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COMMODITY PROFILE
PEANUT

1. GENERAL INFORMATION

1.1 Commodity Description

The peanut, or groundnut (*Arachis hypogaea*), is a species in the legume family (Fabaceae) native to South America, Mexico and Central America. It is an annual herbaceous plant growing 30 to 50 cm (1 to 1.5 ft) tall. The leaves are opposite, pinnate with four leaflets (two opposite pairs; no terminal leaflet), each leaflet 1 to 7 cm (⅜ to 2¾ in) long and 1 to 3 cm (⅜ to 1 inch) broad. The flowers are a typical peaflower in shape, 2 to 4 cm (¾ to 1½ in) across, yellow with reddish veining. After pollination, the fruit develops into a legume 3 to 7 cm (1 to 2 in) long, containing 1 to 4 seeds, which forces its way underground to mature. Peanuts are known by many local names, including earthnuts, ground nuts, goober peas and monkey nuts; the last of these is often used to mean the entire pod.

Peanut has been a popular crop in the Philippines. It is considered one of the major field legumes grown by farmers but its production has been low and erratic. Among the provinces in the Philippines, the top producers of peanut are Pangasinan, La Union, Lanao del Norte, Cagayan, Ilocos Norte, Ilocos Sur, Isabela, Aurora and Nueva Viscaya. However, the Ilocos region produced almost half of the country's total peanut production.

In the Philippines, peanut can be grown throughout the year provided inputs, especially the water requirement are adequately available. In general, dry season crop (October-January) gives higher yields and beans of better quality than the rainy season crop.

CULTURAL MANAGEMENT

2.1.1 Land Preparation

Peanut requires a well-prepared field to attain good seed emergence. Thorough land preparation is also necessary for proper development of pods and effective weed control. Plow and harrow the field 2-3 times at an interval of 7 days. Each harrowing consists of 2 passing.

In dry season planting, straight furrows are made at a distance of 50 cm from higher elevation of the field going down to the lower elevation.

2.1.2 Seedbed Preparation

A well-cultivated soil allows easy penetration of the peg and development of the pods. Plowing the field 15-20 cm deep will completely cover the plant residues and reduce losses from stem and pod disease caused by *Sclerotioum rolfsii*. About two to three alternate plowings and harrowing will be sufficient to put the soil in good tilt for planting.

2.1.3 Crop Establishment

Seed Treatment

Only full mature seeds from recommended varieties with high germination rate and vigor, that are free of weed seeds and other foreign materials

Planting

Peanut is planted as soon as the furrows are made, probably early in the morning or late in the afternoon. Planting shelled peanut seeds is the standard practice but some farmers use the old practice of planting unshelled pods. A 50-cm row spacing gives the highest bean yield. However, for convenience and relative ease of weeding, cultivation and spraying without significantly affecting yield, 60-cm row spacing is recommended. Planting maybe done mechanically or manually. Manual

planting is accomplishes either by drill method (sowing of seed singly and evenly on shallow laid-out furrows or by the hill method

2.1.4 Method and Time of Cultivation

Cultivation not only loosens up the soil for better root and peg development of peanut but also controls the growth of weeds. Yield of peanut is greatly influenced by the combination of off-barring and hilling up. Likewise, hilling up is better that flat cultivation because the former provides loose soil around the base of the plant for the developing pegs. Hilling up done 35-40 days after plant emergence or just before flowering results in higher than hilling up after flowering.

Weeding

The traditional method of weeding is still done which is a combination of cultivation and manual weeding. Weeding should start as early as 2 weeks and not later than 6 weeks to maximize bean yield.

Intercropping

Peanut is a crop that fits well in many multi-cropping schemes. In the Philippines, peanut is planted between rows of corn at varying spacing. Corn plants spaced at 100 cm apart with one row of peanut intercrop produce the highest grain yield. However, one row of peanut in between 2 rows of corn spaced at 75 cm is found to be the best intercropping combination. Intercropping peanut with sugarcane or other annual crops such as mungbean, soybean or upland rice is highly profitable. Peanuts may also be intercropped with cassava, okra and maybe planted between rows of coffee.

2.1.5 Water Management

Peanut is relatively drought tolerant. Most field legumes need critical period of water during germination, flowering, pod development and pod filling stages. When peanut is planted during rainy season, irrigation is generally not needed, however, when planted during the dry season especially in early October,

supplemental irrigation is not needed in most instances. Normally, there is still residual soil moisture sufficient to support the vegetative and reproductive process of the crop from October to December. The late dry season planting in February needs supplemental irrigation. Three to four applications maybe enough; first application is at planting for seed germination; the second weeks after planting; the third at midbloom stage and the fourth at pod filling. The average amount of irrigation water ranges from 4-50 mm per application.

2.1.6 Nutrient Management

In the absence of soil analysis, a 30-40-40 fertilizer recommendation is practical which is equivalent to 1.33 bags of urea (4-0-0) or 3 bags of ammosul (21-0-0), 4 bags of solophos (0-20-0) and 1.33 bags of muriate of potash (0-6-0). If soil inoculant is used, only one-half of the recommended fertilizer is needed.

2.1.7 Harvest Management

Peanut should be harvested at the right stage of maturity. Harvesting is normally a very manual and labor intensive operation which varies from 6 man-days/hectare to 15-23 man-days/hectare.

In small-scale production, harvesting is done manually by pulling the entire plant or passing a native animal-drawn plow or both sides of the row to loosen the soil.

The maturity of peanut can be determined by the following indications; (a) gradual withering and yellowing of the leaves of majority of the plants which are more noticeable during dry season planting; (b) expected maturity date of variety ranges from 90-110 days depending on the planting season; (c) maturity is indicated by hardness of most of the pods, darkened veins of the inner portion of the shell, vascular strands on the shell becomes more distinct and plump pinkish full grown kernels.

2.1.8 Post-Production Practices

1. Stripping/Threshing

Farmers aerate and dry newly harvested peanut in the field which can either handpick or strip/thresh pods from the vine by beating. To shake off pods from the vines, farmers repeatedly strike pods against a hard surface. Manual threshing of wet peanuts is accomplished at the rate of 11 kg/hr per person while that of half-dried peanuts at the rate of 30 kg/hr. per person.

For wet-season crops, farmers usually strip/thresh the pods immediately after harvest so that they can be immediately dried to the desired moisture content to prevent deterioration. For dry-season crops, stripping is delayed because farmers windrow the plants in the field to reduce plant and pod moisture content.

Picking is done is such a way that the peduncle does not go with the pod. The pods are then washed and the inferior, immature ones are separated from the mature and sound pods. The parent plant or vines are usually either left in the field to decompose or kept and used as animal fodder.

2. *Drying*

Sun drying is the traditional and most commonly used drying method by farmers which is considered as the cheap method but very dependent on climatic condition. It will take 2-5 days depending upon the weather condition to dry the crops left in the field under the sun. In general, drying is done twice within the chain of postharvest operation; initial drying prior to threshing and final drying before shelling.

When peanuts are grown as second crop, windrow frying in the field is sometimes followed by aeration in small shaded huts prior to threshing and final drying as practiced in Cagayan Valley region.

3. Shelling

Peanut should be shelled carefully to avoid scratching, splitting and rupturing of the seed coat, breaking of the cotyledon, or separating one or both of the cotyledons from the embryonic axis. Traditionally, farmers shell peanut manually. Manual shelling of sundried and flatbed dried peanuts gave similar average recoveries of 68%. Hand shelling is the preferred method of obtaining peanut seeds which protect seeds from being broken.

4. Sorting

After shelling, processors manually clean and sort peanut into reject, broken whole nut and unshelled nut. The common practice to winnow peanut by using crircular bamboo tray "bilao" and hand pick the nuts. Substandard kernels and other impurities are manually sorted from good kernels done by separating the split, damaged, moldy and other defective kernels.

5. Storing

Peanuts are stored in unshelled form. The shells act as a natural protective covering of the seeds against mechanical damage and insect infestation. Farmers use sacks but some store peanut in open concrete pits under their farmhouse, bamboo baskets. For shelled peanuts, traders use bags piled to a maximum of 7-8 layers only. Shelled peanuts are usually stored 2 months and six months only for the unshelled peanut.

3. Recommended Varieties

The recommended peanut varieties in the Philippines are as follows:

I. UPL Pn-2 – 101-111 days
II. UPL Pn-4 - 105-110 days
III. UPL Pn-6 - 105-110 days
IV. UPL Pn-8 - 100-110 days
V. BPI Pn-2 – 97-101 days
VI. UPL Pn-10 – 98-100 days
VII. ICGV 8848 – 120 days
VIII. ICGV 88392 – 120 days
IX. ICGV 88406 – 120 days

2. PRODUCTION

2.1. Volume of Production

2.1.1 Philippines

The volume of production of Peanut in the country totaled an average of 29,227 metric tons from 2004-2008 with an increasing rate of 3.63 percent per annum. Table 1 show that Ilocos Region was the leading peanut producer in the country contributing about 12,047 metric tons of 41.22 percent shares of the country's total average production. Other top producers were Cagayan Valley sharing about 3,703.00 metric tons or 12.67 percent; Northern Mindanao with 2,532 metric tons or 8.66 percent and Central Luzon with 1,884 metric tons or 6.45 percent share.

Table 1. Peanut Production in Metric tons by Region, PhilippinesCalendar Year 2004-2008

Particulars	2004	2005	2006	2007	2008	Average	% Sha
Philippines	**27,089**	**28,438**	**29,158**	**31,206**	**30,249**	**29,227**	**100**
Growth Rate		4.98	2.51	7.04	(3.07)	3.63	
CAR	162	163	163	137	131	151	0.52
Ilocos Region	11,166	11,877	12,330	13,054	11,808	12,047	41.22
Cagayan Valley	3,370	3,436	3,579	4,072	4,056	3,703	12.67
Central Luzon	1,886	1,897	1,900	1,882	1,857	1,884	6.45
CALABARZON	689	711	704	756	751	722	2.47
MIMAROPA	887	907	921	927	1,132	955	3.27
Bicol Region	894	902	917	956	948	923	3.16
Western Visayas	1,111	1,374	1,599	2,110	2,290	1,697	6
Central Visayas	1,663	1,641	1,369	1,286	1,225	1,437	4.92
Eastern Visayas	461	512	509	521	551	511	1.75
Zamboanga Peninsula	505	522	536	537	544	529	1.81
Northern Mindanao	2,096	2,310	2,412	2,946	2,886	2,530	8.66
Davao Region	601	641	665	669	679	651	2.23
SOCCSKSARGEN	605	591	636	554	605	598	2.05
CARAGA	303	286	270	164	150	235	0.80
ARMM	690	668	643	635	636	654	2.24

Source: Bureau of Agricultural Statistics (BAS)

2.1.2 Top Ten Onion Producing Provinces

In 2008, the province of Pangasinan explicited the highest production contributing about 19.25 percent shares to the country's total production of 30,247 metric tons. It is followed by La Union with 10.28 percent, Lanao Del Norte and Cagayan with 7.74 percent and 5.99 percent respectively.

Based on cropping area, still it is dominated by Pangasinan with the highest share of 11.90 percent to the country's total area followed by La Union and Lanao Del Norte with 7.70 and 5.43 percent shares, respectively.

Table 2. Top Ten <u>Peanut</u> Producing Provinces, Philippines 2008

[redacted]

2.1.3 Ilocos Region

In Ilocos Region, Pangasinan province dominated peanut production with an average share of 54.95 percent followed by La Union with 25.28 percent share; Ilocos Sur and Ilocos Norte with 11.64 percent and 10.41 percent respectively to the region's total production average at 12,047 metric tons over the five- year period.

Table 3. Peanut Production in Metric Tons, by Province, Ilocos Region, 2004-2008

Provinces	Year					Average	% Share
	2004	2005	2006	2007	2008		
Ilocos Region	11,166	11,878	12,329	13,054	11,808	12,047	102.28
Growth Rate		6.38	3.80	5.88	(9.54)	1.63	
Ilocos Norte	1,147	1,222	1,235	1,268	1,260	1,226	10.41
Ilocos Sur	1,039	1,181	1,468	1,554	1,614	1,371	11.64
La Union	2,735	2,863	2,933	3,245	3,110	2,977	25.28
Pangasinan	6,245	6,612	6,693	6,987	5,824	6,472	54.95

Source: Bureau of Agricultural Statistic (BAS)

2.2 Production Area

2.1.1 Philippines

The total production area of peanut in the country is fluctuating over the past five year period (2004-2008) and was averaged at 27,610.40 hectares. About 20,682 hectares or 68.38 percent of the total land area devoted to peanut can be found in Luzon for year 2008. Ilocos Region had the highest land area covering an average of 7,959.30 hectares of 28.83 percent share in the national average area.

For the same reference year (2004-2008), Cagayan Valley ranked second contributing an average of 12.11 percent share of the national average area followed by Central Visayas and Central Luzon with an average share of 6.45 and 5.16 percent respectively.

Table 4. Peanut Production Area Planted in Hectares by Region, Philippines Calendar Year 2004-2008

Particulars	2004	2005	2006	2007	2008	Average	% Share
Philippines	**26,895**	**27,472**	**27,642**	**28,317**	**27,726**	**27,610.40**	**100**
Growth Rate		2.15	0.62	2.44	(2.09)	0.78	
CAR	280	282	282	258	254	271.10	0.98
Ilocos Region	7,713	7,922	8,126	8,395	7,641	7,959.30	28.83
Cagayan Valley	3,242	3,429	3,295	3,396	3,351	3,342.60	12.11
Central Luzon	1,413	1,420	1,429	1,444	1,419	1,425.00	5.16
CALABARZON	1,177	1,147	1,101	970	980	1,075.00	3.89
MIMAROPA	1,166	1,171	1,167	1,157	1,176	1,167.40	4.23
Bicol Region	1,393	1,360	1,345	1,382	1,379	1,371.80	4.97
Western Visayas	2,211	2,417	2,667	3,262	3,390	2,789.40	10
Central Visayas	1,911	1,864	1,729	1,697	1,699	1,780.00	6.45
Eastern Visayas	860	868	867	869	868	866.40	3.14
Zamboanga Penincsula	1,016	1,008	1,009	985	1,047	1,013.00	3.67
Northern Mindanao	1,788	1,937	1,967	2,010	1,985	1,937.40	7.02
Davao Region	745	770	787	795	802	779.80	2.82
SOCCSKSARGE	497	476	500	452	504	485.80	1.76
CARAGA	402	381	359	237	233	322.40	1.17
ARMM	1,081	1,020	1,012	1,008	999	1,024.00	3.71

Source: Bureau of Agricultural Statistics (BAS)

2.2.2 Ilocos Region

Over the five- year period (2004-2008), Ilocos Region was averaged at 7,959 hectares. Pangasinan had the highest land area covering an average of 3,688 hectares or 46.33 percent share followed by La Union with 26 percent share; Ilocos Sur and Ilocos Norte with 13.51 percent share and 13.25 percent share respectively to the region's average production area.

Table 5. Production Area of Peanut, by Province, Ilocos Region, 2004-2008

Provinces	2004	2005	2006	2007	2008	Avetage	% Share
Ilocos Region	7,713	7,922	8,126	8,395	7,641	7,959	100.00
Growth Rate		**2.71**	**2.58**	**3.31**	**(8.98)**	**(0.10)**	
Ilocos Norte	1,003	1,030	1,056	1,092	1,094	1,055	13.25
Ilocos Sur	1,023	1,050	1,078	1,113	1,113	1,075	13.51
La Union	2,056	2,112	2,166	2,238	2,135	2,141	26.90
Pangasinan	3,631	3,730	3,826	3,952	3,299	3,688	46.33

Source: Bureau of Agricultural Statistics (BAS)

2.3 Average Yield

2.3.1 Philippines

The country's average yield per hectare was placed at 1.06 metric ton per hectare from 2004-2008. For the five years period, Ilocos Region had the highest yield registered at 1.51 metric tons per hectare followed by Central Luzon with 1.32 metric tons per hectare, Northern Mindanao with 1.30 metric tons per hectare and SOCCSKSARGEN with 1.23 metric tons per hectare.

Table 6. Average Yield/Hectare of Peanut, in Metric Tons, by Region, Philippines, Calendar Year 2004-2008

Particulars	2004	2005	2006	2007	2008	Average
Philippines	**1.01**	**1.04**	**1.05**	**1.10**	**1.09**	**1.06**
Growth Rate		2.97	0.96	4.76	(0.91)	1.95
CAR	0.58	0.58	0.58	0.53	0.52	0.56
Ilocos Region	1.45	1.50	1.52	1.55	1.55	1.51
Cagayan Valley	1.04	1.00	1.09	1.20	1.21	1.11
Central Luzon	1.33	1.34	1.33	1.30	1.31	1.32
CALABARZON	0.59	0.62	0.64	0.78	0.77	0.68
MIMAROPA	0.76	0.77	0.79	0.80	0.96	0.82
Bicol Region	0.64	0.66	0.68	0.69	0.69	0.67
Western Visayas	0.50	0.57	0.60	0.65	0.68	0.60
Central Visayas	0.87	0.88	0.79	0.76	0.72	0.80
Eastern Visayas	0.54	0.59	0.59	0.60	0.63	0.59
Zamboanga Penincsula	0.50	0.52	0.53	0.55	0.52	0.52
Northern Mindanao	1.17	1.19	1.23	1.47	1.45	1.30
Davao Region	0.81	0.83	0.84	0.84	0.85	0.84
SOCCSKSARGEN	1.22	1.24	1.27	1.23	1.20	1.23
CARAGA	0.75	0.75	0.75	0.69	0.64	0.72
ARMM	0.64	0.65	0.64	0.63	0.64	0.64

Source: Bureau of Agricultural Statistics (BAS)

2.3.2 Ilocos Region

Ilocos Region's average yield per hectare was 1.51 metric ton per hectare from 2004-2008. For the five years period, Province of Pangasinan had the highest yield registered at 1.77 metric tons per hectare followed by La Union with 1.39 metric tons per hectare, Ilocos Norte and Ilocos Sur with 1.27 metric tons per hectare.

Table 7. Average Yield/Hectare of Peanut-, in Metric Tons, by Provinces, Ilocos Region, Calendar Year 2004-2008

Particulars	2004	2005	2006	2007	2008	Average
Ilocos Region	**1.45**	**1.50**	**1.52**	**1.55**	**1.55**	**1.51**
Growth Rate		3.45	1.33	1.97	-	1.69
Ilocos Norte	1.14	1.19	1.72	1.16	1.15	**1.27**
Ilocos Sur	1.02	1.12	1.36	1.40	1.45	**1.27**
La Union	1.33	1.36	1.35	1.45	1.46	**1.39**
Pangasinan	1.72	1.77	1.75	1.77	1.77	**1.76**

Source: Bureau of Agricultural Statistics (BAS)

3. HARVESTING

Figure 1. Harvesting Calendar of Peanut with Shell (Fresh), By Province, Ilocos Region

Provinces	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ilocos Norte												
Ilocos Sur												
La Union												
Pangasinan												

4 . MARKETING

4.1 Farmgate Price

In 2008, farmgate price of corn in the Ilocos Region is average at P19.51 per kilogram. Table 21 shows that there were inconsistencies in the monthly prices of this commodity in all the provinces in the region. From the four provinces, Ilocos Norte had the highest average farmgate price registered at P21.80 per kilogram. Price in Ilocos Sur, La Union and Pangasinan had an average of P17.65, P18.64 and P20.42 per kilogram respectively.

Higher average prices were quoted in the months of October to November from P20.10 to P23.12 per kilogram.

Table 8. Monthly Farmgate Price per Kilo of Peanut with Shell (Fresh), Ilocos Region Calendar Year 2008

Month	Province				Ilocos Region
	Ilocos Norte	Ilocos Sur	La Union	Pangasinan	
January	20.96	14.61	21.44	20.26	**19.32**
February	20.86	18.69	16.41	21.63	**19.40**
March	20.84	19.19	17.36	19.36	**19.19**
April	22.12	18.10	16.17		**18.80**
May	21.65		16.49		**19.07**
June			18.47		**18.47**
July			19.91		**19.91**
August	23.31		17.88		**20.60**
September	22.89		17.55		**20.22**
October	22.93		17.27		**20.10**
November	22.93		23.30		**23.12**
December	22.81		21.46		**22.14**
Average	**21.80**	**17.65**	**18.64**	**20.42**	**19.44**

Source: Bureau of Agricultural Statistics (BAS)

Table 9. Monthly Farmgate Price per Kilo of Peanut with Shell (Dry), Ilocos Region, Calendar Year 2008

Month	Province				Ilocos Region
	Ilocos Norte	Ilocos Sur	La Union	Pangasinan	
January	27.80	18.85	27.14		23.33
February	27.19	18.75	22.35		22.97
March	26.98	19.22	22.1		23.10
April	27.79	17.17	27.49		22.48
May	27.75	18.98	26.96		23.37
June	26.19	16.92			21.56
July		17.49			15.00
August		17.43			15.00
September	29.78	17.95			
October	29.52	17.30	27.55		
November	23.38	17.1	42.48		
December	28.40	18.05	39.25		
Average					

Source: Bureau of Agricultural Statistics (BAS)

4.2. Supply and Demand

Table 10 shows that Ilocos Region had a total accumulated surplus of 2,737 metric tons in year 2008 which is an indication that the region is considered sufficient in the production of Peanut.

In 2008, the total demand for peanut in Ilocos Region was 9,071 metric tons. Pangasinan had the highest demand of 70.73 percent of the total demand requirement of the region. This is followed by La Union with 11.27 percent. Ilocos Norte had the lowest demand for peanut at 8.38 percent.

Table 10. Supply and Demand Situation of Peanut in Ilocos Region, 2008

[redacted]