16d Average Per Chia Returns to Family
Labor and Other Farm Supplied Factors
in Tainan Prefecture
(Average of 34 sample farms, 1953)

Item	Gross Return (1)	Cash Expenses (2)	NT$ Per Chia (3)=(1)−(2)
Peanut: Spring Planted			
3 years rotation area	2,670	1,136	1,534
Peanut: Autumn Planted			
3 years rotation area	3,572	562	3,010
Dry land	4,444	349	4,095
Sweetpotato: Autumn Planted			
Dry land	5,251	406	4,845
Upland rice	3,546	639	2,907
Sesame	1,646	250	1,396
Cucumber	5,000	1,160	3,840

Appendix C. Table 16e   Average Per Chia Returns to Family
Labor and Other Farm Supplied Factors
in Hualien Prefecture
(Average of 27 sample farms, 1953)

Item	Gross Return (1)	Cash Expenses (2)	NT$ Per Chia (3)=(1)−(2)
Peanut : Spring Planted			
Dry land	2,973	477	2,496
Single rice cropping field	3,097	814	2,283
Peanut : Autumn Planted			
Dry land	1,946	193	1,753
Sweetpotato : Spring Planted			
Dry land	3,546	98	3,448
Sweetpotato : Autumn Planted			
Dry land	3,431	177	3,254
Upland rice	2,962	598	2,364
Soybean	4,642	217	4,425
Indian Corn	1,036	291	745

Appendix C. Table 17 Economic Factors Affecting Peanut Production by Pref., 1953

Item	Total		Changhua		Yunlin		Chiayi		Tainan		Hualien	
	No. of Cases Reported	%	No. of Cases Reported	%	No. of Cases Reported	%	No. of Cases Reported	%	No. of Cases Reported	%	No. of Cases Reported	%
Total	1,124	100	86	100	593	100	161	100	140	100	144	100
More income than other crops	168	14.95	20	23.26	88	14.84	21	13.04	28	20.00	11	7.64
Total income in a rotation system is more with peanut than without peanut	128	11.39	16	18.60	68	11.47	16	9.94	5	3.57	23	15.97
As green manure for the next crop	180	16.01	13	15.12	92	15.51	18	11.18	31	22.14	26	18.06
For home consumption	51	4.54	—	—	26	4.38	10	6.21	7	5.00	2	1.39
For feed	12	1.07	—	—	7	1.18	—	—	—	—	5	3.47
Free from rent payment	4	0.35	6	6.97	—	—	—	—	1	0.71	3	2.08
Less labor requirement	37	3.29	—	—	25	4.22	5	3.10	4	2.86	2	1.39
More chance to use aged persons, women & child labor	127	11.30	—	—	69	11.64	23	14.29	11	7.86	24	16.67
Less fert. and miscellaneous expenses required	91	8.10	3	3.49	49	8.26	16	9.94	11	7.86	14	9.72
Price of Peanut is relatively stable	138	12.28	14	16.28	78	13.15	23	14.29	11	7.86	12	8.33
Require short growing period & less capital	186	16.55	14	16.28	90	15.18	28	17.39	31	22.14	22	15.28
Others	2	0.17	—	—	1	0.17	1	0.62	—	—	—	—

Appendix C. Table 18a   Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land

(Average of all sample farms, 1953)

Item	Man Labor Days			Man-Animal Labor Days			Animal Labor Days		
	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor
	Days	Days	Days	Days	Days	Days	Days	Days	Days
Peanut: Spring planted									
3 years rotation area	90	53	37	16	14	2	—	—	—
Dry land	95	57	38	18	18	—	1	1	1
Single rice cropping field	89	44	45	15	8	7	4	2	2
Peanut: autumn planted									
3 years rotation area	105	60	45	18	17	1	1	1	1
Dry land	92	58	34	16	16	—	1	1	—
Sweet potato : spring planted									
3 years rotation area	58	44	14	25	23	2	—	—	—
Dry land	57	50	7	22	22	—	—	—	—
Sweet potato: autumn planted									
3 years rotation area	65	55	10	28	27	1	—	—	—
Dry land	54	44	10	24	24	—	1	1	—
Upland rice	81	50	31	21	19	2	—	—	—
Soybean	47	32	15	13	13	—	4	4	—
Peas	24	18	6	11	11	—	—	—	—
Indian Corn	55	42	13	14	9	5	—	—	—
Sesame	64	55	9	7	7	—	—	—	—
Jute	185	135	50	21	21	—	—	—	—
Cotton	210	130	80	13	13	—	—	—	—
Water melon	450	450	—	10	10	—	—	—	—
Cucumber	47	17	30	23	23	—	—	—	—

Appendix C. Table 18b Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Yunlin Pref.

(Average of 108 sample farms, 1953)

Item	Man Labor Days			Man-Animal Labor Days			Animal Labor Days		
	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor
	Days	Days	Days	Days	Days	Days	Days	Days	Days
Peanut: spring planted									
3 years rotation area	89	53	36	16	14	2	—	—	—
Dry land	81	56	25	18	18	—	2	2	—
Peanut: autumn planted									
3years rotation area	101	57	44	17	16	1	1	1	—
Dry land	89	58	31	19	19	—	4	4	—
Sweet potato: spring planted									
3 years rotation area	56	42	14	25	23	2	—	—	—
Dry land	61	53	8	27	27	—	—	—	—
Sweet potato: autumn planted									
3 years rotation area	50	43	7	23	22	1	—	—	—
Dry land	59	54	5	28	28	—	1	1	—
Soybean	59	59	—	20	20	—	—	—	—
Peas	24	18	6	11	11	—	—	—	—
Indian Corn	18	—	18	13	—	13	—	—	—
Jute	144	108	36	11	11	—	—	—	—

Appendix C. Table 18c   Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Tainan Pref.

(Average of 34 Sample farms, 1953)

Item	Man Labor Days			Man-Animal Labor Days			Animal Labor Days		
	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor
	Days	Days	Days	Days	Days	Days	Days	Days	Days
Peanut: spring planted									
3 years rotation area	60	3	57	11	—	11	—	—	!
Peanut: autumn planted									
3 years rotation area	65	34	31	16	13	3	—	—	\
Dry land	91	58	33	15	15	—	—	—	\
Sweet potato: autumn planted									
Dry land	48	35	13	28	28	—	1	1	—
Upland rice	58	44	14	21	21	—	—	—	—
Sesame	51	51	—	9	9	—	—	—	—
Cucumber	47	17	30	23	23	—	—	—	—

Appendix C. Table 18d Human and Animal Days Required for the Production of Peanuts and Competing Croups Per Chia of Land in Chiayi Pref.

(Average of 29 sample farms, 1953)

Item	Man Labor days			Man-Animal Labor Days			Animal Labor Days		
	Total	Home provided	Hired labor	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor
	Days	Days	Days	Days	Days	Days	Days	Days	Days
Peanut: spring planted									
3 years rotation area	129	68	61	18	11	7	—	—	—
Dry land	114	78	36	15	15	—	—	—	—
Peanut: autumn planted									
3 years rotation area	129	74	55	21	19	2	—	—	—
Dry land	112	57	55	20	20	—	—	—	—
Sweet potato: spring planted									
3 years rotation area	87	77	10	30	23	7	—	—	—
Dry land	76	60	16	22	22	—	—	—	—
Sweet potato: autumn planted									
3 years rotation area	79	62	17	29	28	1	—	—	—
Dry land	65	46	19	23	20	3	—	—	—
Upland rice	97	59	38	18	14	4	—	—	—
Jute	203	146	57	25	25	—	—	—	—
Cotton	210	130	80	13	13	—	—	—	—

Appendix C. Table 18e Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Changhua Pref.

(Average of 21 sample farms, 1953)

Item	Man labor days			Man-animal labor days			Animal labor days		
	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor	Total	Home Provided	Hired Labor
	Days	Days	Days	Days	Days	Days	Days	Days	Days
Peanut : spring planted									
Dry land	102	57	45	20	20	—	—	—	—
Sweet potato : autumn planted									
Dry land	50	37	13	22	22	—	—	—	—
Soybean	38	29	9	13	13	—	—	—	—
Indian corn	104	89	15	19	14	5	—	—	—
Sesame	73	58	15	6	6	—	—	—	—
Water melon	450	450	—	10	10	—	—	—	—

Appendix C. Table 18f Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Hualien Pref.

Item	Man Labor Days			Man-Animal Labor Days			Animal Labor Days		
	Total	Home Provided	Hired labor	Total	Home Provided	Hired labor	Total	Home Provided	Hired labor
	Days	Days	Days	Days	Days	Days	Days	Days	Days
Peanut : spring planted									
Dry land	99	54	45	18	17	1	1	1	—
Single Rice Cropping Field	89	44	45	15	8	7	4	2	2
Peanut : autumn planted									
Dry land	75	57	18	15	14	1	—	—	—
Sweet potato : spring planted									
Dry land	48	46	2	15	15	—	1	1	—
Sweet potato : autumn planted									
Dry land	50	43	7	21	20	1	2	2	—
Upland rice	72	43	29	25	25	—	—	—	—
Soybean	48	30	18	12	12	—	5	5	—
Indian Corn	18	11	7	10	10	—	—	—	—

Appendix C. Table 19a. Human and Animal Labor Days required for the Production of Peanuts and Competing Crops per Chia of Land by Major Items of Work

(Average of all sample farms, 1953)

Item	Man Labor										Man-animal Labor					Animal Labor				
	Total	Soil treatment	Sowing	Fertilizer application	Weeds control	Irrigation	Damage preventing	Harvest	Cleaning	Others	Total	Soil treatment	Weeds control	Harvest	Transport	Total	Soil treatment	Weeds control	Harvest	Others
Peanut: spring planted																				
3 years rotation area	90.4	0.3	9.2	3.1	29.9	—	1.2	41.9	4.7	0.1	16.3	10.2	0.8	1.7	3.6	0.1	0.1	—	—	—
Dry land	94.7	1.3	8.8	2.2	35.4	—	2.0	40.1	4.9	—	18.2	11.2	2.1	1.8	3.1	1.0	0.9	—	—	0.1
Single rice cropping field	89.2	4.7	10.8	0.6	42.7	—	—	25.7	4.7	—	14.8	12.3	0.6	1.3	0.6	3.5	1.7	1.2	0.6	—
Peanut: autumn planted																				
3 years rotation area	105.0	0.6	10.5	3.3	38.4	—	—	46.2	6.0	—	18.0	11.3	1.8	2.1	2.8	0.6	0.4	—	0.1	0.1
Dry land	91.5	1.2	9.1	1.7	32.0	—	0.4	41.9	5.2	—	16.4	11.1	2.3	1.1	1.9	0.6	0.6	—	—	—
Sweet potato: spring planted																				
3 years rotation area	58.1	1.9	11.3	4.1	13.7	0.6	0.7	25.1	0.7	—	25.3	12.4	3.7	5.8	3.4	0.1	0.1	—	—	—
Dry land	57.4	2.0	10.3	4.0	14.2	1.9	2.6	22.0	0.4	—	22.5	8.4	5.0	6.2	2.9	0.6	0.1	0.2	0.2	0.1
Sweet potato: autumn planted																				
3 years rotation area	64.8	2.3	12.5	3.8	17.7	0.5	0.1	25.7	2.2	—	28.1	13.9	5.4	5.9	2.9	—	—	—	—	0.5
Dry land	53.6	0.8	10.3	3.6	14.6	1.0	0.8	22.5	—	—	24.2	10.1	5.0	6.3	2.8	0.8	0.5	0.2	0.1	0.1
Upland rice	80.8	0.9	5.0	2.5	48.5	—	1.9	17.7	4.3	—	21.0	12.7	5.3	1.2	1.8	—	—	—	—	—
Soybean	46.6	3.8	2.8	0.8	19.8	—	0.1	12.9	6.4	—	12.9	8.4	2.2	1.1	1.2	3.8	3.8	—	—	—
Peas	24.3	—	1.9	—	0.5	—	—	18.1	3.8	—	10.5	10.5	—	—	—	—	—	—	—	—
Indian corn	55.3	—	6.1	5.2	13.0	—	—	12.6	18.4	—	14.4	9.8	2.4	0.9	1.3	—	—	—	—	—
Sesame	64.5	—	3.1	3.6	25.0	—	3.1	23.4	6.3	—	7.2	2.8	0.8	—	3.6	—	—	—	—	—
Jute	185.0	2.8	4.4	5.5	71.3	1.5	0.8	72.4	26.3	—	20.9	13.7	1.3	2.3	3.6	—	—	—	—	—
Cotton	210.0	—	6.7	3.3	—	—	86.7	113.3	—	—	13.3	3.3	—	—	10.0	—	—	—	—	—
Water melon	450.0	5.0	30.0	30.0	10.0	300.0	—	75.0	—	—	10.0	2.5	7.5	—	—	—	—	—	—	—
Cucumber	46.7	—	3.3	10.0	26.7	—	—	—	—	6.7	23.3	23.3	—	—	—	—	—	—	—	—

Appendix C. Table 19b. Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Yunlin Pref. by Major Items of Work

(Average of 108 sample farms, 1953)

Item	Man labor										Man-animal labor					Animal labor				
	Total	Soil treatment	Sowing	Fertilizer application	Weeds control	Irrigation	Damage preventing	Harvest	Cleaning	Others	Total	Soil treatment	Weeds control	Harvest	Transport	Total	Soil treatment	Weeds control	Harvest	Others
Peanut: spring planted 3 years rotation area	89.3	0.3	9.1	3.0	29.5	0.1	1.1	41.4	4.7	0.1	16.3	10.2	0.7	1.7	3.7	0.1	0.1	—	—	—
Dry land	80.6	1.9	9.5	3.6	23.1	—	3.9	34.4	4.2	—	17.9	9.8	0.9	2.2	5.0	2.4	1.9	—	0.1	0.4
Peanut: autumn planted 3 years rotation area	100.9	0.8	10.5	3.6	35.8	—	—	44.5	5.7	—	17.1	10.6	1.3	2.1	3.1	0.8	0.5	—	0.2	0.1
Dry land	89.2	3.9	11.8	4.8	26.6	—	2.1	34.6	5.4	—	18.9	11.2	0.3	1.8	5.6	4.2	3.9	—	0.1	0.2
Sweet potato: spring planted 3 years rotation area	55.7	1.5	11.1	4.0	12.7	0.6	0.5	24.8	0.5	—	24.8	12.2	3.5	5.6	3.5	0.3	0.2	—	0.1	—
Dry land	61.1	0.5	10.9	3.7	13.5	3.4	4.7	24.0	0.4	—	27.4	9.5	5.9	7.6	4.4	0.4	0.1	0.1	0.1	0.1
Sweet potato: autumn planted 3 years rotation area	50.3	1.6	9.7	3.2	13.3	0.2	—	20.7	1.6	—	23.0	11.3	4.3	4.6	2.8	—	—	—	—	—
Dry land	58.9	1.0	9.4	4.1	14.2	3.2	0.5	26.5	—	—	28.0	11.5	5.1	7.1	4.3	1.3	0.7	0.2	0.4	—
Soybean	58.6	—	5.0	2.3	27.0	—	1.0	18.3	5.0	—	20.0	16.7	—	—	3.3	—	—	—	—	—
Peas	24.3	—	1.9	—	0.5	—	—	18.1	3.8	—	10.5	10.5	—	—	—	—	—	—	—	—
Indian corn	18.0	—	4.0	6.0	8.0	—	—	—	—	—	13.0	9.0	2.0	—	2.0	—	—	—	—	—
Jute	143.7	4.2	3.7	4.2	60.0	—	—	35.8	35.8	—	10.8	7.5	—	2.5	0.8	—	—	—	—	—

Appendix C. Table 19c. Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Tainan Pref. by Major Items of Work (Average of 34 sample farms, 1953)

Item	Man labor										Man-animal labor					Animal labor				
	Total	Soil treatment	Sowing	Fertilizer application	Weeds control	Irrigation	Damage preventing	Harvest	Cleaning	Others	Total	Soil treatment	Weeds control	Harvest	Transport	Total	Soil treatment	Weeds control	Harvest	Others
Peanut: spring planted																				
3 years rotation area	60.0	—	6.0	2.0	20.0	—	—	31.0	1.0	—	11.0	7.0	3.0	0.5	0.5	—	—	—	—	—
Peanut: autumn planted																				
3 years rotation area	65.4	—	8.3	2.4	15.1	—	—	34.7	4.9	—	16.2	10.8	2.5	0.7	2.2	—	—	—	—	—
Dry land	90.5	0.1	8.0	1.5	30.7	—	—	47.6	2.6	—	15.0	10.2	2.7	0.7	1.4	—	—	—	—	—
Sweet potato: autumn planted																				
Dry land	48.0	—	12.0	3.6	14.6	—	—	17.8	—	—	28.2	15.6	5.4	4.9	2.3	0.5	—	—	—	0.5
Upland rice	57.5	—	5.8	4.2	21.7	—	—	20.8	5.0	—	20.8	5.0	5.4	2.9	7.5	—	—	—	—	—
Sesame	51.2	—	2.1	3.3	8.3	—	—	33.3	4.2	—	8.7	3.3	—	—	5.4	—	—	—	—	—
Cucumber	46.7	—	3.3	10.0	26.7	—	—	—	—	6.7	23.3	23.3	—	—	—	—	—	—	—	—

Appendix C. Table 19d. Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Chiayi Pref. by Major Items of Work

(Average of 29 sample farms, 1953)

Item	Man										Man-animal labor					Animal labor				
	Total	Soil treatment	Sowing	Fertilizer application	Weeds control	Irrigation	Damage preventing	Harvest	Cleaning	Others	Total	Soil treatment	Weeds control	Harvest	Transport	Total	Soil treatment	Weeds control	Harvest	Others
Peanut : spring planted																				
3 years rotation area	128.9	0.7	12.1	3.5	45.2	—	2.6	59.2	5.6	—	17.9	11.8	2.8	1.1	2.2	—	—	—	—	—
Dry land	113.5	—	8.7	2.4	52.3	—	—	44.9	5.2	—	14.8	7.9	2.7	1.0	3.2	—	—	—	—	—
Peanut : autumn planted																				
3 years rotation area	128.9	—	11.0	1.9	53.7	—	—	55.1	7.2	—	21.3	13.9	3.7	2.2	1.5	—	—	—	—	—
Dry land	112.3	—	8.7	1.4	45.5	—	—	49.0	7.7	—	19.6	11.3	4.2	2.6	1.5	—	—	—	—	—
Sweet potato : spring planted																				
3 years rotation area	86.8	6.2	15.0	5.9	24.7	—	2.9	29.7	2.4	—	29.5	13.9	5.6	7.6	2.4	—	—	—	—	—
Dry land	75.7	1.7	12.2	5.6	25.6	—	—	27.8	2.8	—	22.2	8.3	4.4	7.8	1.7	—	—	—	—	—
Sweet potato : autumn planted																				
3 years rotation area	78.9	3.4	15.4	3.3	23.6	1.3	0.2	28.3	3.4	—	28.6	14.4	5.7	7.4	1.1	—	—	—	—	—
Dry land	64.8	0.7	13.4	3.8	19.3	—	—	27.6	—	—	22.8	10.7	4.5	5.5	2.1	—	—	—	—	—
Upland rice	97.3	1.5	2.5	3.1	59.2	—	2.9	22.2	5.9	—	17.5	10.5	5.4	1.6	—	—	—	—	—	—
Jute	203.2	2.2	4.7	6.1	76.3	2.2	1.0	88.7	22.0	—	25.4	16.4	1.9	2.2	4.8	—	—	—	—	—
Cotton	210.0	—	6.7	3.3	—	—	86.7	113.3	—	—	13.3	3.3	—	—	10.0	—	—	—	—	—

Appendix C. Table 19e. Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Changhua Pref. by Major Items of Work

(Average of 21 sample farms, 1953)

Item	Man labor										Man-animal labor					Animal labor				
	Total	Soil treatment	Sowing	Fertilizer application	Weeds control	Irrigation	Damage preventing	Harvest	Cleaning	Others	Total	Soil treatment	Weeds control	Harvest	Transport	Total	Soil treatment	Weeds control	Harvest	Others
Peanut : spring planted																				
Dry land	102.1	—	8.9	2.0	31.5	—	1.9	52.0	5.8	—	19.7	11.5	2.9	2.5	2.8	—	—	—	—	—
Sweet potato : autumn planted																				
Dry land	50.2	—	9.1	2.7	14.4	—	1.8	22.2	—	—	21.6	7.5	4.7	6.6	2.8	—	—	—	—	—
Soybean	37.9	—	3.3	0.7	14.6	—	—	11.3	8.0	—	12.8	7.7	2.7	1.7	0.7	—	—	—	—	—
Indian corn	104.0	—	10.0	8.0	23.0	—	—	25.0	38.0	—	19.0	12.0	3.0	2.0	2.0	—	—	—	—	—
Sesame	72.5	—	3.8	3.8	35.0	—	5.0	17.4	7.5	—	6.3	2.5	1.3	—	2.5	—	—	—	—	—
Water melon	450.0	5.0	30.0	30.0	10.0	300.0	—	75.0	—	—	10.0	2.5	7.5	—	—	—	—	—	—	—

Appendix C. Table 19f. Human and Animal Labor Days Required for the Production of Peanuts and Competing Crops per Chia of Land in Hualien Pref. by Major Items of Work

(Average of 27 sample farms, 1953)

Item	Man labor										Man-animal labor					Animal labor				
	Total	Soil treatment	Sowing	Fertilizer application	Weeds control	Irrigation	Damage preventing	Harvest	Cleaning	Others	Total	Soil treatment	Weeds control	Harvest	Transport	Total	Soil treatment	Weeds control	Harvest	Others
Peanut: spring planted																				
Dry land	99.2	2.4	7.9	0.7	52.6	—	—	31.0	4.6	—	17.9	13.3	2.5	0.8	1.3	0.8	0.8	—	—	—
Single rice cropping field	89.2	4.7	10.8	0.6	42.7	—	—	25.7	4.7	—	14.8	12.3	0.6	1.3	0.6	3.5	1.7	1.2	0.6	—
Peanut: autumn planted																				
Dry land	75.1	2.9	9.9	0.4	25.6	—	—	28.0	8.3	—	14.9	13.1	1.1	0.1	0.6	—	—	—	—	—
Sweet potato: spring planted																				
Dry land	48.4	4.1	9.1	4.3	13.0	—	—	17.9	—	—	15.4	6.7	3.9	3.9	0.9	1.0	0.1	0.5	0.4	—
Sweet potato: autumn planted																				
Dry land	49.7	2.5	12.5	4.7	14.4	—	—	15.6	—	—	20.5	9.4	5.2	4.9	1.0	1.9	1.3	0.6	—	—
Upland rice	71.9	0.7	7.4	1.2	47.2	—	1.7	11.5	2.2	—	25.0	18.2	5.1	—	1.7	—	—	—	—	—
Soybean	48.4	5.2	2.5	0.7	20.9	—	—	13.1	6.0	—	12.4	8.1	2.2	0.9	1.2	5.2	5.2	—	—	—
Indian corn	18.1	—	2.5	1.3	3.8	—	—	5.0	5.5	—	9.6	7.6	1.9	—	0.1	—	—	—	—	—

Table 20. Miscellaneous Factors Affecting Peanut Production by District, 1953

Item	Total		Changhua		Yunlin		Chiayi		Tainan		Hualien	
	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%
Total	578	100	61	100	257	100	92	100	72	100	96	100
Aptitude in Peanut production	70	12.11	—	—	29	11.28	9	9.78	4	5.56	28	29.17
Traditional Rotation system	149	25.78	16	29.51	82	31.91	22	23.91	13	18.06	14	14.58
Lack of disease & pests	71	12.28	2	3.28	37	14.40	17	18.48	5	6.94	9	9.37
Lack of irrigation facilities	106	18.34	21	34.43	24	9.34	17	18.48	18	25.00	26	27.08
Land suitable for peanut production	181	31.31	20	32.79	84	32.68	27	29.35	32	44.44	18	18.75
Good seeds supplied by FA	1	0.17	—	—	1	0.39	—	—	—	—	1	1.05

Table 21. What Crop Would You Choose if you don't Plant Peanuts by District, 1953

Crop	Total		Changhua		Yunlin		Chiayi		Tainan		Hualien	
	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%
Total	405	100	35	100	180	100	52	100	90	100	43	100
Sugarcane	87	21.48	6	17.14	33	18.33	16	30.77	25	27.78	7	16.28
Sweet potato	171	42.22	8	22.86	87	48.33	20	38.46	31	34.44	20	46.51
Soybean	22	5.43	9	25.71	3	1.67	2	3.86	—	—	6	13.95
Vegetable	3	0.74	—	—	3	1.67	—	—	—	—	—	—
Green manure	36	8.89	3	8.57	24	13.33	4	7.69	5	5.56	—	—
Upland Rice	19	4.69	—	—	3	1.67	2	3.85	9	10.00	5	11.63
Sesame	28	6.91	7	20.00	1	0.55	4	7.69	16	17.78	—	—
Tobacco	4	0.99	—	—	—	—	—	—	—	—	4	9.30
Jute	17	4.20	—	—	12	6.67	1	1.92	4	4.44	—	—
Cotton	5	1.24	—	—	3	1.67	2	3.85	—	—	—	—
Rice	12	2.96	1	2.86	10	5.56	—	—	—	—	1	2.33
Green peas	1	0.25	1	2.86	1	0.55	1	1.92	—	—	—	—

Appendix C. Table 22. Type of Sample Dealers in Peanut Marketing

Investigated by District, 1953

District	Prefecture and City	Dealer	Threshing Factory	Crushing Mill	Wholesaler		Retailer		Total
					Oil	Hulled Peanut	Oil	Hulled Peanut	
Total		20	6	20	12	12	20	20	110
North District	Taipei City	—	—	3	4	4	5	5	21
Central District	Taichung City	—	—	—	1	1	4	4	10
	Changhua Pref.	2	1	2	1	1	1	1	9
Central-south District	Yunlin Pref.	10	2	8	—	—	—	—	20
	Chiayi Pref.	4	1	3	1	1	2	2	14
South District	Tainan City	—	—	—	2	2	3	3	10
	Tainan Pref.	2	1	2	—	—	—	—	5
	Kaohsiung City	—	—	—	2	2	3	3	10
East District	Hwalien City	2	1	2	1	1	2	2	11

Appendix C. Table 23a. Dealer's Costs in the Marketing of Peanuts, Per 100
Tai Catties by Pref. 1953
(Average of 20 Samples)

Unit : NT$

Item Pref.	Total Costs	Purchasing Cost		Cost of Transportation					Dealer's handling charges	Cost of Processing				Other expenses 1/	Receipts		Profit
		Quantity Tai Catty (Unhulled)	Value	Subtotal	Train	Truck	Ox car	Others		Subtotal	Drying	Threshing	Other		Quantity Tai Catty (Hulled)	Value	
Average	248.47	138	238.39	4.34	0.27	2.59	1.44	0.04	1.67	2.86	0.86	2.00	—	1.21	100	266.66	18.19
Changhua Pref.	219.10	134	210.58	2.88	—	1.71	1.17	—	1.02	2.03	0.86	1.17	—	2.59	100	251.15	32.05
Yunlin Pref.	270.06	143	256.73	5.87	0.41	2.57	2.86	0.03	2.46	4.43	1.83	2.60	—	0.57	100	287.64	17.58
Chiayi Pref.	263.33	142	254.05	3.95	—	1.39	2.47	0.09	0.54	3.36	0.80	2.55	0.01	1.43	100	285.14	21.81
Tainan Pref.	260.22	139	251.54	4.53	—	4.23	0.30	—	1.68	2.08	—	2.08	—	0.39	100	265.56	5.34
Hualien Pref.	218.33	123	209.42	3.35	2.69	—	0.14	0.52	1.88	2.52	—	2.52	—	1.16	100	227.48	9.15

1/ Including interest, commission charges, etc.

Appendix C. Table 23b. Percentage Distribution of Dealer's Costs in the Marketing of Peanuts, Per 100 Tai Catties, by Pref. 1953

Item / Pref.	Sales Proceeds	Purchasing of unhulled peanuts	Costs												
			Cost of Transportation					Dealer's handling charges	Cost of Processing				Other expenses	Total cost	Profit
			Subtotal	Train	Truck	Ox car	Others		Subtotal	Drying	Threshing	Others			
Average	100	89.40	1.63	0.10	0.97	0.54	0.02	0.63	1.07	0.32	0.75	—	0.45	93.18	6.82
Changhua Pref.	100	83.85	1.15	—	0.68	0.47	—	0.41	0.81	0.34	0.47	—	1.02	87.24	12.76
Yunlin Pref.	100	89.25	2.03	0.14	0.89	0.99	0.01	0.86	1.54	0.64	0.90	—	0.20	93.88	6.12
Chiayi Pref.	100	89.10	1.39	—	0.49	0.87	0.03	0.19	1.17	0.28	0.89	—	0.50	92.35	7.65
Tainan Pref.	100	94.72	1.70	—	1.59	0.11	—	0.63	0.78	—	0.78	—	0.15	97.98	2.02
Hualien Pref.	100	92.06	1.47	1.18	—	0.06	0.23	0.83	1.11	—	1.11	—	0.51	95.98	4.02

Appendix C. Table 24a. Costs of Peanut Threshing Factory, Per 100 Tai Catties, 1953

(Consignment Threshing)

(Average of 4 samples 1/)

Unit: NT$

Item Pref.	Threshing Cost														Receipts					Profit
			Power Expenses					Depreciation							Total	Thre-shing		Bypro-ducts		
	Total	Wages	Subtotal	Electricity	Water	Oil	Others	Subtotal	House	Machine	Other instrument	Repair	Tax	Others		Quality (shelled)	Value	Quantity (pods)	Value	
Average	2.98	1.16	0.19	0.14	0.02	0.03	—	0.68	0.40	0.12	0.16	0.31	0.22	0.42	3.68	100	2.53	35	1.15	0.7
Changhua Pref.	3.08	0.17	0.13	0.11	—	0.02	—	1.76	1.47	0.21	0.08	0.74	0.06	0.22	4.41	100	2.94	37	1.47	1.3
Yunlin Pref.	2.74	1.12	0.19	0.15	0.02	0.02	—	0.41	0.23	0.10	0.08	0.28	0.25	0.49	3.52	100	2.51	34	1.01	0.7
Tainan Pref.	4.92	2.89	0.19	0.13	—	0.06	—	1.44	0.39	0.15	0.90	—	0.24	0.16	4.03	100	2.08	39	1.95	0.8

Note: 1/ A total of about 20 peanut threshing factories in Taiwan are in operation.

Six factories were investigated but 2 of them were left out because they

were not operating on consignment basis.

Appendix C. Table 24b. Percentage Distribution of Costs of Peanut Threshing Factory, Per 100 Tai Catties

(Consignment threshing)

Unit: NT$

Pref. \ Item	Sales proceeds	Total cost	Wages	Power expenses					Threshing Costs / Depreciation				Repair	Tax	Others	Profit
				Subtotal	Electricity	Water	Oil	Others	Subtotal	House	Machine	Other instruments				
Average	100%	80.98	31.52	5.16	3.80	0.54	0.82	—	18.48	10.87	3.26	4.35	8.42	5.98	11.42	19.02
Changhua Pref.	100%	69.84	3.85	2.94	2.49	—	0.45	—	39.91	33.33	4.77	1.81	16.78	1.37	4.99	30.16
Yunlin Pref.	100%	77.84	31.82	5.40	4.26	0.57	0.57	—	11.65	6.53	2.85	2.27	7.95	7.10	13.92	22.16
Tainan Pref.	100%	122.08	71.71	4.71	3.22	—	1.49	—	35.73	9.68	3.72	22.33	—	5.96	3.97	-22.08

Appendix C. Table 25a. Wholesaler's Marketing Costs of Hulled Peanuts, Per 100
Tai Catties, by City, 1953
(Average of 12 Samples)   Unit : NT$

City (Item)	Sales proceeds (100 Tai Catties)	Costs											Profit
		Total	Direct costs			Indirect costs							
			Subtotal	Purchasing expenses	Selling expenses	Subtotal	Salary & wages	Electricity and water	Tax	Management	Others		
Average	323.42	314.59	313.16	310.25	2.91	1.43	0.50	0.06	0.31	0.30	0.26		8.83
Taipei City	334.49	329.70	328.56	325.41	3.15	1.14	0.41	0.05	0.16	0.27	0.25		4.79
Taichung City	338.86	328.00	325.71	325.71	—	2.29	1.24	0.19	0.48	0.38	—		10.86
Changhua City	330.00	321.47	310.53	310.00	0.53	10.94	2.00	0.27	4.00	0.67	4.00		8.53
Chiayi City	260.00	254.66	252.99	252.63	0.36	1.67	—	0.05	1.08	0.54	—		5.34
Tainan City	311.21	302.43	299.16	298.70	0.46	3.27	1.21	0.13	1.03	0.49	0.41		8.78
Kaohsiung City	289.52	262.43	261.24	257.44	3.80	1.19	0.38	0.10	0.25	0.28	0.18		27.09
Hualien City	320.00	309.75	300.57	298.97	1.60	9.18	3.09	0.21	4.95	0.93	—		10.25

Appendix C. Table 25b. Percentage Distribution of Wholesaler's Marketing Cost of Hulled Peanut, Per 100 Tai Catties, by City, 1953

Item / City	Sales proceeds	Total costs	Costs									Profit
			Direct costs			Indirect costs						
			Subtotal	Purchasing expenses	Selling expenses	Subtotal	Salary and wages	Electricity and water	Tax	Management	Others	
Average	100	97.27	96.83	95.93	0.90	0.44	0.15	0.02	0.10	0.09	0.08	2.73
Taipei City	100	98.57	98.23	97.29	0.94	0.34	0.12	0.02	0.05	0.08	0.07	1.43
Taichung City	100	96.80	96.12	96.12	—	0.68	0.37	0.06	0.14	0.11	—	3.20
Changhua City	100	97.41	94.10	93.94	0.16	3.31	0.61	0.08	1.21	0.20	1.21	2.59
Chiayi City	100	97.95	97.31	97.17	0.14	0.65	—	0.02	0.42	0.21	—	2.04
Tainan City	100	97.18	96.13	95.98	0.15	1.05	0.39	0.04	0.33	0.16	0.13	2.82
Kaohsiung City	100	90.64	90.23	88.92	1.31	0.41	0.13	0.03	0.09	0.10	0.06	9.36
Hualien City	100	96.81	93.93	93.43	0.50	2.88	0.97	0.07	1.55	0.29	—	3.19

Appendix C. Table 26a. Wholesaler's Marketing Costs of Peanut Oil, Per 100
Tai Catties, By District, 1953

(Average of 12 Samples)

Unit : NT$

Item / City	Sales proceeds	Total	Direct costs			Indirect costs						Profit
			Subtotal	Purchasing costs	Transportation and packaging	Subtotal	Salary and wages	Electricity and water	Tax	Management	Others	
Average	534.53	521.57	519.39	516.53	2.86	2.18	0.48	0.16	0.68	0.46	0.40	12.96
Taipei City	538.85	530.39	528.40	527.72	0.68	1.99	0.41	0.14	0.43	0.43	0.58	8.46
Taichung City	570.00	559.48	557.99	550.00	7.99	1.49	0.33	0.12	0.45	0.59	—	10.52
Changhua City	510.00	507.92	500.00	500.00	—	7.92	2.50	1.67	0.86	2.89	—	2.08
Chiayi City	550.00	527.28	523.00	520.00	3.00	4.28	1.33	0.20	2.22	0.53	—	22.72
Tainan City	528.89	503.28	498.72	494.03	4.69	4.56	0.84	0.18	2.54	0.53	0.47	25.61
Kaohsiung City	511.51	490.48	490.00	482.51	7.49	0.48	0.10	0.05	0.14	0.15	0.04	21.03
Hualien City	560.00	544.75	535.60	533.90	1.70	9.15	6.07	0.23	2.85	2.00	—	15.25

Appendix C. Table 26b. Percentage Distribution of Wholesaler's Marketing Costs of Peanut Oil, Per 100 Tai Catties, by District, 1953

Unit : NT$

City	Sales proceeds	Total	Costs									Profit
			Direct costs			Indirect costs						
			Subtotal	Purchasing costs	Transportation and packaging	Subtotal	Salary and wages	Electricity and water	Tax	Management	Others	
Average	100	97.58	97.17	96.63	0.54	0.41	0.09	0.03	0.13	0.09	0.07	2.42
Taipei City	100	98.44	98.06	97.93	0.13	0.38	0.08	0.03	0.08	0.08	0.11	1.56
Taichung City	100	98.15	97.89	96.49	1.40	0.26	0.06	0.02	0.08	0.10	—	1.85
Changhua City	100	99.60	98.04	98.04	—	1.56	0.49	0.33	0.17	0.57	—	0.40
Chiayi City	100	95.88	95.10	94.55	0.55	0.78	0.24	0.04	0.40	0.10	—	4.12
Tainan City	100	95.16	94.30	93.41	0.89	0.86	0.16	0.03	0.48	0.10	0.09	4.84
Kaohsiung City	100	95.89	95.79	94.33	1.46	0.10	0.02	0.01	0.03	0.03	0.01	4.11
Hualien City	100	97.28	95.64	95.34	0.30	1.64	0.73	0.04	0.51	0.36	—	2.72

Appendix C. Table 27a. Retailer's Marketing Cost of Hulled Peanut, Per 100 Tai Catties, by District, 1953

(Average of 20 Samples)

Unit: NT$

Item / City	Sales proceeds per 100 Tai catties	Total costs	Direct costs			Costs Indirect costs						Profit
			Subtotal	Purchasing expenses	Retailing expenses	Subtotal	Salary and wages	Electricity and water	Tax	Management	Others	
Average	319.20	310.11	295.04	292.49	2.55	15.07	—	1.67	3.70	2.75	6.95	9.09
Taipei City	368.37	352.79	346.98	346.74	0.24	5.81	—	1.39	1.63	—	2.79	15.58
Taichung City	352.13	340.33	332.79	322.79	—	7.54	—	0.66	2.95	—	3.93	11.80
Changhua City	320.10	307.53	302.51	301.50	1.01	5.02	—	—	3.01	—	2.01	12.57
Chiayi City	275.90	269.46	258.97	258.97	—	10.49	—	0.17	2.33	0.33	7.66	6.44
Tainan City	329.15	316.11	295.75	291.17	4.58	20.36	—	3.04	4.85	3.64	8.83	13.04
Kaohsiung City	308.64	303.21	286.91	284.44	2.47	16.30	—	2.97	4.69	4.32	4.32	5.43
Hualien City	347.23	344.65	325.46	321.03	4.43	19.19	—	1.11	3.87	6.46	7.75	2.58

Appendix C. Table 27b. Percentage Distribution of Retailer's Marketing Cost of Hulled Peanut Per 100 Tai Catties, by District, 1953

City	Sales proceeds	Total costs	Direct costs			Costs — Indirect costs						Profit
Item			Subtotal	Purchasing expenses	Retailing expenses	Subtotal	Salary and wages	Electricity and water	Tax	Management	Others	
Average	100	97.15	92.43	91.63	0.80	4.72	—	0.52	1.16	0.86	2.18	2.85
Taipei City	100	95.77	94.20	93.13	0.07	1.57	—	0.38	0.44	—	0.75	4.23
Taichung City	100	96.65	94.51	94.51	—	2.14	—	0.19	0.84	—	1.11	3.35
Changhua City	100	96.08	94.51	94.19	0.32	1.57	—	—	0.94	—	0.63	3.92
Chiayi City	100	97.66	93.86	93.86	—	3.80	—	0.06	0.84	0.12	2.78	2.34
Tainan City	100	96.03	89.85	88.46	1.39	6.18	—	0.92	1.47	1.11	2.68	3.97
Kaohsiung City	100	98.24	92.96	92.16	0.08	5.28	—	0.96	1.52	1.40	1.40	1.76
Hualien City	100	99.25	93.73	92.45	1.28	5.52	—	0.32	1.11	1.86	2.23	0.75

Appendix C. Table 28a. Retailer's Marketing Cost of Peanut Oil Per 100 Tai Catties, by District, 1953

(Average of 20 Samples)

Unit: NT$

City \ Item	Sales proceeds	Total costs	Direct cost			Costs		Indirect cost				Profit
			Subtotal	Purchasing expenses	Retailing expenses	Subtotal	Salary and wages	Electricity and water	Tax	Management	Others	
Average	556.35	541.74	536.21	535.31	0.90	5.53	—	0.80	1.80	1.22	0.71	14.61
Taipei City	557.09	536.17	530.67	530.67	—	5.50	—	1.06	1.60	—	2.84	20.92
Taichung City	559.52	545.96	542.80	542.78	0.02	3.16	—	0.42	1.07	0.54	1.13	13.56
Changhua City	578.20	550.65	547.72	546.42	1.30	2.93	—	0.76	0.87	0.98	0.32	27.55
Chiayi City	567.96	545.46	541.61	541.61	—	3.85	—	0.31	2.15	1.34	0.05	22.50
Tainan City	530.00	531.06	508.40	502.13	6.27	22.66	—	3.33	7.60	7.73	4.00	-1.06
Kaohsiung City	509.12	503.36	493.80	488.29	5.51	9.56	—	1.85	3.22	1.56	2.93	5.76
Hualien City	589.98	564.08	541.44	540.54	0.90	22.64	—	2.81	4.17	5.52	10.14	25.90

Appendix C. Table 28b. Percentage Distribution of Retailer's Marketing Cost of Peanut Oil Per 100 Tai Catties, by District, 1953

Item City	Sales proceeds	Total costs	Direct costs			Costs						Profit
							Indirect costs					
			Subtotal	Purchasing expenses	Retailing expenses	Subtotal	Salary and wages	Electricity and water	Tax	Management	Others	
Average	100	97.37	96.38	96.22	0.16	0.99	—	0.14	0.32	0.22	0.31	2.63
Taipei City	100	96.25	95.26	95.26	—	0.99	—	0.19	0.29	—	0.51	3.75
Taichung City	100	97.58	97.01	97.01	—	0.57	—	0.08	0.19	0.10	0.20	2.42
Changhua City	100	95.24	94.73	94.50	0.23	0.51	—	0.13	0.15	0.17	0.06	4.76
Chiayi City	100	96.04	95.36	95.36	—	0.68	—	0.05	0.38	0.24	0.01	3.96
Tainan City	100	100.19	95.92	94.74	1.18	4.27	—	0.63	1.43	1.46	0.75	-0.19
Kaohsiung City	100	98.87	96.99	95.91	1.08	1.88	—	0.36	0.63	0.31	0.58	1.13
Hualien City	100	95.61	91.77	91.62	0.15	3.84	—	0.48	0.71	0.94	1.71	4.39

Appendix C. Table 29.   Percentage Distribution of Consumer's Dollar in the Marketing
of Peanuts Oil and Hulled Peanuts, 1953

Item	Consumer's dollar	Transportation	Salary & wages	Tax	General Adm.	Material	Oil crushing	Threshing	Others	Profit	Farmer's receipts
Peanut's oil	100%	1.98	2.06	0.85	0.61	0.20	1.46	0.85	0.83	19.76	71.40
Hulled peanuts	100%	3.05	0.69	1.25	1.48	—	—	0.66	2.93	11.36	78.58

Appendix C. Table 30.   Processing Costs of Peanut Oil and Cake, Per 100 Tai Catties.

Unit : NT$

Item	Total	Raw material cost	Processing Costs												Sales proceeds	Profit
			Subtotal	Direct costs					Indirect costs						
				Material	Wages and salaries	Electric power and oil	Fuel	Others	Depreciation	Repair	Tax	Management	Others		
Peanut Oil (NT$)	437.26	417.61	19.65	1.07	7.63	2.97	—	0.63	3.21	0.78	2.14	0.68	0.54	486.16	48.90
Peanut Oil (%)	89.94	85.90	4.04	0.22	1.57	0.61	—	0.13	0.66	0.16	0.44	0.14	0.11	100.00	10.06
Peanut Cake (NT$)	162.35	155.06	7.29	0.40	2.83	1.10	—	0.24	1.19	0.29	0.79	0.25	0.20	180.51	18.16
Peanut Cake (%)	89.94	85.90	4.04	0.22	1.57	0.61	—	0.13	0.66	0.16	0.44	0.14	0.11	100.00	10.06

Appendix C. Table 31a. Disposal of Peanuts and Competing Crops Produced by Sample Farms Per Chia of Land, 1953

(Average of All Samples)

Amount: Tai Catty
Value: NT$

Item	Total Amt	Total Value	Sold for Cash Amt	Sold for Cash Value	Home Use (Non-Cash) Sub-total Amt	Sub-total Value	Seedling Amt	Seedling Value	Food Amt	Food Value	Feeds Amt	Feeds Value	Others Amt	Others Value	Undisposed Amt	Undisposed Value
Peanut: Spring planted																
3 years rotation area	2,107	3,397	1,543	2,483	564	914	216	346	288	465	2	3	33	52	25	48
Dry land	1,860	3,167	1,075	1,803	785	1,364	213	381	295	494	38	79	23	38	216	372
Single rice cropping field	1,840	3,017	1,448	2,349	392	668	49	82	70	116	35	57	35	59	203	354
Peanut: Autumn planted																
3 years rotation area	2,013	3,520	739	1,318	1,274	2,202	353	598	232	405	1	2	21	34	667	1,163
Dry land	1,913	3,428	342	597	1,571	2,831	220	400	131	235	2	3	27	50	1,191	2,143
Sweet potato: Spring planted																
3 years rotation area	21,912	3,406	6,120	936	15,792	2,470	—	—	8,129	1,289	7,663	1,181	—	—	—	—
Dry land	19,826	3,346	3,083	517	16,743	2,829	—	—	5,854	1,012	10,561	1,761	61	11	267	45
Sweet potato: Autumn planted																
3 years rotation area	19,617	3,232	4,656	672	14,961	2,559	—	—	6,510	1,106	5,753	961	—	—	2,698	492
Dry land	18,368	3,005	3,159	487	15,209	2,518	91	18	4,425	715	4,455	696	—	—	6,238	1,089
Upland rice	2,536	3,117	580	826	1,956	2,291	44	70	525	729	—	—	263	368	1,124	1,124
Soybean	1,562	4,129	1,245	3,259	317	869	51	148	84	212	—	—	3	8	179	501
Peas	1,010	1,048	619	629	391	419	181	188	153	168	—	—	57	63	—	—
Indian corn	1,766	2,002	1,653	1,865	113	137	52	68	—	—	61	70	—	—	—	—
Sesame	514	884	391	570	123	314	—	—	70	155	—	—	—	—	53	159
Jute	1,722	3,306	1,708	3,290	14	16	—	—	14	16	—	—	—	—	—	—
Cotton	1,333	6,667	1,333	6,667	—	—	—	—	—	—	—	—	—	—	—	—
Water melon	22,850	6,855	22,500	6,750	350	105	—	—	100	30	250	75	—	—	—	—
Cucumber	33,333	5,000	33,333	5,000	—	—	—	—	—	—	—	—	—	—	—	—

Appendix C. Table 31b. Percentage Distribution of the Disposal of Peanuts and Competing Crops Produced by Sample Farms Per Chia of Land, 1953

(Average of All Samples)

Item	Total		Sold for cash		Home Use (Non-Cash)										Undisposed	
					Sub-total		Seedling		Food		Feeds		Others			
	Amt	Value	Amt	Value	Amt	Value	Amt	Value	Amt	Value	Amt	Value	Amt	Value	Amt	Value
Peanut: Spring planted																
3 years rotation area	100	100	73	73	27	27	10	10	14	14	—	—	2	2	—	—
Dry land	100	100	58	57	42	43	11	12	16	16	2	2	1	1	12	12
Single rice cropping field	100	100	78	78	22	22	3	3	3	4	2	2	2	2	11	11
Peanut: Autumn planted																
3 years rotation area	100	100	37	37	63	63	17	17	12	12	—	—	1	1	33	33
Dry land	100	100	18	17	82	83	12	12	7	7	—	—	1	1	12	63
Sweet potato: Spring planted																
3 years rotation area	100	100	28	27	72	73	—	—	37	38	35	35	—	—	—	—
Dry land	100	100	16	16	84	84	—	—	30	30	53	53	—	—	1	1
Sweet potato: Autumn planted																
3 years rotation area	100	100	24	21	76	79	—	—	33	34	29	30	—	—	14	15
Dry land	100	100	17	16	83	84	1	1	24	24	24	23	—	—	34	36
Upland rice	100	100	23	26	77	74	2	2	21	23	—	—	10	12	44	36
Soybean	100	100	80	79	20	21	3	4	5	5	—	—	—	—	12	12
Peas	100	100	61	60	39	40	18	18	15	16	—	—	6	6	—	—
Indian corn	100	100	94	93	6	7	3	3	—	—	3	4	—	—	—	—
Sesame	100	100	76	64	24	36	—	—	14	18	—	—	—	—	10	18
Jute	100	100	99	100	1	—	—	—	1	—	—	—	—	—	—	—
Cotton	100	100	100	100	—	—	—	—	—	—	—	—	—	—	—	—
Water melon	100	100	98	98	2	2	—	—	1	1	1	1	—	—	—	—
Cucumber	100	100	100	100	—	—	—	—	—	—	—	—	—	—	—	—

Appendix C. Table 32a. Monthly Distribution of Peanuts and Competing Crops Sold for Cash Produced by Sample Farms Per Chia of Land, 1953

(Average of All Samples)

Amount: Tai Catty
Value: NT$

Item	Total Amt	Total Value	Jan. Amt	Jan. Value	Feb. Amt	Feb. Value	March Amt	March Value	April Amt	April Value	May Amt	May Value	June Amt	June Value	July Amt	July Value	Aug. Amt	Aug. Value	Sept. Amt	Sept. Value	Oct. Amt	Oct. Value	Nov. Amt	Nov. Value	Dec. Amt	Dec. Value
Peanut: Spring planted																										
3 years rotation area	1,543	2,483	—	—	—	—	—	—	—	—	—	—	128	197	686	1,132	383	611	206	301	92	163	48	79	—	—
Dry land	1,075	1,803	—	—	—	—	—	—	—	—	—	—	7	10	207	371	347	558	299	484	157	270	58	110	—	—
Single rice cropping Field	1,448	2,349	—	—	—	—	—	—	—	—	—	—	—	—	1,053	1,657	—	—	—	—	—	—	395	692	—	—
Peanut: Autumn planted																										
3 years rotation area	739	1,318	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	24	739	1,318	—	—
Dry land	342	597	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	173	228	400
Sweet potato: Spring planted																										
3 years rotation area	6,120	936	—	—	—	—	—	—	—	—	—	—	2,108	319	2,640	467	1,372	150	—	—	—	—	—	—	—	—
Dry land	3,083	517	—	—	—	—	—	—	—	—	—	—	328	52	974	146	82	14	—	—	59	10	1,640	295	—	—
Sweet potato: Autumn planted																										
3 years rotation area	4,656	672	1,695	279	407	55	—	—	—	—	714	111	1,592	239	2,350	322	—	—	—	—	—	—	—	—	—	—
Dry land	3,159	487	—	—	—	—	—	—	—	—	—	—	133	20	—	—	—	—	—	—	—	—	50	9	874	124
Upland rice	580	826	—	—	—	—	—	—	—	—	—	—	—	—	269	387	113	156	164	222	—	—	34	61	—	—
Soybean	1,245	3,259	—	—	—	—	—	—	—	—	—	—	67	150	—	—	—	—	—	—	1,169	3,085	9	24	—	—
Peas	619	629	—	—	—	—	—	—	—	—	—	—	—	—	—	—	619	629	—	—	—	—	—	—	—	—
Indian corn	1,653	1,865	—	—	—	—	—	—	—	—	783	1,017	435	522	—	—	—	—	—	—	435	326	—	—	—	—
Sesame	391	570	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	391	570	—	—	—	—	—	—
Jute	1,780	3,290	—	—	—	—	—	—	—	—	—	—	—	—	308	492	298	570	1,102	2,228	—	—	—	—	—	—
Cotton	1,333	6,667	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,333	6,667	—	—
Water melon	22,500	6,750	—	—	—	—	—	—	—	—	22,500	6,750	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cucumber	33,333	5,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33,333	5,000	—	—

Appendix C. Table 32b. Monthly Percentage Distribution of Peanuts and Competing Crops Sold for Cash Produced by Sample Farms Per Chia of Land, 1953

(Average of All Samples)

Amount: Tai Catty
Value: NT$

Item	Total Amt	Total Value	Jan. Amt	Jan. Value	Feb. Amt	Feb. Value	March Amt	March Value	April Amt	April Value	May Amt	May Value	June Amt	June Value	July Amt	July Value	Aug. Amt	Aug. Value	Sept. Amt	Sept. Value	Oct. Amt	Oct. Value	Nov. Amt	Nov. Value	Dec. Amt	Dec. Value
Peanut: Spring planted																										
3 years rotation area	100	100	—	—	—	—	—	—	—	—	—	—	8	8	45	46	25	25	13	12	6	6	3	3	—	—
Dry land	100	100	—	—	—	—	—	—	—	—	—	—	1	1	19	20	32	31	28	27	15	15	5	6	—	—
Single rice cropping Field	100	100	—	—	—	—	—	—	—	—	—	—	—	—	73	71	—	—	—	—	—	—	27	29	—	—
Peanut: Autumn planted																										
3 years rotation area	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	100	—	—
Dry land	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	29	29	67	67
Sweet potato: Spring planted																										
3 years rotation area	100	100	—	—	—	—	—	—	—	—	—	—	35	34	43	50	22	16	—	—	—	—	—	—	—	—
Dry land	100	100	—	—	—	—	—	—	—	—	—	—	10	10	32	28	3	3	—	—	2	2	53	57	—	—
Sweet potato: Autumn planted																										
3 years rotation area	100	100	—	—	—	—	—	—	—	—	15	16	34	36	51	48	—	—	—	—	—	—	—	—	—	—
Dry land	100	100	53	57	13	11	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	2	2	28	26
Upland rice	100	100	—	—	—	—	—	—	—	—	—	—	—	—	46	47	20	19	28	27	—	—	6	7	—	—
Soybean	100	100	—	—	—	—	—	—	—	—	—	—	5	4	—	—	—	—	—	—	94	95	1	1	—	—
Peas	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	100	—	—	—	—	—	—	—	—
Indian corn	100	100	—	—	—	—	—	—	—	—	48	55	26	28	—	—	—	—	—	—	26	17	—	—	—	—
Sesame	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	100	—	—	—	—	—	—
Jute	100	100	—	—	—	—	—	—	—	—	—	—	—	—	18	15	17	17	65	68	—	—	—	—	—	—
Cotton	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	100	—	—
Water melon	100	100	—	—	—	—	—	—	—	—	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cucumber	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	100	—	—

Appendix C. Table 33. Shelled Peanuts:
Domestic Disappearance for Seed, Oil Crushing and
Edible Food and Per Capita Disappearance for
Edible Food in Taiwan, 1912-1954

Year	Domestic Disappea-rance 1/		Used for Seed 2/		Crushed for Oil 3/		Edible Food 6/		Population	Per Capita Disappea-rance of Edible Food
	MT	%	MT	%	MT	%	MT	%	Person	Kg
1912	5,560	100	1,665	30	2,086	38	1,809	32	3,435,170	0.53
1913	7,363	100	1,704	23	2,311	31	3,348	46	3,502,173	0.96
1914	6,742	100	1,808	27	2,458	36	2,476	37	3,554,353	0.70
1915	8,078	100	1,846	23	3,597	45	2,635	32	3,569,842	0,74
1916	8,233	100	1,909	23	3,292	40	3,032	37	3,596,109	0.84
1917	9.707	100	2,083	21	4,149	43	3,475	36	3,646,529	0.95
1918	11,173	100	2,185	20	4,820	43	4,168	37	3,669,687	1.14
1919	9,416	100	2,019	21	4,760	51	2,637	28	3,714,899	0,71
1920	9,986	100	2,090	21	2,988	30	4,908	49	3,757,838	1.31
1921	13,539	100	2,100	16	2,844	21	8,595	63	3,835,811	2.24
1922	13,357	100	2,144	16	3,307	25	7,906	59	3,904,692	2.02
1923	12,153	100	2,233	18	3,945	32	5,975	50	3,976,098	1.50
1924	14,050	100	2,236	16	4,763	34	7,051	50	4,041,702	1.74
1925	14,385	100	2,324	16	5,589	39	6,472	45	4,147,462	1.56
1926	15,454	100	2,328	15	5,848	38	7,278	47	4,241,759	1.72
1927	15,573	100	2,320	15	5,566	36	7,687	49	4,337,000	1.77
1928	15,601	100	2,270	15	5,178	33	8,153	52	4,438,084	1.84
1929	13,695	100	2,361	17	3,977	29	7,357	54	4,548,750	1.62
1930	17,306	100	2,408	14	4,006	23	10,892	63	4,679,066	2.33
1931	17,849	100	2,512	14	4,134	23	11,203	63	4,803,976	2.33
1932	18,234	100	2,634	14	3,832	21	11,768	65	4,929,962	2.39
1933	16,325	100	2,720	17	4,167	25	9,438	58	5,060,507	1.87
1934	19,696	100	2,698	14	4,634	24	12,364	62	5,194,980	2.38
1935	19,896	100	2,717	14	4,695	24	12,484	62	5,315,642	2.35

Year											
1936	18,370	100	2,782	15		4,687	26	10,901	59	5,451,863	2.00
1937	18,232	100	2,748	15		4,599	25	10,885	60	5,609,042	1.94
1938	16,730	100	2,593	16		4,574	27	9,563	57	5,746,959	1.66
1939	15,220	100	2,707	18		2,956	19	9,557	63	5,895,864	1.62
1940	14,940	100	2,190	15		10,584	70	2,166	15	6,077,478	0.36
1941	15,118	100	1,649	11		5,814	38	7,655	51	6,249,468	1.22
1942	8,777	100	1,520	17		3,081	35	4,176	48	6,427,932	0.65
1943	6,721	100	1,818	27	4/	2,082	31	2,821	42	6,585,841	0.43
1944	8,286	100	2,177	27	4/	2,594	31	3,515	42	6,077,057	0.58
1945	7,864	100	4,490	57	4/	1,433	18	1,941	25	6,228,685	0.31
1946	25.418	100	5,755	23	5/	7,721	30	11,942	47	6,097,117	1.96
1947	31,719	100	6,487	21	5/	9,909	31	15,323	48	6,497,734	2.36
1948	36,221	100	6,812	19	5/	11,549	32	17,860	49	6,807,601	2.62
1949	36,233	100	7,371	20		11,334	32	17,528	48	7,398,200	2.37
1950	40,800	100	7,504	18		15,563	38	17,733	44	7,555,588	2.35
1951	47,704	100	7,158	15		20,434	43	20,112	42	7,870,612	2.56
1952	40,825	100	7,300	18		13,642	33	19,883	49	8,128,374	2.45
1953	40,905	100	8,381	20		15,526	38	16,998	42	8,438,016	2.01
1954	46,867	100	8,398	18		14,105	30	24,364	52	8,725,744	2.79

Source: Compiled by RED, JCRR based on data furnished by the Bank of Taiwan.

Note: 1/ Domestic production of unhulled peanuts x 68% + imported kernels − exported kernels.

2/ Calculated by using 88.4kg. of shelled peanuts for planting 1 hec. The original figure in Farmers' Handbook was 451L of unhulled peanuts for planting 1 hec. It was converted to kg. at the ratio of 100 L of unhulled peanuts = 19.6kg. of shelled peanuts.

3/ Converted from the amount of peanut oil produced by taking 38% of oil content of shelled peanuts crushed.

4/ No data in this period. These figures are derived by the following method: The 1942 domestic disappearance was used as a base for computing the different uses. In order to get the total amount of peanuts used for oil and food, the quantity used for seed was subtracted from domestic disappearance, a percentage for oil use was computed, and then the computed percentage, 42.46%, was used for multiplying the total use in oil and food of each year.

5/ Derived in the same way as explained in note 4/, except that 1949 is used as a base for calculation.

6/ Represent domestic disappearance minus the quantity used for seed and oil.

Appendix C. Table 34. Average Consumption of Edible Oil per Farm Family by Prefecture, 1953

(Average of 219 samples)

Unit : Tai catty

Prefecture	Peanut Hulled		Peanut Oil		Sesame Oil		Other Oil		Lard	
	Actual Qty.	Optimum Qty. 1/	Actual Qty.	Optimum Qty. 1/	Actual Qty.	Optimum Qty. 1/	Actual Qty.	Optimum Qty. 1/	Actual Qty.	Optimum Qty. 1/
Average of all Families	185	224	51	58	4	4	—	—	37	43
Changhua	302	302	77	79	10	11	—	—	17	18
Yunlin	255	327	72	85	1	2	—	—	27	36
Chiayi	114	116	42	42	5	6	—	—	62	69
Tainan	12	12	6	8	7	7	—	—	38	43
Hualien	109	126	12	13	3	3	—	—	60	61

1/ Potential requirement reported by sample families.

Appendix C. Table 35. Per Capita Consumption of Edible Oil on Sample Farms, by Prefecture, 1953

(Average of 219 samples)

Unit : Tai catty

Prefecture	Peanut Hulled		Peanut Oil		Sesame Oil		Other Oil		Lard	
	Actual Qty.	Optimum Qty.	Actual Qty.	Optimum Qty.	Actual Qty.	Optimum Qty.	Actual Qty.	Optimum Qty.	Actual Qty.	Optimum Qty.
Average of all Families	18.32	22.05	5.02	5.70	0.38	0.41	0.01	0.01	3.62	4.23
Changhua	22.72	22.72	5.80	5.98	0.73	0.80	—	—	1.25	1.34
Yunlin	26.86	34.38	7.57	8.95	0.16	0.17	0.03	0.03	2.88	3.77
Chiayi	11.22	11.42	4.08	4.12	0.51	0.59	—	—	6.14	6.79
Tainan	1.20	1.20	0.59	0.74	0.71	0.71	—	—	3.68	4.22
Hualien	11.11	12.94	1.22	1.28	0.34	0.34	—	—	6.09	6.27

Appendix C. Table 36. Domestic Disappearance and Per Capita
Disappearance of Peanut Oil in Taiwan
1912-1954

Year	Production (MT)	Excess of Import (+) or Export (—) (MT)		Domestic Disappearance (MT)	Per Capita Disappearance of Oil (kg.)
1912	793	—	14	779	0.23
1913	878	—	10	863	0.25
1914	934	—	1	933	0.26
1915	1,367	+	106	1,473	0.41
1916	1,251	+	2	1,253	0.35
1917	1,577	+	1	1,578	0.43
1918	1,831	+	11	1,842	0.50
1919	1,809	—	163	1,646	0.44
1920	1,136	—	61	1,075	0.29
1921	1,081	+	315	1,396	0.36
1922	1,257	+	81	1,338	0.34
1923	1,499	+	82	1,581	0.40
1924	1,810	+	14	1,824	0.45
1925	2,124	—	10	2,114	0.51
1926	2,222	+	44	2,266	0.53
1927	2,115	—	33	2,082	0.48
1928	1,968	—	99	1,869	0.42
1929	1,511	—	8	1,503	0.33
1930	1,522	+	38	1,560	0.33
1931	1,571	+	17	1,588	0.33
1932	1,456	+	2	1,458	0.30
1933	1,583	+	2	1,585	0.31
1934	1,761		—	1,761	0.34
1935	1,784		—	1,785	0.34
1936	1,781	+	1	1,782	0.33
1937	1,748		—	1,748	0.31
1938	1,738		—	1,738	0.30
1939	1,123	—	19	1,104	0.19
1940	4,022		—	4,022	0.66
1941	2,209		—	2,209	0.35
1942	1,171		—	1,171	0.18
1943	843		—	843	0.13
1944	1,044		—	1,044	0.17
1945	793		—	793	0.13
1946	2,978	+	92	3,070	0.50
1947	3,768	+	776	4,544	0.70
1948	4,347	+	266	4,613	0.68
1949	4,307		—	4,307	0.58
1950	5,914	+	2,511	8,425	0.78
1951	7,765		—	7,765	0.97
1952	5,184	+	1,599	6,783	0.83
1953	5,900	+	335	6,235	0.74
1954	5,360		—	5,360	0.61

Source: Compiled by RED, JCRR, based on data furnished by Bank of Taiwan

Appendix C. Table 37. Comparison of Peanut Crop Area and Total
Crop Area (1939-1953)

Year	Peanut Crop Area (ha.)	Total Crop Area (ha.)	% of Peanut Crop Area to Total Crop Area
1939	29,334	1,092,957	2.68
1940	30,617	1,117,893	2.74
1941	24,778	1,131,559	2.19
1942	18,659	1,102,913	1.69
1943	17,194	1,075,889	1.60
1944	20,568	1,069,886	1.92
1945	24,626	868,417	2.84
1946	50,797	968,765	5.24
1947	65,106	1,183,653	5.50
1948	73,387	1,317,436	5.57
1949	77,059	1,397,192	5.52
1950	83,387	1,442,933	5.78
1951	84,889	1,456,981	5.83
1952	80,975	1,473,919	5.49
1953	82,580	1,484,277	5.56
5-year average (1949-53)	81,778	1,451,060	5.64
1965	101,407	1,798,000	5.64

Source: Compiled by RED, JCRR, based on data in Taiwan Agricultural Year Books.

Appendix C. Table 38. Methods of Increasing Peanut Production, by Pref., 1953

Item	Total		Changhua		Yunlin		Chiayi		Tainan		Hualien	
	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%	No. of cases Reported	%
Total	340	100	34	100	176	100	57	100	45	100	38	100
Apply more fertilizer	162	47.65	13	38.24	84	47.73	25	43.86	25	55.56	15	39.47
Use better seeds	88	25.88	6	17.65	36	20.45	20	35.09	15	33.33	11	28.95
Subsidize good seeds	18	5.28	1	2.94	9	5.11	5	8.77	—	—	3	7.90
Improve methods of cultivation	13	3.82	4	11.76	7	3.98	—	—	1	2.22	1	2.63
Improve farm management	7	2.06	4	11.76	3	1.70	—	—	—	—	—	—
Improve weed control	4	1.18	1	2.94	3	1.70	4	7.02	—	—	6	15.79
Improve planting schedules	10	2.95	1	2.94	8	4.55	1	1.75	—	—	—	—
More low interest loans	7	2.06	1	2.94	6	3.41	—	—	—	—	—	—
Others 1/	31	9.12	3	8.83	20	11.37	2	3.51	4	8.89	2	5.26

Note: 1/ Include improvement of farm implements, system of rotation, land clearance and more working days.