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PRODUCTION OF BIOLOGICALS (PHASE I), A SURVEY

UC/RAS/83/234

Technical report: Feasibility of Collecting for Insulin
Manufacture Pancreas Glands from Abattoirs/Slaughterhouses
within the Asean Group of Nations*

Prepared for the Governments of Indonesia,
Malaysia, Singapore, Thailand, The Philippines
by the United Nations Industrial Development Organization

Based on the work of M.V. Williams
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COUNTRIES VISITED

<u>Countries</u>	<u>Population</u>
Indonesia	160,000,000
Singapore	2,500,000
Malaysia	10,000,000
Thailand	50,000,000
Philippines	<u>53,000,000</u>
TOTAL	<u>275,000,000</u>

OBJECTIVES

- A. To establish the number of cattle and pigs within each country together with the number of animals slaughtered each year.
- B. To ascertain the quantity and quality of pancreas glands available from each country.
- C. To estimate the costs associated with collections within each country.
- D. To formulate recommendations for the collection, freezing and packing of pancreas glands.
- E. To ascertain the availability of:
 - 1) Manpower
 - 2) Freezer space
 - 3) Refrigerated transport
 - 4) Commercial quantities of alcohol and salt.
- F. To determine departmental attitude towards:
 - 1) Collecting pancreas glands
 - 2) Exporting and/or importing of glandsand to establish lines of communication with the respective government departments and abattoirs/slaughterhouses.
- G. To establish lines of responsibility of abattoirs/slaughterhouses and animal processed.
- H. To recommend a future timetable for training and the establishment of a collection network.
- I. Summary
- J. Conclusions

A.

ANIMAL NUMBERS (000')

COUNTRY	CATTLE	PIG	TOTAL
Indonesia	6,660.0	3,677.0	10,337.0
Singapore	1.6	600.0	601.6
Malaysia ⁽³⁾	230.0	1,372.0	1,602.0
Thailand ⁽⁴⁾	9,600.0	5,300.0	14,900.0
Philippines	2,900.0	8,000.0	10,900.0
TOTAL	19,391.6	18,949.0	38,340.6

ANIMALS SLAUGHTERED FOR YEAR (000')

COUNTRY	CATTLE	PIG	TOTAL
Indonesia ⁽¹⁾	947.2	856.4	3,541.9
Singapore ⁽²⁾	1.6	1,000.0	1,001.6
Malaysia ⁽³⁾	11.0	870.0	881.0
Thailand ⁽⁴⁾	484.0	3,146.0	3,630.0
Philippines	361.0	3,200.0	3,561.0
TOTAL	1,804.8	9,072.4	12,588.5

Note 1: Figures relate to government controlled slaughterhouses only, returns from private (commercial) slaughterhouses were not available.

Note 2: Singapore import from Australia 1600 cattle per year.

Note 3: A) Cattle figures include Buffalo as under

Cattle	50,400
Buffalo	<u>179,600</u>
Total	<u>230,000</u>

B) Slaughtering returns only include those figures for large government operated slaughterhouses.

Note 4: A) Cattle figures include Buffalo as under

Cattle	4,400,000
Buffalo	<u>5,200,000</u>
Total	<u>9,600,000</u>

B) Slaughtering returns include Buffalo as follows:

Cattle	381,000
Buffalo	<u>103,000</u>
Total	<u>484,000</u>

B. AVAILABILITY OF PANCREAS GLANDS FROM EACH COUNTRY

Indonesia

Slaughterhouses	980
Pancreas glands available from	5
Operating days per week	7

Comments

All slaughterhouses visited in Indonesia were clean-well managed and under the supervision of a Veterinarian with trained Meat Inspectors inspecting both viscera and carcass.

There are no labour problems at Indonesian slaughterhouses and pancreas glands would be available on a continuing long term basis.

Pancreas glands are not at present being collected and at those slaughterhouses visited there were no personnel trained in removal techniques.

Singapore

Abattoirs	2
Pancreas glands available from	2
Operating days per week	6

Comments

Singapore abattoirs are extremely well controlled with all Meat Inspection duties under the supervision of Veterinarians.

Pancreas glands are at present being collected at both abattoirs and are sold to a broker in Hong Kong.

The broker supplies cartons, a small freezer, moulds and trays S\$3.50 (US\$1.75) per kilo ex-works.

The abattoir management would be quite happy to provide pancreas glands for processing within Asean provided they were:

- a) Paid the purchase price they are now receiving (S\$3.50 per kilo).
- b) Provided with plastic trays and cartons
- c) Cartons of pancreas glands are collected from the abattoirs each 2/3 weeks.

Malaysia

Slaughterhouses	(approximately 100)
Number pancreas glands available from	6
Operating days per week	6

Comments

There is insufficient cattle slaughtered in Malaysia to bother with the establishment of beef pancrease glands collections.

Collection of pig pancrease glands had been attempted by a local broker some 2 years ago, but floundered due to the inability of the buyer to negotiate with the multitude of butchers.

Due to this previous failure, slaughterhouses management were reluctant to consider a further attempt at collections, however, after further discussions, they now believe they themselves can collect the pancreas provided the monitory returns were satisfactory.

As in both Indonesia, Singapore and Malaysian slaughterhouses are purely service works and all parts of the animal remain the property of the butcher.

Collection, packing and freezing would be as recommended, however, there are a number of problems.

- A) Only one slaughterhouse has freezing facilities although, the facilities at this work would be large enough for use in the consolidation of container loads (approximately 15 tonnes).
- B) Traditionally no part of the animal has been held back from the butchers.

However, the slaughterhouse management believe that they can obtain the glands which would help them off set the cost of slaughterhouse operations, it would be their responsibility to negotiate release of the pancreas from each butcher.

Thailand

Number of slaughterhouses	600
Number pancreas available from (at present)	2
Operating days per week	6

Comments

At the present, there are only two slaughterhouses in Thailand, from which it would be feasible to collect pancreas glands although, there are a further 3 slaughterhouses to be constructed

in the Bangkok area during 1985. The total combined kill from these new slaughterhouses will 450 pigs and 250 cattles per day. Pancreas glands from these new slaughterhouses will be available for collection.

From the cooperative assistance of the Thai officials it would appear that the collection of both beef and pork pancreas glands will be no problem.

It also appears quite likely that it would be feasible to include other slaughterhouses once collections have started in Thailand.

Philippines

Number of slaughterhouses	800
Number pancreas glands available from	18
Operating days per week	7

Comments

Pancreas glands are at present being saved at all "AA" (export) and "A" graded slaughterhouses.

The glands are collected each day from the slaughterhouses in an unfrozen condition and transported to a cold store for packing and freezing.

Buyers are at present supplying labour and paying an unknown amount for glands however, due to butcher resistance, they can in many instances only obtain approximately a third of the total glands produced. Novo appear to be the major purchaser of pork pancreas glands.

QUANTITY OF PANCREAS GLANDS AVAILABLE

(Kilos)

COUNTRY	BEEF	PIG	TOTAL
Indonesia (5)	70,000	20,000	90,000
Singapore	nil	70,000	70,000
Malaysia	nil	65,000	65,000
Thailand	30,000	137,000	167,000
Philippines	6,000	100,000	106,000
TOTAL	106,000	392,000	498,000

Note 5:

The quantities shown for Indonesia refer to immediately available pancreas glands and bear no relationship to the number animals slaughtered. Indonesia slaughter 3,500,000 animals per year through 980 slaughterhouses an average of 3571 animals per slaughterhouse per year.

The same applies in Thailand with 600 slaughterhouses and most other Asean countries.

C. COST ESTIMATES FOR COLLECTION OF PANCREAS GLANDS FROM EACH COUNTRY

Indonesia

Exchange rate US\$1.00 = RP1020

Unskilled labour rates	RP2500 per day
Labour requirements per slaughterhouse ⁽⁶⁾	2
Estimated packing costs	50 per kilo
Estimated freezing charges	75 per kilo
Estimated cost of local transport	150 per kilo

TOTAL ESTIMATED IN-STOCK COSTS

(Per Kilo)

COMPONENT	BEEF	PIG
Labour	RP 50	RP 50
Packing	RP 50	RP 50
Freezing	RP 75	RP 75
Transport	RP 150	RP 150
Purchase ⁽⁷⁾	RP 800	RP1000
TOTAL	RP1125	RP1325

Note 6: Labour requirements will vary depending on the size of kill, however the maximum number per slaughterhouse would be 2.

Note 7: Purchase price will vary depending on whether the glands are being used or discarded.

The present price for animal fats are beef RP 800 per kilo pork RP 1000 per kilo.

In some cases glands will be obtained free of charge or at a lower cost.

Singapore

Exchange Rate US\$1.00 = S\$2.19

Cost of purchase S\$ 3.50 per kilo
(includes packing, freezing and storage)
(at abattoir)

Cardboard cartons S\$ 0.05 per kilo

Transport and storage S\$ 0.25 per kilo

Total S\$ 3.80 per kilo

Malaysia

Exchange Rate US\$1.00 = MS2.30

Cost of purchase M\$ 3.50
(would include all labour, packing and freezing
charges)

Cartons M\$ 0.05

Freezer transport (ave.) M\$ 0.40

Total M\$ 3.95

Thailand

Exchange Rate US\$1.00 = Bhat 27.50

Cost of Purchase (includes labour)		BT	21.50
Cartons			1.00
Freezing			0.50
Transport			0.50
<hr/>			
Total	Per Kilo	BT	23.50
<hr/> <hr/>			

Philippines

Exchange Rate US\$1.00 = ₱ 16.90

Cost of Purchase (includes labour)		P	N/A
Cartons		P	0.50
Packing and Freezing		P	1.00
Transfers (local)		P	1.00
<hr/>			
Total	Per Kilo	P	N/A
<hr/> <hr/>			

D. COLLECTION, FREEZING AND PACKING OF PANCREAS GLANDS

Due to the high temperatures and humidity in the countries visited, I considered it prudent to devise a system that would minimize the time span between animal slaughter and the glands being placed under refrigeration.

COLLECTION

Directly into plastic 5 kg trays (these trays would require the pancreas of approximately 30 cattle or 60 pigs to fill.

FREEZING

Full trays would be placed directly into freezer until glands are frozen hard.

PACKING

Frozen blocks (5 per carton) packed into polythene lined cartons.

Cartons to be colour coded for easy identification.

E. AVAILABILITY OF

MANPOWER
FREEZER SPACE
TRANSPORT FACILITIES
OTHER RAW MATERIALS

INDONESIA

Manpower is readily available throughout Indonesia at very cheap rates.

Freezer space and storage were not available at all slaughterhouses, however at those slaughterhouses lacking large freezers it would be possible to install chest type freezers as power was on-site.

Transport facilities within Jakarta would be by slaughterhouse freezer transport.

From Surabaya and Bandung there is air, rail and road transport available and from Bali air and sea transport.

Other raw materials such as alcohol and salt are readily available.

SINGAPORE

Manpower (presently saving)

Freezer space available at one abattoir only. however there is plenty of non-abattoir cold storage available.

Transport facilities

Numerous freezer transports available.

Other Raw Materials

Not applicable.

MALAYSIA

Manpower would be supplied by slaughterhouses management. Present rates M\$90.00 per week per person (unskilled).

Freezer Space. Small freezers would be required for on-site freezing except at Shahalan which has a 15 tonne capacity freezer.

Transport Facilities. Freezer transports service most areas although there may be difficulties obtaining space for part loads.

Other Raw Materials

Not applicable.

THAILAND

There is no problem obtaining manpower for collections or freezer storage space both on-site at the slaughterhouses and off-site.

Freezer transport for shipping consignments was also readily available.

Commercial supplies of alcohol and salt were readily available.

PHILIPPINES

Obtaining manpower for gland collections is no problem (P50 day), however there is only limited on-site freezer space available at a few slaughterhouses. There is a large off-site cold store near to the major Manila abattoir but refrigerated meat transport will not be available in the Philippines for 3-4 years. Limited refrigerated transport would possibly be obtainable for transporting glands over a long distance in conjunction with other products. Commercial quantities of alcohol and salt are available.

The major problem in obtaining pancreas from Philippine slaughterhouses will be in contesting with the other well established buyers for what glands are available.

F. GOVERNMENT DEPARTMENTAL ATTITUDES TOWARDS COLLECTION
EXPORT AND/OR IMPORT OF PANCREAS GLANDS

INDONESIA

The Department of Agriculture have no objections to the collection of nor to the export/import of pancreas glands to or from other Asean countries.

SINGAPORE

The Primary Production Department have no objection to the export of pancreas glands but under no circumstances would they allow the import of pancreas glands from a number of other Asean countries.

MALAYSIA

No objection to collection and export of pancreas, however there are regulations prohibiting import of meat products from Indonesia and the Philippines.

THAILAND

The Veterinary Health Section of the Ministry of Agriculture have no objection to the export or import of pancreas glands from and to other Asean countries in fact they would welcome the opportunity of co-operating with UNIDO in establishing an insulin manufacturing plant in Thailand.

PHILIPPINES

The Ministry of Agriculture and Food have not yet established a policy on the import of such products as pancreas glands, however there are stringent restrictions on the import of meat in general, not so much because of disease control but more because of their monetary policy.

Export of pancreas glands is allowed.

NAMES AND ADDRESSES FOR DEPARTMENTAL CONTACTS FOR EACH COUNTRY

INDONESIA

Mr. Rusli Sukirta
Head-Subdirector of Livestock
Products Handling and Processing
Direktorat Bina Usaha Petani Ternak
Jalan Salemba 16
Jakarta

SINGAPORE

The Manager
Low Sang Chin
Primary Industries Enterprise (Pte) Ltd.
(Abattoir Division)
51 B Jalan Buroh
Jurong Town
Singapore 2261

Dr. Ho Hon Fatt
Veterinary Public Health
Primary Production Department
51 Jalan Buroh
Jurong Town
Singapore 2261

MALAYSIA

Dr. Ahmad Mustaffa Babjee
Director General
Department of Veterinary Services
Wisma Tani
Jalan Mahameru
Kuala Lumpur
Malaysia

THAILAND

Dr. Wipit Chaisrisongkram
Chief Veterinary Public Health Section
Disease Control Division
Department of Livestock Development
Phya Thai Road
Bangkok 10400
Thailand

PHILIPPINES

MANILA

Dr. Pedro U. Dumag
Chief Meat Inspection Officer
Baex Building Elliptical Road
Quezon City
Metro Manila

CEBU

Dr. Gelacio D. Tomines
Regional Meat Control Officer
N.M.I.C. Region VII
Compound of Ministry of Agriculture and Food
Cebu City
Philippines

G. RESPONSIBILITY AND OWNERSHIP OF SLAUGHTERHOUSES/
ABATTOIRS AND PANCREAS GLANDS

INDONESIA

Slaughterhouses are owned by the Department of Home Affairs.

Slaughterhouses are operated by respective local governments, who appoint the veterinarians and meat inspectors. Animals at all times, including during processing, are the property of the butchers and permission of each butcher must be obtained before glands can be collected, at one slaughterhouse visited in Jakarta there were 140 butchers, however the management considered that this did not represent a problem.

SINGAPORE

Abattoirs are owned and operated by the Primary Industry Enterprise who operate abattoirs as a service for butchers.

MALAYSIA

Malaysian slaughterhouses (large) are owned and operated by the government and are service works.

Department of Veterinary Services is the responsible department. Pancreas glands are at all times the property of the butchers.

THAILAND

The Veterinary Public Health Section of the Ministry of Agriculture and Co-operatives is responsible for the control of Thai slaughterhouses.

All slaughterhouses operate as service works for butchers and as in other Asean countries the pancreas gland is their property.

PHILIPPINES

Small Philippine slaughterhouses are operated by local governments.

Larger city slaughterhouses are controlled by the Ministry of Agriculture and Food although some of the Manila area slaughterhouses have been leased to private companies.

H. FUTURE TRAINING FOR SLAUGHTERHOUSE PERSONNEL

On the job training of slaughterhouse personnel in the techniques of pancreas gland removal, trimming, packing and transporting will be necessary together with the establishment of contacts for amalgamation and consignment of shipments, storage areas, documentation, etc.

This will be a lengthy process requiring considerable time in each of the Asean countries. It would be necessary to spend at least 3 days at each slaughterhouse to ensure the quality and quantity of pancreas being recovered were satisfactory.

As well as the above a number of days would be needed to establish storage and transport links. A further few days would be required in each capital city to establish an area for amalgamation, shipment and documentation of containers.

The setting up of an operatable collections network within the Asean area will require considerable input of expertise over a lengthy period.

TIMETABLE

It would naturally be necessary to commence collections well before start of insulin manufacture, at least 6-9 months would be preferable. This would ensure sufficient stocks of glands were on hand to cover delays in receiving consignments from other Asean countries.

After negotiations had been carried out with the host country in which it was decided to establish the insulin manufacturing plant and approximately 6-9 months prior to completion of this plant it would be desirable to commence the following program.

1. Obtain a temporary cold storage receiving facility in the same general area as the insulin plant.
2. Obtain sufficient quantities of plastic trays for glands.
3. If cartons are to be supplied obtain contacts for manufacture.
4. Arrange transport facilities (internal).
5. Establish documentation covering receipt of consignments and formulate procedures and documentation to cover testing of gland quality.
6. Advise each of the Asean countries of an intended visit to establish a pancreas gland collection network.
7. Establish within host countries slaughterhouses the collection of glands.
8. Negotiate shipping and custom agent rates for receipt of consignments from other countries.
9. Visit in turn each of the other Asean countries and instruct abattoir/slaughterhouse personnel in removal, packing techniques.
10. Establish within each country storage and transport links and an amalgamation area for consolidation of consignments into container loads.
11. Negotiate container rates, storage rates and shipping rates.

I.

SUMMARY

It is quite feasible to collect pancreas glands from all Asean countries with a total of 106,000 kilo of beef and 392,000 kilo of pork being available.

All Asean governments through their respective departments were quite co-operative as were all abattoir/slaughterhouse managers.

If the collection of pancreas glands does proceed, care would need to be exercised in arranging purchases from those slaughterhouses at present collecting to avoid the possibility of an escalation in the purchase price of glands.

Within a number of countries on-site, freezer storage could present a problem that could be overcome with the placement of small chest type freezers, the cost of which in many cases would be borne by the slaughterhouses management concerned. With regards to purchasing from Philippine slaughterhouses it may be advisable to use the already established brokers.

There are problems in obtaining internal freezer transport in some countries. However they are not insurmountable.

In general, there are sufficient animals within Asean countries to not only establish a collection network recovering initially approximately 500 tonnes of pancreas but to expand such collections to 600-700 tonnes per year.

This would support an insulin plant operation with a 12-hour batch time and 1250 kilo batches for 50 weeks per year 5 days per week 24 hours per day.

J.

CONCLUSIONS

Due to import regulations in Singapore and Malaysia and the lack of freezer transport together with import regulation problems in the Philippines only Indonesia and Thailand present themselves as suitable areas for the establishment of an insulin manufacturing complex.

Both countries have an abundance of cheap labour and both produce commercial quantities of alcohol and salt, as well as the attitude of government officials within each country would be conclusive to the successful establishment of an insulin plant within the respective country.

However, with regards to freezer transport and storage, Thailand facilities are superior to those presently available within Indonesia.

Power (electricity) rates within Thailand are also cheaper than those applying in Indonesia.

Shipping refrigerated containers into Bangkok appears to be easier than into Jakarta due to less port and road congestion as well, Thailand presents itself as a centralized position for the establishment of a pancreas gland collection network.

In conclusion, of all Asean countries visited, Thailand appeared to be the most appropriate in which to establish an insulin manufacturing plant.

ANNEX 1

QUESTIONNAIRE

1. Country INDONESIA

2. Advise if Pancreas Glands are at present being collected from Abattoir/
Slaughterhouses No

3. Animal Numbers
 - 3.1 Total number of cattle and pigs 10,337.000

 - 3.2 Classification of Animals:
 - 3.2.1 Number of cattle 6,660.000
 - 3.2.2 Number of pigs 3,677.000

4. Animal Kill
 - 4.1 Total number of animals killed in a full year 3,514,941

 - 4.2 Classification of kill:
 - 4.2.1 Number of cattle killed 947,117 (1983) Govt only
 - 4.2.2 Number of pigs killed 856,377 (1983) Govt only
 - 4.2.3 Number of animals killed at Government inspected Abattoir/Slaughterhouses
Cattle 947,117 Pigs 856,377
 - 4.2.4 Number of animals killed at Commercial Abattoir/Slaughterhouses
Cattle N.a. Pigs N.a.

4.2.5 Number of animals killed at Non-Commercial Abattoir/Slaughterhouses
Cattle N.a. Pigs N.a.

5. Abattoir/Slaughterhouses

5.1 Total number of Abattoir/Slaughterhouses 980

5.2 Classification of Abattoir/Slaughterhouses

5.2.1 Number of Government Inspected Abattoir/Slaughterhouses 661

5.2.2 Number of Commercial Abattoir/Slaughterhouses 5

5.2.3 Number of Non-Commercial Abattoir/Slaughterhouses 53

5.3 Total number of Abattoir/Slaughterhouses with freezing and storage facilities 9

5.3.1 Number of Government inspected Abattoir/Slaughterhouses with freezing and storage facilities 5

5.3.2 Number of Commercial Abattoir/Slaughterhouses with freezing and storage facilities 4

5.3.3 Number of Non-Commercial Abattoir/Slaughterhouses with freezing and storage facilities Nil

5.4 Total number of Abattoir/Slaughterhouses with access to freezer transport 3

5.4.1 Number of Commercial Abattoir/Slaughterhouses with access to freezer transport 5

5.4.2 Number of Non-Commercial Abattoir/Slaughterhouses with access to freezer transport

5.5 Kill capacities of Abattoir/Slaughterhouses

5.5.1 List by name and address all Government inspected Abattoir/Slaughterhouses killing in excess of 50 animals per day

Abattoir Medan Jl Yos Sudarso Medan

Abattoir Bukittinggi Jl Pemuda Bukittinggi

Abattoir Pakanbaru Jl Simpang Empat Pakanbaru

<u>Abattoir Padang Jl H. Agus Salim.</u>	<u>Padang</u>
<u>Abattoir Palembang Jl Boow Baru</u>	<u>Palembang</u>
<u>Abattoir Bandung Jl Raya Benda</u>	<u>Bandung DenPasar</u>
<u>Abattoir Mataram Jl Pegangsaan</u>	<u>Mataram</u>
<u>Abattoir Kupang</u>	<u>Kupang</u>
<u>Abattoir Banjarmasin Jl A. Yani</u>	<u>Banjarmasin</u>
<u>Abattoir Menado Tikala</u>	<u>Menado</u>
<u>Abattoir Ujung Pandang Bara Bara</u>	<u>Ujung Pandang</u>

5.5.2 List by name and address all commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

<u>Abattoir DKI Jakarta Cakung</u>	<u>Jakarta Timur</u>
<u>Abattoir Bogor Jl Pejagalan</u>	<u>Bogor</u>
<u>Abattoir Bandung Jl Ariuna</u>	<u>Bandung</u>
<u>Abattoir Semarang Jl Brigien</u>	<u>Sudiarto Semabang</u>
<u>Abattoir Surakarta Jl Jagalan</u>	<u>Surakarta</u>
<u>Abattoir Yogyakarta Jl Ngompilan</u>	<u>Yogyakarta</u>
<u>Abattoir Surabaya Jl Peribian</u>	<u>Surabaya</u>
<u>Abattoir Malang Jl Kol Sugiono</u>	<u>Malang</u>

5.5.3 List by name and address all Non-Commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

Nil

6. Government Inspection Service

6.1 Number of Commercial Abattoir/Slaughterhouses covered by Inspection Service 5

6.1.1 Number of Non-Commercial Abattoir/Slaughterhouses covered by Inspection Service 53

6.2 Classification of Inspection Service:

6.2.1 Indicate type of Inspection Service whether full or part time

Full time

6.2.2 Indicate whether carcass and viscera inspected or carcass only

Both

7. Regulations

7.1 Indicate if there are any regulations preventing the collection of Pancreas Glands from cattle and pigs _____

None

7.2 Indicate if there are any regulations restricting the movement of Pancreas Glands to other Asean Nations _____

None

8. Bases of Co-operation

8.1 Indicate your country's requirements with respect to Pancreas Gland collections and any interest they may exist in cooperating with other countries in this area _____

9. Projects of the Country

9.1 Indicate any projects the country may have, at the National or Regional level, regarding collection of Pancreas Glands _____

None

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address DKI
Jakarta

1.2 Kill Capacity

1.2.1 Cattle per day -

1.2.2 Pigs per day 450 7 days per week

1.3 Classification

1.3.1 Inspected Government

1.3.2 Commercial

1.3.3 Non Commercial

1.4 Type of Dressing

1.4.1 Can Pak Yes

1.4.2 Gravity Rail

1.4.3 Bed

1.4.4 Other

1.5 Viscera Handling

1.5.1 Table Moving

1.5.2 Barrow

1.5.3 Floor

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass yes

1.6.3 None

1.6.4 Hot water available yes

1.7 Disease Control

- 1.7.1 Vermin proof yes
- 1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
- 1.8.2 Staff to collect yes
- 1.8.3 Ability to collect yes (After training)
- 1.8.4 Area to trim and consolidate collection yes
- 1.8.5 Packing area yes Available

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse yes but limited
- 1.9.2 Available within close proximity _____
- 1.9.3 Storage at Abattoir yes but limited
- 1.9.4 Available in area no
- 1.9.5 Electricity available yes

1.10 Transport

- 1.10.1 Freezer transport available _____
- 1.10.2 Non freezer transport available yes

QUESTIONNAIRE

1. **Abattoir/Slaughterhouses**

1.1 Name and Address DKI
Jl Penggilingan Cakung Jakarta

1.2 **Kill Capacity**

1.2.1 Cattle per day 600 7 days per week

1.2.2 Pigs per day -

1.3 **Classification**

1.3.1 Inspected Yes Government Meat Inspection

1.3.2 Commercial Government

1.3.3 Non Commercial

1.4 **Type of Dressing**

1.4.1 Can Pak

1.4.2 Gravity Rail yes

1.4.3 Bed

1.4.4 Other

1.5 **Viscera Handling**

1.5.1 Table yes

1.5.2 Barrow

1.5.3 Floor

1.6 **Cleaning**

1.6.1 Each day yes

1.6.2 After each carcass

1.6.3 None

1.6.4 Hot water available yes

1.7 Disease Control

1.7.1 Vermin proof yes

1.7.2 Concrete floor yes

1.8 Collection

1.8.1 Area for collection yes

1.8.2 Staff to collect yes

1.8.3 Ability to collect yes (After training)

1.8.4 Area to trim and consolidate collection yes

1.8.5 Packing area yes

1.9 Freezing Facilities

1.9.1 Available at Abattoir/Slaughterhouse yes

1.9.2 Available within close proximity _____

1.9.3 Storage at Abattoir yes

1.9.4 Available in area _____

1.9.5 Electricity available yes, on site

1.10 Transport

1.10.1 Freezer transport available yes

1.10.2 Non freezer transport available yes

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Perusahaan Pembantaian
Kotamadya Jl Pegirian 258 Surabaya

1.2 Kill Capacity

1.2.1 Cattle per day 300

1.2.2 Pigs per day 130

1.3 Classification

1.3.1 Inspected Yes Meat Inspection

1.3.2 Commercial Government

1.3.3 Non Commercial _____

1.4 Type of Dressing

1.4.1 Can Pak _____

1.4.2 Gravity Rail yes

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table yes

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass _____

1.6.3 None _____

1.6.4 Hot water available yes

1.7 Disease Control

1.7.1 Vermin proof yes

1.7.2 Concrete floor yes

1.8 Collection

1.8.1 Area for collection yes

1.8.2 Staff to collect yes

1.8.3 Ability to collect yes (After training)

1.8.4 Area to trim and consolidate collection yes

1.8.5 Packing area yes

1.9 Freezing Facilities

1.9.1 Available at Abattoir/Slaughterhouse no

1.9.2 Available within close proximity no

1.9.3 Storage at Abattoir no

1.9.4 Available in area no

1.9.5 Electricity available yes on site

1.10 Transport

1.10.1 Freezer transport available yes own transport

1.10.2 Non freezer transport available yes

ANNEX 2

QUESTIONNAIRE

1. Country SINGAPORE

2. Advise if Pancreas Glands are at present being collected from Abattoir/
Slaughterhouses yes

3. Animal Numbers
 - 3.1 Total number of cattle and pigs 600,000

 - 3.2 Classification of Animals:
 - 3.2.1 Number of cattle nil
 - 3.2.2 Number of pigs 600,000

4. Animal Kill
 - 4.1 Total number of animals killed in a full year 1,000,000

 - 4.2 Classification of kill:
 - 4.2.1 Number of cattle killed 1,600 Imported
 - 4.2.2 Number of pigs killed 1,000,000
 - 4.2.3 Number of animals killed at Government inspected Abattoir/Slaughterhouses
Cattle 1,600 Pigs 1,000,000
 - 4.2.4 Number of animals killed at Commercial Abattoir/Slaughterhouses
Cattle Nil Pigs Nil

4.2.5 Number of animals killed at Non-Commercial Abattoir/Slaughterhouses
Cattle Nil Pigs Nil

5. Abattoir/Slaughterhouses

5.1 Total number of Abattoir/Slaughterhouses 2

5.2 Classification of Abattoir/Slaughterhouses

5.2.1 Number of Government Inspected Abattoir/Slaughterhouses 2

5.2.2 Number of Commercial Abattoir/Slaughterhouses Nil

5.2.3 Number of Government Abattoir/Slaughterhouses 2

5.3 Total number of Abattoir/Slaughterhouses with freezing and storage facilities 2

5.3.1 Number of Government inspected Abattoir/Slaughterhouses with freezing and storage facilities 2

5.3.2 Number of Commercial Abattoir/Slaughterhouses with freezing and storage facilities Nil

5.3.3 Number of Government Abattoir/Slaughterhouses with freezing and storage facilities 2

5.4 Total number of Abattoir/Slaughterhouses with access to freezer transport 2

5.4.1 Number of Commercial Abattoir/Slaughterhouses with access to freezer transport Nil

5.4.2 Number of Government Abattoir/Slaughterhouses with access to freezer transport 2

5.5 Kill capacities of Abattoir/Slaughterhouses

5.5.1 List by name and address all Government inspected Abattoir/
Slaughterhouses killing in excess of 50 animals per day
Primary Industry Enterprise (PTE) Ltd.
Abattoir Division

A) 51 Jalan Buron, Juron Town, Singapore

B) Kim Chuam Rd. Singapore

5.5.2 List by name and address all commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

Nil

5.5.3 List by name and address all Non-Commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

See 5.5.1

6. Government Inspection Service

6.1 Number of Commercial Abattoir/Slaughterhouses covered by Inspection Service Nil

6.1.1 Number of Government Abattoir/Slaughterhouses covered by Inspection Service 2

6.2 Classification of Inspection Service:

6.2.1 Indicate type of Inspection Service whether full or part time

Full

6.2.2 Indicate whether carcass and viscera inspected or carcass only

Both

7. Regulations

7.1 Indicate if there are any regulations preventing the collection of Pancreas Glands from cattle and pigs

None

7.2 Indicate if there are any regulations restricting the movement of
Pancreas Glands to other Asean Nations _____
No Restriction on Export. Prohibition on Import

8. Bases of Co-operation

8.1 Indicate your country's requirements with respect to Pancreas Gland
collections and any interest that may exist in cooperating with other
countries in this area _____ Definite interest

9. Projects of the Country

9.1 Indicate any projects the country may have, at the National or Regional
level, regarding collection of Pancreas Glands _____

Nil

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Primary Industry Enterprise 51 Jalan Buron, Jurong
Town - Singapore 2261

1.2 Kill Capacity

1.2.1 Cattle per day _____

1.2.2 Pigs per day 1,400

1.3 Classification

1.3.1 Inspected Government Meat Inspection

1.3.2 Commercial _____

1.3.3 Non Commercial Government

1.4 Type of Dressing

1.4.1 Can Pak yes

1.4.2 Gravity Rail _____

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table Moving 320 per hour (2 chains)

1.5.2 Barrcw _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass yes for viscera trays

1.6.3 None _____

1.6.4 Hot water available yes

1.7 Disease Control

- 1.7.1 Vermin proof yes
- 1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
- 1.8.2 Staff to collect yes, now being collected
- 1.8.3 Ability to collect as above
- 1.8.4 Area to trim and consolidate collection as above
- 1.8.5 Packing area as above

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse yes
- 1.9.2 Available within close proximity yes
- 1.9.3 Storage at Abattoir yes
- 1.9.4 Available in area yes
- 1.9.5 Electricity available on site

1.10 Transport

- 1.10.1 Freezer transport available yes, own transport
- 1.10.2 Non freezer transport available yes

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address P.T.E. Kim Chuam R d.
Singapore

1.2 Kill Capacity

1.2.1 Cattle per day _____

1.2.2 Pigs per day 1300

1.3 Classification

1.3.1 Inspected _____ yes

1.3.2 Commercial _____

1.3.3 Non Commercial _____

1.4 Type of Dressing

1.4.1 Can Pak _____ yes

1.4.2 Gravity Rail _____

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table _____ Moving

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day _____ yes

1.6.2 After each carcass _____

1.6.3 None _____

1.6.4 Hot water available _____ yes

1.7 Disease Control

- 1.7.1 Vermin proof yes
1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
1.8.2 Staff to collect yes
1.8.3 Ability to collect _____
1.8.4 Area to trim and consolidate collection yes
1.8.5 Packing area yes

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse no
1.9.2 Available within close proximity yes
1.9.3 Storage at Abattoir no
1.9.4 Available in area yes
1.9.5 Electricity available on site

1.10 Transport

- 1.10.1 Freezer transport available yes
1.10.2 Non freezer transport available _____

ANNEX 3

QUESTIONNAIRE

1. Country MALAYSIA

2. Advise if Pancreas Glands are at present being collected from Abattoir/
Slaughterhouses No

3. Animal Numbers
 - 3.1 Total number of cattle and pigs 1,592,000

 - 3.2 Classification of Animals:
 - 3.2.1 Number of cattle 220,000
 - 3.2.2 Number of pigs 1,372,000

4. Animal Kill
 - 4.1 Total number of animals killed in a full year 881,000

 - 4.2 Classification of kill:
 - 4.2.1 Number of cattle killed N.a. (11,000)
 - 4.2.2 Number of pigs killed 870,000 (Large works only)
 - 4.2.3 Number of animals killed at Government inspected Abattoir/Slaughterhouses
Cattle 11,000 Pigs 870,000
 - 4.2.4 Number of animals killed at Commercial Abattoir/Slaughterhouses
Cattle Nil Pigs Nil

4.2.5 Number of animals killed at Non-Commercial Abattoir/Slaughterhouses
Cattle 11,000 Pigs 870,000

5. Abattoir/Slaughterhouses

5.1 Total number of Abattoir/Slaughterhouses 8

5.2 Classification of Abattoir/Slaughterhouses

5.2.1 Number of Government Inspected Abattoir/Slaughterhouses 8

5.2.2 Number of Commercial Abattoir/Slaughterhouses Nil

5.2.3 Number of Government Abattoir/Slaughterhouses 8

5.3 Total number of Abattoir/Slaughterhouses with freezing and storage facilities 1

5.3.1 Number of Government inspected Abattoir/Slaughterhouses with freezing and storage facilities 1

5.3.2 Number of Commercial Abattoir/Slaughterhouses with freezing and storage facilities Nil

5.3.3 Number of Government Abattoir/Slaughterhouses with freezing and storage facilities 1

5.4 Total number of Abattoir/Slaughterhouses with access to freezer transport 8

5.4.1 Number of Commercial Abattoir/Slaughterhouses with access to freezer transport Nil

5.4.2 Number of Government Abattoir/Slaughterhouses with access to freezer transport 8

5.5 Kill capacities of Abattoir/Slaughterhouses

5.5.1 List by name and address all Government inspected Abattoir/
Slaughterhouses killing in excess of 50 animals per day
Shahalam Abattoir

5.5.2 List by name and address all commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

Nil

5.5.3 List by name and address all Non-Commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

As previous

6. Government Inspection Service

6.1 Number of Commercial Abattoir/Slaughterhouses covered by Inspection Service Nil

6.1.1 Number of Government Abattoir/Slaughterhouses covered by Inspection Service 8

6.2 Classification of Inspection Service:

6.2.1 Indicate type of Inspection Service whether full or part time

Full

6.2.2 Indicate whether carcass and viscera inspected or carcass only

Both

7. Regulations

7.1 Indicate if there are any regulations preventing the collection of Pancreas Glands from cattle and pigs None

None

7.2 Indicate if there are any regulations restricting the movement of Pancreas Glands to other Asean Nations None, but imports from Indonesia banned

8. Bases of Co-operation

8.1 Indicate your country's requirements with respect to Pancreas Gland collections and any interest they may exist in cooperating with other countries in this area

9. Projects of the Country

9.1 Indicate any projects the country may have, at the National or Regional level, regarding collection of Pancreas Glands_____

Nil

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Shahalam Abattoir

1.2 Kill Capacity

1.2.1 Cattle per day _____

1.2.2 Pigs per day 800

1.3 Classification

1.3.1 Inspected yes

1.3.2 Commercial Government

1.3.3 Non Commercial _____

1.4 Type of Dressing

1.4.1 Can Pak _____

1.4.2 Gravity Rail yes

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table yes

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass _____

1.6.3 None _____

1.6.4 Hot water available yes

1.7 Disease Control

- 1.7.1 Vermin proof yes
- 1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
- 1.8.2 Staff to collect yes
- 1.8.3 Ability to collect yes
- 1.8.4 Area to trim and consolidate collection yes
- 1.8.5 Packing area yes

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse yes
- 1.9.2 Available within close proximity yes
- 1.9.3 Storage at Abattoir yes
- 1.9.4 Available in area yes
- 1.9.5 Electricity available yes

1.10 Transport

- 1.10.1 Freezer transport available yes
- 1.10.2 Non freezer transport available yes

ANNEX 4

QUESTIONNAIRE

1. Country THAILAND

2. Advise if Pancreas Glands are at present being collected from Abattoir/
Slaughterhouses No

3. Animal Numbers
 - 3.1 Total number of cattle and pigs 14,900,000

 - 3.2 Classification of Animals:
 - 3.2.1 Number of cattle 9,600,000
 - 3.2.2 Number of pigs 5,300,000

4. Animal Kill
 - 4.1 Total number of animals killed in a full year 3,630,000

 - 4.2 Classification of kill:
 - 4.2.1 Number of cattle killed 484,000
 - 4.2.2 Number of pigs killed 3,146,000
 - 4.2.3 Number of animals killed at Government inspected Abattoir/Slaughterhouses
Cattle 484,000 Pigs 3,146,000
 - 4.2.4 Number of animals killed at Commercial Abattoir/Slaughterhouses
Cattle - Pigs -

4.2.5 Number of animals killed at Government Abattoir/Slaughterhouses

Cattle 484,000 Pigs 3,146,000

5. Abattoir/Slaughterhouses

5.1 Total number of Abattoir/Slaughterhouses 600

5.2 Classification of Abattoir/Slaughterhouses

5.2.1 Number of Government Inspected Abattoir/Slaughterhouses 600

5.2.2 Number of Commercial Abattoir/Slaughterhouses Nil

5.2.3 Number of Government Abattoir/Slaughterhouses 600

5.3 Total number of Abattoir/Slaughterhouses with freezing and storage facilities 2

5.3.1 Number of Government inspected Abattoir/Slaughterhouses with freezing and storage facilities 2

5.3.2 Number of Commercial Abattoir/Slaughterhouses with freezing and storage facilities Nil

5.3.3 Number of Government Abattoir/Slaughterhouses with freezing and storage facilities N/a

5.4 Total number of Abattoir/Slaughterhouses with access to freezer transport 2

5.4.1 Number of Commercial Abattoir/Slaughterhouses with access to freezer transport Nil

5.4.2 Number of Government Abattoir/Slaughterhouses with access to freezer transport N/a

5.5 Kill capacities of Abattoir/Slaughterhouses

5.5.1 List by name and address all Government inspected Abattoir/Slaughterhouses killing in excess of 50 animals per day

Bangkok
Banpong

5.5.2 List by name and address all commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

Nil

5.5.3 List by name and address all Non-Commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

N/a

6. Government Inspection Service

6.1 Number of Commercial Abattoir/Slaughterhouses covered by Inspection Service Nil

6.1.1 Number of Non-Commercial Abattoir/Slaughterhouses covered by Inspection Service 600

6.2 Classification of Inspection Service:

6.2.1 Indicate type of Inspection Service whether full or part time

Full

6.2.2 Indicate whether carcass and viscera inspected or carcass only

Both

7. Regulations

7.1 Indicate if there are any regulations preventing the collection of Pancreas Glands from cattle and pigs None

None

7.2 Indicate if there are any regulations restricting the movement of Pancreas Glands to other Asean Nations None

8. Bases of Co-operation

8.1 Indicate your country's requirements with respect to Pancreas Gland collections and any interest that may exist in cooperating with other countries in this area No special requirements have expressed, very

keen interest in establishing collection of pancreas and also processing

9. Projects of the Country

9.1 Indicate any projects the country may have, at the National or Regional level, regarding collection of Pancreas Glands_____

None

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Bangkok

1.2 Kill Capacity

1.2.1 Cattle per day Few

1.2.2 Pigs per day 3000 6 days per week

1.3 Classification

1.3.1 Inspected yes

1.3.2 Commercial _____

1.3.3 Non Commercial Government

1.4 Type of Dressing

1.4.1 Can Pak Moving chain

1.4.2 Gravity Rail _____

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table Moving

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass yes

1.6.3 None _____

1.6.4 Hot water available yes

1.7 Disease Control

- 1.7.1 Vermin proof yes
- 1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
- 1.8.2 Staff to collect yes
- 1.8.3 Ability to collect yes after instructions
- 1.8.4 Area to trim and consolidate collection yes
- 1.8.5 Packing area yes

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse yes
- 1.9.2 Available within close proximity yes
- 1.9.3 Storage at Abattoir yes
- 1.9.4 Available in area yes
- 1.9.5 Electricity available yes

1.10 Transport

- 1.10.1 Freezer transport available _____
- 1.10.2 Non freezer transport available _____

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Banpong

1.2 Kill Capacity

1.2.1 Cattle per day few

1.2.2 Pigs per day 1000 6 days per week

1.3 Classification

1.3.1 Inspected yes

1.3.2 Commercial _____

1.3.3 Non Commercial Government

1.4 Type of Dressing

1.4.1 Can Pak Moving

1.4.2 Gravity Rail _____

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table Moving

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass yes

1.6.3 None _____

1.6.4 Hot water available yes

1.7 Disease Control

- 1.7.1 Vermin proof yes
- 1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
- 1.8.2 Staff to collect yes
- 1.8.3 Ability to collect yes after training
- 1.8.4 Area to trim and consolidate collection yes
- 1.8.5 Packing area yes

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse yes
- 1.9.2 Available within close proximity yes
- 1.9.3 Storage at Abattoir yes
- 1.9.4 Available in area yes
- 1.9.5 Electricity available yes on site

1.10 Transport

- 1.10.1 Freezer transport available yes
- 1.10.2 Non freezer transport available _____

ANNEX 5

QUESTIONNAIRE

1. Country PHILIPPINES

2. Advise if Pancreas Glands are at present being collected from Abattoir/
Slaughterhouses yes, in some abattoirs

3. Animal Numbers
 - 3.1 Total number of cattle and pigs 11 million

 - 3.2 Classification of Animals:
 - 3.2.1 Number of cattle 2.9 million
 - 3.2.2 Number of pigs 8.3 million

4. Animal Kill
 - 4.1 Total number of animals killed in a full year 3.4 million

 - 4.2 Classification of kill:
 - 4.2.1 Number of cattle killed 245,000
 - 4.2.2 Number of pigs killed 3.12 million
 - 4.2.3 Number of animals killed at Government inspected Abattoir/Slaughterhouses
Cattle 245,000 Pigs 3.12 million
 - 4.2.4 Number of animals killed at Commercial Abattoir/Slaughterhouses
Cattle 61.7 thousand Pigs 757.5 thousand

4.2.5 Number of animals killed at Government Abattoir/Slaughterhouses

Cattle 96 thousand

Pigs 2.4 million

5. Abattoir/Slaughterhouses

5.1 Total number of Abattoir/Slaughterhouses 379

5.2 Classification of Abattoir/Slaughterhouses

5.2.1 Number of Government Inspected Abattoir/Slaughterhouses 579

5.2.2 Number of Commercial Abattoir/Slaughterhouses 15

5.2.3 Number of Non-Commercial Abattoir/Slaughterhouses 564

5.3 Total number of Abattoir/Slaughterhouses with freezing and storage facilities 5

5.3.1 Number of Government inspected Abattoir/Slaughterhouses with freezing and storage facilities 5

5.3.2 Number of Commercial Abattoir/Slaughterhouses with freezing and storage facilities 5

5.3.3 Number of Non-commercial Abattoir/Slaughterhouses with freezing and storage facilities None

5.4 Total number of Abattoir/Slaughterhouses with access to freezer transport none

5.4.1 Number of Commercial Abattoir/Slaughterhouses with access to freezer transport None

5.4.2 Number of Non-Commercial Abattoir/Slaughterhouses with access to freezer transport None

5.5 Kill capacities of Abattoir/Slaughterhouses

5.5.1 List by name and address all Government inspected Abattoir/Slaughterhouses killing in excess of 50 animals per day

Food Terminal, Inc. Slaughterhouse, FTI Complex, Taguig, Metro Manila
Goldstar Abattoir, Marilao, Bulacan

Hivas Agro Commodities Center Abattoir, Guiguinto, Bulacan

La Loma Lechon Abattoir, La Loma, Quezon City

Pasay City Abattoir, Pasay City

Purefoods Corporation Abattoir, Marikina, Metro Manila

RFM-Swift Abattoir, Cabuyao, Laguna

San Juan Municipal Abattoir, San Juan, Metro Manila

VIB Slaughterhouse, Vitas, Tondo, Manila

5.5.2 List by name and address all commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

KKK Kadiwa Slaughterhouse, FTI Complex, Taguig, Metro Manila

Hivas Agro Commodities Center Abattoir, Guiguinto, Bulacan

Pasay City Abattoir, Pasay City

San Juan Municipal Abattoir, San Juan, Metro Manila

VIB Slaughterhouse, Vitas, Tondo, Manila

Purefoods Corporation Abattoir, Marikina, Metro Manila

5.5.3 List by name and address all Non-Commercial Abattoir/Slaughterhouses killing in excess of 50 animals per day

Gold Star Abattoir, Marilao, Bulacan

La Loma Lechon Abattoir, La Loma, Quezon City

6. Government Inspection Service

6.1 Number of Commercial Abattoir/Slaughterhouses covered by Inspection Service 15

6.1.1 Number of Non-Commercial Abattoir/Slaughterhouses covered by Inspection Service 564

6.2 Classification of Inspection Service:

6.2.1 Indicate type of Inspection Service whether full or part time

Full

6.2.2 Indicate whether carcass and viscera inspected or carcass only

Carcass and viscera inspected

7. Regulations

7.1 Indicate if there are any regulations preventing the collection of Pancreas Glands from cattle and pigs As far as I know, I am not aware of any regulations preventing the collection of carcass

7.2 Indicate if there are any regulations restricting the movement of Pancreas Glands to other Asean Nations You have only to apply for a permit from the Bureau of Animal Industry for the export of pancreas to other ASEAN countries

8. Bases of Co-operation

8.1 Indicate your country's requirements with respect to Pancreas Gland collections and any interest they may exist in cooperating with other countries in this area The National Meat Inspection Commission can assist in the collection of Pancreas Gland

9. Projects of the Country

9.1 Indicate any projects the country may have, at the National or Regional level, regarding collection of Pancreas Glands At present the NMIC has no plans and/or project to collect pancreas gland, national or regional

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Food Terminal Inc. Abattoir (K.K.K.) Taguig
Metro Manila

1.2 Kill Capacity

1.2.1 Cattle per day 100

1.2.2 Pigs per day 1000

1.3 Classification

1.3.1 Inspected yes

1.3.2 Commercial yes

1.3.3 Non Commercial _____

1.4 Type of Dressing

1.4.1 Can Pak _____

1.4.2 Gravity Rail Yes

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table Stationary

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass yes

1.6.3 None _____

1.6.4 Hot water available yes

1.7 Disease Control

- 1.7.1 Vermin proof yes
- 1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
- 1.8.2 Staff to collect yes
- 1.8.3 Ability to collect yes
- 1.8.4 Area to trim and consolidate collection yes
- 1.8.5 Packing area yes

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse no
- 1.9.2 Available within close proximity yes
- 1.9.3 Storage at Abattoir no
- 1.9.4 Available in area yes
- 1.9.5 Electricity available yes

1.10 Transport

- 1.10.1 Freezer transport available no
- 1.10.2 Non freezer transport available yes

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Hiyas Agro-Commodities Abattoir
Guiguinto Bulacan

1.2 Kill Capacity

1.2.1 Cattle per day -

1.2.2 Pigs per day 700

1.3 Classification

1.3.1 Inspected yes

1.3.2 Commercial

1.3.3 Non Commercial Government

1.4 Type of Dressing

1.4.1 Can Pak

1.4.2 Gravity Rail yes

1.4.3 Bed

1.4.4 Other

1.5 Viscera Handling

1.5.1 Table

1.5.2 Barrow yes

1.5.3 Floor

1.6 Cleaning

1.6.1 Each day yes

1.6.2 After each carcass -

1.6.3 None -

1.6.4 Hot water available -

1.7 Disease Control

- 1.7.1 Vermin proof no
1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
1.8.2 Staff to collect yes
1.8.3 Ability to collect yes
1.8.4 Area to trim and consolidate collection no
1.8.5 Packing area no

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse no
1.9.2 Available within close proximity yes
1.9.3 Storage at Abattoir no
1.9.4 Available in area yes
1.9.5 Electricity available yes

1.10 Transport

- 1.10.1 Freezer transport available _____
1.10.2 Non freezer transport available yes

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Cebu City

1.2 Kill Capacity

1.2.1 Cattle per day _____

1.2.2 Pigs per day 600

1.3 Classification

1.3.1 Inspected _____ yes

1.3.2 Commercial _____ Government

1.3.3 Non Commercial _____

1.4 Type of Dressing

1.4.1 Can Pak _____

1.4.2 Gravity Rail _____ yes

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table _____ yes

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day _____ yes

1.6.2 After each carcass _____

1.6.3 None _____

1.6.4 Hot water available _____

1.7 Disease Control

- 1.7.1 Vermin proof _____
1.7.2 Concrete floor _____

1.8 Collection

- 1.8.1 Area for collection _____
1.8.2 Staff to collect _____
1.8.3 Ability to collect _____
1.8.4 Area to trim and consolidate collection _____
1.8.5 Packing area _____

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse no _____
1.9.2 Available within close proximity _____
1.9.3 Storage at Abattoir no _____
1.9.4 Available in area _____
1.9.5 Electricity available yes _____

1.10 Transport

- 1.10.1 Freezer transport available no _____
1.10.2 Non freezer transport available yes _____

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Ceru Virginia Farm, Cebu

1.2 Kill Capacity

1.2.1 Cattle per day _____

1.2.2 Pigs per day 250 _____

1.3 Classification

1.3.1 Inspected yes _____

1.3.2 Commercial yes _____

1.3.3 Non Commercial _____

1.4 Type of Dressing

1.4.1 Can Pak _____

1.4.2 Gravity Rail yes _____

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table yes _____

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day yes _____

1.6.2 After each carcass _____

1.6.3 None _____

1.6.4 Hot water available yes _____

1.7 Disease Control

- 1.7.1 Vermin proof yes
1.7.2 Concrete floor yes

1.8 Collection

- 1.8.1 Area for collection yes
1.8.2 Staff to collect yes
1.8.3 Ability to collect yes
1.8.4 Area to trim and consolidate collection yes
1.8.5 Packing area yes

1.9 Freezing Facilities

- 1.9.1 Available at Abattoir/Slaughterhouse yes
1.9.2 Available within close proximity yes
1.9.3 Storage at Abattoir none
1.9.4 Available in area yes
1.9.5 Electricity available yes

1.10 Transport

- 1.10.1 Freezer transport available yes
1.10.2 Non freezer transport available _____

QUESTIONNAIRE

1. Abattoir/Slaughterhouses

1.1 Name and Address Manila City Abattoir

1.2 Kill Capacity

1.2.1 Cattle per day _____ - _____

1.2.2 Pigs per day _____ 700 _____

1.3 Classification

1.3.1 Inspected _____ yes _____

1.3.2 Commercial _____ Government _____

1.3.3 Non Commercial _____

1.4 Type of Dressing

1.4.1 Can Pak _____

1.4.2 Gravity Rail _____ yes _____

1.4.3 Bed _____

1.4.4 Other _____

1.5 Viscera Handling

1.5.1 Table _____ yes _____

1.5.2 Barrow _____

1.5.3 Floor _____

1.6 Cleaning

1.6.1 Each day _____ yes _____

1.6.2 After each carcass _____

1.6.3 None _____

1.6.4 Hot water available _____ yes _____

1.7 Disease Control

1.7.1 Vermin proof _____

1.7.2 Concrete floor _____ yes _____

1.8 Collection

1.8.1 Area for collection _____ yes _____

1.8.2 Staff to collect _____ yes _____

1.8.3 Ability to collect _____ yes _____

1.8.4 Area to trim and consolidate collection _____ yes _____

1.8.5 Packing area _____ yes _____

1.9 Freezing Facilities

1.9.1 Available at Abattoir/Slaughterhouse _____ no _____

1.9.2 Available within close proximity _____ yes _____

1.9.3 Storage at Abattoir _____ no _____

1.9.4 Available in area _____ yes _____

1.9.5 Electricity available _____ on site _____

1.10 Transport

1.10.1 Freezer transport available _____ yes _____

1.10.2 Non freezer transport available _____