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Report Highlights: This reports outlines developments in Vietnam's feed and livestock sector over the past five years. Tables are provided for corn, soybeans, and soybean meal, as well as livestock production.

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EXECUTIVE SUMMARY

Vietnam has set ambitious goals for increasing per capita availabilities of animal protein above current low levels. Policy reforms of the 1980s led to increased availability of domestic feedstocks and considerable foreign investment in the commercial feed and the livestock sector. The Ministry of Agriculture & Rural Development (MARD) has identified livestock husbandry as a key means of raising unit area productivity and incomes in this largely rural country. Annual rates of growth in feed production are impressive, and withstood the shocks of economic stagnation resulting from the Asian financial crisis. Corn production, a vital farm activity in the Red River Delta (RRD) and around Ho Chi Minh City (HCMC), has expanded rapidly on conversion to hybrid varieties, but will not likely keep pace with rising demand from commercial feedmills. Soybeans, a key component to commercial feed, is in short supply. Inclusion rates of soybean meal (SBM) are low but on the rise. All factors point to increasing seasonal imports of all three to meet supply requirements. Prospects are solid for U.S. corn, soybeans and SBM in this market, but would greatly benefit from improvements in port infrastructure and grain handling facilities.

I. FEED & LIVESTOCK PRODUCTION

Development of the feed and livestock industry is a national priority and a focus of foreign investment in agriculture. Vietnam has set an ambitious target of doubling per capita availability of domestic animal protein by the year 2010. In 1998, the per capita availability of animal protein was very low at only 20.4 kg, among the lowest in Asia. Economic growth will spur consumption of animal protein. Pork's share of total animal protein consumed is about 76 percent. Development of the swine industry is therefore a key element in the national campaign to improve per capita consumption of animal protein. This is reflected in foreign investment in commercial animal feed and modern livestock operations.

Annual per Capita Availability of Domestic Protein

	1994	%	1998	%	2000	2010
Pork (kg)	12.9	76	15.7	77	20.5	33.6
Poultry (kg)	2.57	15	3.06	15	6.9	8.4
Beef & buffalo (kg)	1.54	9	1.64	8	3.1	4.0
Total (kg)	17.0		20.4		n/a	n/a

source: MARD

Vietnam pursues a policy of not only increasing livestock quantity but also improving quality. Table 1, below, shows that annual increases in livestock production in Vietnam are impressive. Sustained high average growth rates for swine (6.5 percent), poultry (6.7 percent), and cattle (3.1 percent), have, in turn, led to rapid expansion of the commercial feed industry.

Table 1: Vietnam Livestock and Commercial Feed Production

		1995	1996	1997	1998	1999*	2000*	Average GR
SWINE	Quantity (1,000 heads)	16,306	16,921	17,635	18,132	18,785	19,600	3.6%
	Live weight (1,000 MT)	1,011	1,080	1,154	1,228	1,310	1,343	6.5%
POULTRY	Quantity (1,000 heads)	132,488	151,401	160,550	166,382	179,659	193,996	8.0%
	Live weight (1,000 MT)	197	213	226	239	255	272	6.7%

	Egg (1,000 eggs)	2,665,719	3,083,777	3,168,646	3,226,666	3,226,666	3,549,333	6.8%
CATTLE	Quantity (1,000 heads)	3,639	3,800	3,905	3,984	4,106	4,232	3.1%
	Live weight (MT)	64,548	70,075	71,791	83,154	90,593	98,698	8.9%
BUFFALO	Quantity (1,000 heads)	2,962	2,953	2,943	2,951	2,951	2,951	0.0%
	Live weight (MT)	37,330	49,287	50,856	44,601	44,601	44,601	0.0%
DIARY	Quantity (1,000 heads)	18.7	22.5	24.5	26.1	29	33	11.9%
FRESH MILK (MT)		20,925	27,856	31,274	32,803	38,301	44,721	16.8%
FEED	Commercial (1,000 MT)	620	800	1,120	1,400	1,800	2,160	28.5%

Source: MARD, FAS, trade; note: 1999 numbers are projections. 2000 are forecast.

On-farm mixing and feeding of livestock is still a widespread practice. Rapid live-weight gain is the primary consideration of Vietnamese farmers, although improvement of meat quality is reportedly gaining in markets around HCMC. In order to move the feed and livestock sector toward a commercial high-energy feed and away from backyard (home-mixed/garbage) feed, Vietnam must industrialize the feed industry. Currently, only an estimated 15 percent of swine are fed high energy commercial rations.

The combination of demographics, growth potential and stated government policy has attracted both foreign and local investment in commercial animal feed. Table 1 shows that the annual growth rate of commercial feed industry has been rapid, averaging about 28.5 percent in recent years. In 1995, Vietnam produced only about 620 TMT of commercial feed. Industry sources estimate that output of the commercial feed industry will be about 2,160 TMT in the year 2000, and expect the total to increase over three-fold within five years. At present, the ratio of concentrate and complete feed is 3/7, and the split of foreign versus local investment in the feed industry is 4/6. Concentrates are currently in highest demand because of the abundance of on-farm energy sources, such as broken rice, cassava, etc., and the generally small size of operations, particularly in the Red River Delta.

Development of aquiculture has begun to play an important role in the expansion of the feed sector. National programs for aquiculture development have been announced. This will require increasing investment in the aquafeed industry. Although artisanal pond and cage-culture efforts have been extremely successful in expanding production of shrimp, catfish, sea bass, etc., the GVN recognizes the need for extension programs to educate farmers in improved techniques. And this implies use of commercial aquiculture feeds. In 1998, shrimp and fish culture expanded in area to about 490THA, with live-weight production reaching about 56TMT and 288TMT, respectively. If about a third of this production is fed commercial ration, the demand for feed for fish culture is roughly 240TMT per year (based on an average FCR of 2.5/1kg). Aquaculturalists in the MRD mainly use “home-mixed” rations and are not generally aware of benefits of commercial ration. Commercial aquafeed supply is limited to about 60 TMT per year and the cost is high compared with alternative feedstuffs (retail prices for shrimp feed and fish feed are US\$0.85/kg and US\$ 0.28/kg, respectively). Regional feed giant, C-P of Thailand, recently announced plans for a mill dedicated to aquafeed, primarily for the MRD. Thus, the aquafeed industry is taking off and will likely absorb more investment as the aquiculture industry expands. Rapid growth in this sector depends to some extent on Vietnam’s ability to target export markets with these fisheries products. According to a Ministry of Fisheries expert, the estimated demand for aquafeed in 2010 is expected to reach 1.5 MMT.

Rapid growth of the feed & livestock industry, as well as aquiculture, is spurring demand for raw feed materials including corn, soybeans, and soybean meal. Although Vietnam has made impressive strides in expanding area planted to hybrid corn, it is unlikely domestic production will keep pace with demand from the commercial feed sector. Already both imports and exports of corn occur, in part due to seasonality of production and poor storage infrastructure. Prospects

for imports of the soy complex are even more pronounced, as mills routinely procure supplies from India, Argentina, and, occasionally, the United States. Imports are necessary to meet the increasing demand of the commercial feed sector, a view shared in principle by MARD.

II. CORN

Table 2 : Vietnam: Corn Production Supply & Demand ^{1/}

	1995	1996	1997	1998	*1999
Area Harvested (1000 ha)	556.8	615.2	662.9	649.7	646.0
Average Yield (MT/ha)	2.11	2.50	2.49	2.48	2.52
Beginning Stocks (1000MT)	0.0	0.0	0.0	0.0	0.0
Production	1,177.0	1,537.0	1,650.0	1,612.0	1,627.0
Total imports	58.6	77.0	88.1	118.1	140.0
<i>Import from U.S.</i>	<i>14.5</i>	<i>32.5</i>	<i>16.5</i>	<i>0.0</i>	<i>13.8</i>
<i>Import from China</i>	<i>0.0</i>	<i>0.0</i>	<i>12.5</i>	<i>55.7</i>	<i>78.1</i>
<i>Import from Argentina</i>	<i>0.0</i>	<i>0.0</i>	<i>13.5</i>	<i>11.9</i>	<i>0.0</i>
<i>Import from Indonesia</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>16.0</i>	<i>4.6</i>
<i>Import from Cambodia</i>	<i>40.0</i>	<i>40.0</i>	<i>30.0</i>	<i>30.0</i>	<i>30.0</i>
<i>Import from Others</i>	<i>4.1</i>	<i>4.5</i>	<i>15.6</i>	<i>4.5</i>	<i>13.5</i>
Total supply	1,195.6	1,579.0	1,720.6	1,700.1	1,737.0
Total export	80.6	98.0	75.6	20.1	2.0
Feed dom. consumption	640.0	970.0	1,210.0	1,260.0	1,320.0
Total dom. consumption	1,115.0	1,481.0	1,645.0	1,680.0	1,735.0
Endings stocks	0.0	0.0	0.0	0.0	0.0
Total Distribution	1,195.6	1,579.0	1,720.6	1,700.1	1,737.0

Source: FAS/Hanoi; 1999 data are projections.

^{1/} Production numbers reflect MARD official data.

PRODUCTION

Corn production in Vietnam is subject to year-to-year fluctuations and has averaged around 1.61-1.65 MMT. Current increasing demand for corn by the feed industry has resulted in better prices for domestic corn, which in turn has encouraged farmers to invest more on corn this year. About 85-90 percent of corn area is reportedly planted to higher yielding hybrid varieties in 1999. Moreover, weather conditions have been generally favorable. Monsoon rainfall started early in April 1999, and has been steady from May to the end of the year. Despite early concerns about drought (Jan-Feb), floods in mid-year, and some instances of poor-quality planting seed, there was surprisingly little effect on total output. Average yield for 1999 corn production is estimated at about 2.52MT/ha, or slightly higher than last year. After increasing rapidly, area planted to corn has actually fallen slightly over the past few years as more land has been allocated to other crops such as rice, coffee, black pepper, and even cotton. Harvested area for corn in 1999 is likely to remain the same as last year's level of about 650THA.

CONSUMPTION

Aggregate consumption for corn is increasing as a result of rapid growth in feed and livestock sector. Corn for food use accounts for a comparatively small portion (20-25 percent) of total corn consumption. The bulk (75-80 percent) is mainly for feed use. Adequate supplies of rice in recent years have contributed to a reduction in the portion of corn for

food use.

TRADE

Vietnam is a seasonal importer and exporter of corn. As the domestic corn growth rate is much slower than the growth of feed industry, Vietnam has become an importer of small amounts of corn since 1995. Imports have kept creeping upward from 59TMT in 1995 to an estimated 140TMT in 1999. Table 2 shows that Vietnam is a seasonal corn importer. In 1995, 1996 & 1997, Vietnam also exported small quantities of yellow corn, mainly in the months of June, July, and August. Corn shortfall usually occurs from December to April, and imports usually occur within that period of the year.

Corn imports are mainly sourced from China. However, Cambodia, Argentina and United States have become suppliers in the past five years. Local landed prices of Chinese corn suggest export subsidies, a factor that has supported China's dominant share (56 percent) of the corn market in 1999. In future, with better ports and grain handling/storage facilities in the southern part of the country, U.S. corn will likely develop a market in Vietnam. Also for future consideration is the potential of Cambodia as a supplier to Vietnam. This is a traditional outlet for corn marketed down the Mekong River. Political stability and economic development in Cambodia could boost shipments of corn to this market. The import duty and VAT for corn are both currently set at five percent.

PRICES

Prices for local yellow corn are strengthening slightly, as the S-A crop is nearly finished and supplies have slowed down. Current prices for yellow corn (14% moisture) are VND 1,820-1,850 /kg (equivalent to US\$122/MT, C&F, HCMC).

POTENTIAL FOR U.S. CORN

Vietnam is a small market for corn, but is growing rapidly. An awareness of the quality premium of U.S. corn has been established over the past four years, as small quantities of U.S. corn were imported into Vietnam in 1995 (14.5 TMT), 1996 (32.5 TMT), 1997 (16.5 TMT) and 1999 (13.8TMT). Total corn imported from the United States in the last five seasons is about 80TMT, representing about 16 percent of total import volume. Improvement of the infrastructure of ports and storage facilities would greatly increase our prospects in this market.

III. SOYBEANS

Table 3: Vietnam: Soybean Production, Supply & Demand 1/

	1995	1996	1997	1998	1999
Area Harvested	121.1	110.3	106.4	127.8	125.0
Average Yield	1.04	1.03	1.06	1.11	1.11
Beginning Stocks	0.0	0.0	0.0	0.0	0.0
Production	125.5	113.8	113.0	141.3	137.5
Total imports	19.0	24.4	25.5	26.0	27.0
<i>Import from U.S.</i>	<i>0.0</i>	<i>10.4</i>	<i>5.5</i>	<i>0.0</i>	<i>5.5</i>
<i>Import from Brazil</i>	<i>0.0</i>	<i>4.0</i>	<i>5.0</i>	<i>11.5</i>	<i>5.0</i>
<i>Import from Indonesia</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>3.5</i>
<i>Import from Cambodia</i>	<i>15.0</i>	<i>10.0</i>	<i>10.0</i>	<i>10.0</i>	<i>10.0</i>

<i>Import from others</i>	4.0	0.0	5.0	5.0	3.0
Total supply	144.5	138.2	138.5	167.3	164.5
Total exports	10.0	5.0	5.0	0.0	0.0
Feed Dom. Consumption	10.0	14.0	14.0	30.0	32.0
Total Dom. Consumption	134.5	133.2	133.5	167.3	164.5
Endings stocks	0.0	0.0	0.0	0.0	0.0
Total Distribution	140.5	139.8	138.5	165.8	162.5

Source: MARD, FAS/HN, trade.

1/ Production numbers are official MARD data.

PRODUCTION

Efforts to encourage soybean expansion have not been successful in producing adequate supplies for both food and feed. Some agronomists view Vietnam's potential for increasing production above current levels as limited. Low average yields discourage farmers. Alternative crops such as corn and peanuts usually offer better returns. Table 3, above, shows that average soybean yields from 1995 through 1999 are below 1.2MT/ha. Production in 1999 is estimated at about 138 TMT, slightly lower than last year's outturn on less harvested area.

Australian aid seeks to assist Vietnam increase soybean production. This development project aims to improve yields through introduction of better varieties and promotion of good agronomic practices. The three-year, US\$ 0.7 million project also has a scientific exchange component with the Australian Center of International Agricultural Research.

CONSUMPTION

Soybean utilization is increasing rapidly as result of growing demand for soy-based food products and the expanding feed and livestock sector. The Vietnamese diet includes increasing quantities soyamilk and tofu. The current split between food/feed use is 80/20. Modern investment in soyamilk products by Vinamilk, Tribico and Quang Ngai Sugar Co. has resulted in more products in the market and in export channels. Soyamilk production consumes an estimated 10 TMT per year, low but likely to increase as incomes rise and Vietnamese consumers become accustomed to bottled soyamilk products.

Crushing capacity in Vietnam is estimated at about 100 TMT, but current actual crushing is very low at about 24TMT-26TMT per year. A major reason for this underutilization is the ready supply of cheaper imported crude vegetable oils. If investment licenses issued to Cargill and President Group are implemented, actual soy crushing capacity would rise to about 300TMT-350 TMT in the year 2004.

Feed use is mainly for full-fat soybean meal (FFSBM) Demand from feedmills in 1999 is pegged at 32TMT. Proconco, C-P, and Cargill are pioneers in incorporating FFSBM in livestock feed.

IMPORTS

Vietnam has become a seasonal soybean importer to meet demand for the booming commercial feed industry. Although the quantity of imports is still very small, industry leaders predict ever-increasing numbers. Total soybean imports in 1999 are estimated at 27TMT, mainly sourced from Cambodia, Brazil and the United States. In the five-year period

since diplomatic relations were normalized, Vietnam has imported about 21.4 TMT of U.S. beans, accounting for 18 percent of total deliveries.

POTENTIAL FOR U.S. SOYBEANS

As with other bulk cargoes, U.S. soybeans face logistical bottlenecks from ports too small to handle large vessels. The market for U.S. soybeans will grow as these obstacles are overcome. Import duties for soybeans are 10%, with a 5% VAT.

PRICES

Prices at the end of November 1999, for soybeans (13.5% moisture) were stable at about VND3,500-3,600 / kg (equivalent to US\$215-220/MT), C&F, HCMC port.

IV. SOYBEAN MEAL (SBM)

Table 4: Vietnam Soybean Meal Production Supply & Demand ^{1/}

	1995	1996	1997	1998	1999
Beginning Stocks (1000MT)	0.0	0.0	0.0	0.0	0.0
Production	51	38	30	24	18
Total imports	95.0	136.0	175.0	230.0	305.0
<i>Import from U.S.</i>	<i>5.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>11.0</i>
<i>Import from India</i>	<i>62.4</i>	<i>93.5</i>	<i>104.0</i>	<i>155.5</i>	<i>138.5</i>
<i>Import from Brazil</i>	<i>14.4</i>	<i>22.5</i>	<i>41.0</i>	<i>41.6</i>	<i>37.8</i>
<i>Import from Argentina</i>	<i>13.2</i>	<i>20.0</i>	<i>30.0</i>	<i>17.9</i>	<i>98.7</i>
<i>Import from others</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>15.0</i>	<i>19.0</i>
Total supply	146	174	205	254	323
Total export	0.0	0.0	0.0	0.0	0.0
Total dom. consumption	146	174	205	254	323
Ending stocks	0.0	0.0	0.0	0.0	0.0
Total supply	146	174	205	254	323

Source: FAS/HCMC, trade; 1999 is projection.

^{1/} trade is GVN data.

PRODUCTION

As mentioned above, the most economic method of producing soyoil is to import crude oil and refine locally. Thus, the comparatively small amount of soybean meal (SBM) produced in Vietnam. For 1999, we estimate that VN produced only about 18 TMT, or about six percent of total SBM consumption.

CONSUMPTION & TRADE

As with corn, the demand for SBM from the feed industry is booming. In 1995, about 95.2 TMT of SBM were imported for the feed industry. In 1998, deliveries rose to 230 TMT, and are expected to reach 305 TMT in 1999. The average annual growth rate over the past five years is a whopping 33 percent, in step with increases in commercial feed over the same period. Recent investment in aquafeed for ponds and cage culture will further add to demand.

PRICES

Quoted prices at the end of November 1999, for Argentine SBM (47% protein) were US\$197/MT, and for Indian SBM (47% Protein) US\$184/MT, C&F, HCMC. Domestic prices for SBM are rising as stocks in the market are currently very tight. Traders note that exportable supplies of SBM from Argentina and India are both also limited. Local HCMC prices for Argentine SBM are about VND3,800 /kg (equivalent to US\$220/MT).

POTENTIAL FOR U.S. SBM

Vietnamese users recognize the quality premium of U.S. SBM. High protein and low aflatoxin SBM from the United States has the potential to replace cheaper SBM from other sources such as India and Brazil. Cheaper prices and prompt delivery on small quantity shipments from India and South America currently dominate the Vietnam market. With long-term economic growth, Vietnam will develop as a regular market for U.S. SBM. Import duties on SBM are 10%, with a VAT of 5%.