

BI-ANNUAL REPORT 1991 - 1992 UNIT SPF

The SPF Unit of the APDRTC continued with its operation as usual for the year 1991-1992. The Unit was run by a Senior Veterinary Assistant with the support of a Timescale Veterinary Assistant and Two (2) workers.

In March, 1991, the Timescale Veterinary Assistant left for a Course in Japan and the Unit was manned by the Senior Veterinary Assistant and the two workers, until September, 1991 when the Timescale Veterinary Assistant returned.

Between May, 1991 through August 1992, there was a change in one of the worker's post, being rotated with five changes of workers as a result of incompatibility with the SPF working conditions, promotion and resignation.

Anyhow, the Unit managed to operate as usual throughout the period 1991-1992. Although the results for the year ending 1991 was not up to expectations, on the whole, the progress for the two-year period were quite encouraging. The following depicts the activities for the two-year period.

I. ACTIVITIES :

1. Replacement flocks 5th. and 6th. SPF Flock

The 5th. SPF replacement eggs from Nippon Institute of Biological Science arrived on the 25th June 1991 and was incubated on the 26th. June 1991. This batch of eggs hatched on the 18th. July 1991. The fertility percentage of these eggs was 91.75% with a hatchability of 89.37%. (Table 1).

The 6th. SPF replacement eggs from the same Institute arrived on the 23rd. May, 1992 and was incubated on the 25th. May, 1992. These eggs hatched on the 16th. June 1992 and had a fertility percentage of 90% and a hatchability of 86.1% (Table 1).

The average bodyweight of hatched chicks were 38 grams and 37.5 grams respectively for the two batches and subsequent average weight of chicks uptill ten (10) weeks are as shown (Table 2).

2. Results of 4th. 5th and 6th. Batches :

I. Rate of Raising and first Egg Production

Table 3 shows the rate of raising, livability and age in days of first egg production and 50% egg production of the 4th, 5th, and 6th SPF Flocks.

The first selection of the 4th. batches, 5th. batches and 6th. batches were carried out when the chicks were thirty (30) days old. Selection of 100 males and 100 females were carried out for the 4th, 5th, and 6th. batches. The age of first egg production was 149 days, 164 days and 154 days, respectively and 50% egg production was at 185 days, 205 days and 172 days respectively.

ii. Fertility and hatchability of Eggs Produced

Artificial Insemination (A.I) were carried out twice a week on every Tuesday and Friday. The average fertility and hatchability for the three flocks are as shown in Table 4.

Fertility of the 4th. batch, averaged 87.80% and hatchability of 65.17% (25 batches hatching eggs). Average fertility of the 5th. Batch was 87.24% with a hatchability of 79.29% (29 batches of hatching eggs).

iii. Production And Supply of Eggs :

Table 5 shows the production and supply of SPF eggs. The consumption of SPF eggs is approximately 225 eggs per week, one hundred and five (105) for VRI and one hundred and twenty (120) for APDRTC. The average percentage of consumed eggs are as indicated in table 5. Table 6 indicate the supply of eggs and chicks supplied to the various units.

iv. Flock Health Monitoring :

Five regular monitoring have been carried out at fixed intervals for the flocks. Nineteen (19) types of pathogen, thirteen (13) viruses, two (2) bacteria, two (2) mycoplasma, and two (2) protozoa were examined. The flocks were declared free from the various pathogen.

II. PRODUCTION AND SUPPLY OF FEED :

Poultry feed is being produced four (4) times per week. The feed production system were changed since September, 1991. Autoclaving of raw materials have been dispensed off and the heat drying method introduced. With the heat drying method, productivity have been increased with less time consumed. A total of 6,194,48 kgs. and 7,158 kgs. of feed were produced, respectively for the year 1991 and 1992. The feed production and supply index are shown in table 7.

TABLE 1

Fertility and Hatchability of SPF Eggs Imported from Japan

Batch	Incubate Date	No. Egg Set.	No. Unfertile Eggs	No. Fertile Eggs	Fertility Percentage	Embryonic Death (Incubation Period)	No. Newly Hatched Chicks			Hatch ability of Fertile Eggs	Percentage Healthy Chicks
							Total chicks	Culled chicks	Healthy chicks		
4th	24/8/90	400	90	310	77.50%	65 (44)*	245	6	239	79.03%	97.55%
5th	26/6/91	400	33	367	91.75%	39 (29)*	328	10	318	89.37%	96.95%
6th	25/5/92	400	40	360	90%	50 (32)*	310	0	310	86.10%	100%

* Figures in parentheses indicate number of embryonic death at 18-22 days incubation.

TABLE 2

BODYWEIGHT OF SPF CHICKEN

BATCH 5

CHICKEN RAISED IN	AGE IN WEEKS	0	1	2	3	4	5	6	7	8	9	10
APDRTC	MALE	38 ₊₃	59.1 ₊₄	115 ₊₁₂	185 ₊₁₂	317 ₊₁₅	398.5 ₊₃₁	527.5 ₊₂₉	697.5 ₊₄₀	828.5 ₊₄₁	978.5 ₊₅₇	1127 ₊₅₉
	FEMALE		50.5 ₊₅	105.5 ₊₁₂	172.5 ₊₁₀	291.5 ₊₂₆	356 ₊₃₂	461.5 ₊₄₁	598 ₊₃₅	688 ₊₂₇	821.5 ₊₃₁	898 ₊₃₅
JAPAN	MALE	40 ₊₁	84 ₊₁₁	152 ₊₂₁	245 ₊₂₃	364 ₊₃₅	493 ₊₄₂	665 ₊₅₅	803 ₊₅₈	955 ₊₇₂	1095 ₊₈₆	1175 ₊₈₄
	FEMALE		75 ₊₁₂	125 ₊₁₇	219 ₊₁₉	310 ₊₂₅	402 ₊₄₇	518 ₊₃₇	721 ₊₅₅	724 ₊₆₉	826 ₊₅₃	904 ₊₉₂

BATCH 6

CHICKEN RAISED IN	AGE IN WEEKS	0	1	2	3	4	5	6	7	8	9	10
APDRTC	MALE	37.5 ₊₂	68.7 ₊₄	118 ₊₅	217 ₊₁₂	338.5 ₊₂₅	396 ₊₂₇	546 ₊₃₂	672 ₊₃₃	850 ₊₃₅	978 ₊₃₇	1139 ₊₄₃
	FEMALE		66 ₊₅	114 ₊₆	197 ₊₁₄	292.5 ₊₁₈	344 ₊₂₇	453 ₊₁₅	565 ₊₂₇	680 ₊₃₁	763 ₊₄₅	846 ₊₁₉
JAPAN	MALE	40 ₊₁	84 ₊₁₁	152 ₊₂₁	245 ₊₂₃	364 ₊₃₅	493 ₊₄₂	665 ₊₅₅	803 ₊₅₈	955 ₊₇₂	1095 ₊₈₆	1175 ₊₈₄
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TABLE 3

Number of SPF Chickens Measured, Livability, Age in Days of First Egg Laid and 50% Egg Production

Batches	Date of Hatching	Gender	Total			Rate of Livability			Age in Days Age in Days		
			First Selection	Second Selection	Third Selection	First Selection	Second Selection	Third Selection	First Egg Laid	50% Egg Production	
4th	15/9/90	Male	100	70	23	100%	98.57%	65.22%			
		Female	100	90	73	100%	86.67%	82.19%			
		Total	200	160	96	100%	91.88%	78.12%	149	185	
5th	18/7/91	Male	100	70	25	84%	100%	64%			
		Female	100	90	73	95%	100%	89.04%			
		Total	200	160	98	89.5%	100%	82.65%	164	205	
6th	15/6/92	Male	100	70	26	100%	100%	100%			
		Female	100	90	72	100%	98.89%	100%			
		Total	200	160	97	100%	99.37%	100%	154	172	

TABLE 4

AVERAGE FERTILITY AND HATCHABILITY OF EGGS PRODUCED AT APDRTC

YEAR	FERTILITY PERCENTAGE	HATCHABILITY PERCENTAGE
1991	5208 x 100 = 87.80% 5932	857 x 100 = 65.17% 1315 (25 batches hatching eggs)
1992	7391 x 100 = 87.24% 8472	1363 x 100 = 79.29% 1719 (29 batches hatching eggs)
1993	2098 x 100 = 96.06% 2184	

TABLE 5

EGGS PRODUCTION AND SUPPLY

1991	JAN	FEB	MAC	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV	DEC	TOTAL
EGGS PRODUCED	0	40	975	1459	1034	831	632	482	431	314	50	0	6248
SUPPLY TO LAB#	0	0	854	1527	902	922	515	522	449	278	33	0	6002
PERCENTAGE (%) USAGE	0	0	87.59	104.66	87.23	110.95	81.49	108.30	104.18	88.53	66	0	96.06
1992	JAN	FEB	MAC	APRIL	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV	DEC	TOTAL
EGGS PRODUCED	298	1067	1103	1092	968	791	782	808	562	380	155*	1549	9555
SUPPLY TO LAB#	140	1044	1066	1100	965	814	755	740	555	378	0	1010	8567
PERCENTAGE (%) USAGE	46.98	97.84	91.21	100.73	99.69	102.91	96.55	91.58	98.75	99.47	0	65.20	89.66
1993	JAN												
EGGS PRODUCED	1780												
SUPPLY TO LAB#	2184												
PERCENTAGE (%) USAGE	122.70												

Inclusive of Hatching eggs

* New Batch - Infertile eggs

TABLE 6

EGGS AND CHICKS SUPPLY TO VARIOUS UNITS

	EGGS SUPPLIED (HATCHING)	EGGS SUPPLIED (NON HATCHING)	CHICKS SUPPLIED
1991	Bacteriology APDRTC = 50	Bacteriology APDRTC = 295	Bacteriology APDRTC = 42
	Pathology APDRTC = 308	Pathology APDRTC = 40	Pathology APDRTC = 246
	Parasitology APDRTC = 202	Virology APDRTC = 3543	Parasitology APDRTC = 113
	Virology APDRTC = 93	Avian Virology VRI = 169	Virology APDRTC = 36
	Biologic VRI = 582	Biologic VRI = 570	Biologic VRI = 420
	M. Diagnosa P.J = 80	M. Diagnosa Bt. Tengah = 20	M. Diagnosa P.J = 67
	U.P.M = 50		
TOTAL	1315	4687	924
1992	Bacteriology APDRTC = 162	Bacteriology APDRTC = 35	Bacteriology APDRTC = 96
	Parasitology APDRTC = 70	Pathology APDRTC = 110	Parasitology APDRTC = 60
	Pathology APDRTC = 155	Virology APDRTC = 3523	Pathology APDRTC = 98
	Virology APDRTC = 199	Avian Virology VRI = 695	Virology APDRTC = 57
	Avian Virology VRI = 80	Biologic VRI = 1896	Avian Virology VRI = 50
	Biologic VRI = 1412		Biologic VRI = 897
M. Diagnosa P.J = 170		M. Diagnosa P.J = 100	
TOTAL	2,248	6,259	1,361
1993	Pathology APDRTC = -	Pathology APDRTC = 40	
	Virology APDRTC = 55	Virology APDRTC = 300	
	Avian Virology VRI = -	Avian Virology VRI = 315	
	Biologic VRI = 190	Biologic VRI = 1284	
TOTAL	245	1939	

TABLE 7

FEED PRODUCTION & SUPPLY 1991

FEED PRODUCTION & SUPPLY 1992

Type of Feed				Type of Feed			
Feed	Production	Supply		Feed	Production	Supply	
STARTER	1106.20	Bacteriology	13.00)	STARTER	1,367.5	Bacteriology	14.0
		Biologic	50.00)			Biologic	156.6
		Parasitology	116.70)			Parasitology	148.5
		Pathology	64.00) 1084.30			Pathology	214.2
		Virology	141.40)			Virology	44.0
		SPF	699.20)			SPF	763.0
				<hr/>			
				1,340.3			
GROWER I	1276.97	Bacteriology	123.00)	GROWER I	1470.5	Bacteriology	108.3
		Biologic	106.50)			Biologic	45.0
		Parasitology	298.60)			Parasitology	130.8
		Pathology) 1225.67			Pathology	308.3
		Virology	113.87)			Virology	292.5
		SPF	583.70)			SPF	645.2
				<hr/>			
				1529.8			
GROWER II	1467.86	Pathology	513.10)	GROWER II	1189.8	Pathology	69
		Virology	32.00)			Virology	70
		SPF	988.53) 1580.46			SPF	1050.8
		Parasitology	46.83)			<hr/>	
				1189.8			
LAYER	2343.45	SPF	2276.05)	LAYER	3130.2	SPF	2916
		Pathology	8) 2284.05			<hr/>	
				7158			
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6194.48							

Experimental Chicken House (ECH): 1991-1992.

The ECH was fully utilized for the year 1991 and 1992. An average of 120 man-hours per month usage of ECH were recorded (excluding the man-hours spent by the permanent staff).(see table 1). An average of 8-9 experimental rooms were used at any one time to accomodate about an average of 4-5 experiments or trials per month.(see table 2). Besides APDRTC researchers, the ECH was also used by the VRI viral vaccine section for testing VRI's ND'F', ND'S', and Fowlpox vaccines (about 15 batches); the virology diagnostic section, in collabration with APDRTC researchers, for testing the pathogenicity of our IBDV local isolates; and the bacterial vaccine section for testing an imported HS vaccine in rabbits.

These increased in utilization of the ECH facilities were due to the ECH having less frequent electrical trips (i.e due to ECH facilities) and if there are any it is under control . The ECH now has a well-trained permanently stationed staff there and also the officer-in-charge is now assisted by a senior technician in the daily running operations of ECH.

The air-handling unit, chiller and aircondition unit are regularly serviced every month and the air pressure balance of the ECH are regularly checked and adjusted accordingly. The operations of the whole ECH building are suspended once a year, usually in December to enable its facilities to be properly cleaned, washed and fumigated. The experimental rooms, isolators and cages are routinely washed and fumigated before and after experiments or trials.

To further utilize the ECH, one of the rooms with cages was used for maintaining clean SPF chickens of various ages for future experiments or trials. The officer-in-charge also presented a paper titled 'The use of isolators in chicken experiments in VRI' at the 4th Veterinary Association of Malaysia Congress on 2nd-4th of October 1992. In so doing, we hope to enhance the credibility of chicken experiments or trials conducted in APDRTC, VRI.

Table 1. Man-hours usage of ECH

Year 1991 month	Man-hours usage of ECH
January	100
February	100
March	120
April	110
May	120
June	100
July	110
August	120
September	115
October	105
November	125
December	125
Total	1350

Year 1992 month	Man-hours usage of ECH
January	125
February	125
March	130
April	120
May	120
June	125
July	125
August	130
September	130
October	140
November	120
December	-
Total	1390

ECH closed down for yearly cleaning and fumigation of building.

Table 2

Experiments or trials conducted in the ECH (1991-1992)

- 1) Vaccine safety test for ND 'F', 'Std' and FP.
- 15 batches of vaccine tested.
- 2) Masterseed test for ND 'F', 'Std' and FP.
- 3) Pathogenicity of Hpg and Mg isolates.
- 4) Pathogenicity of various viral isolates e.g. IBDV, FP, IB etc.
- 5) Vaccination trial of Infectious Coryza Vaccine.
- 6) Efficacy of Infectious Coryza Vaccine.
- 7) Efficacy studies on inactivated infectious coryza vaccine.
- 8) Experiment to study the response of chickens infected with mixed pathogens.
- 9) Preparation of hyperimmune serum against various bacterial and viral diseases.
- 10) Evaluation of live Haemorrhagic Septicaemia Vaccine.

ANNEX 14

Oral Presentation and Publication of Scientific Papers

Oral Presentation and Publication of
Scientific Papers

Section	Publication	Presentation	Total
Virology	4	3	7
Bacteriology	9	7	16
Parasitology	5(2)	8	13(2)
Pathology	3	4(1)	7(1)
Total	21(2)	22(1)	43(3)

Year	Publication	Presentation	Total
1986	2	0	2
1987	1	0	1
1988	1	1	2
1989	5(1)	2	7(1)
1990	2	5	7
1991	9	4	13
1992	2(1)	10(1)	12(2)
Total	21(2)	22(1)	43(3)

() : The results of joint research works with other laboratories.

(1) Oral Presentations

1. Hihara, H., Wan, M. K., Lim, K. T., Cheah, N. Y. & Lim, S. S. (1992): Antigenic Relatedness of Malaysian Isolate (352a) and the Japanese (J1) Strain of Infectious Bursal Disease Virus. Vet. Ass Malaysia Conf. 2-4 October, KL.
2. Lim, K. T., Lim, S. S., Cheah, N. Y., Zabeedah, A. and Wan Mohd K. (1992): Studies on Newcastle disease maternal antibodies in 2-days old chicks. Vet. Ass. Malaysia Conf. 1992.
3. Mahani, A. H. & Sharifah, S. H. (1992): An Outbreak of Duck Viral Enteritis Disease in Malaysia. VRI Seminar, Ipoh, April 29.
4. Mahani, A. H., Sharifah, S. H. & Taniguchi, T. (1992): First Outbreak of Duck Viral Enteritis (Duck Plaque) in Malaysia. ASEAN Seminar on Poultry Disease and their Control. 8-13 March.
5. Rahmat, S. M. S. & Zaini, M. Z. (1990): A Country Report on Poultry Bacterial and Parasitic Disease in Malaysia. ASEAN Seminar on Poultry Disease and their Control. 11-17 March.
6. Rahmat, S. M. S. & Parameswaran, S. (1990): A Preliminary Report on the Laboratory Colonisation of *Culicoides* species (Diptera: Ceratopogonidae). ASEAN Seminar on Poultry Disease and their Control. 11-17 March.
7. Rahmat, S. M. S. (1990): Cultivation of *Eimeria tenella* in Chicken Embryos. ASEAN Seminar on poultry Diseases and their Control. 11-17 March.
8. Rahmat, S. M. S. & Parameswaran, S. (1991): Isolation and Pathogenicity Study of *Eimeria tenella* in Malaysia. Ann. Sci. Semin. Malaysian Soc. Parasit. Tropic. Med. 9-10, March, KL.
9. Rahmat, S. M. S., Chikatsune, M. & Parameswaran, S. (1991): A Comparative Study on the Preservation of *Leucocytozoon caulleryi* Sporozoites. 3rd Sci. Cong. Vet. Ass. Malaysia, 4-6 Oct. KL.
10. Rahmat, S. M. S. (1991): Studies on Leucocytozoonosis: The Use of Gel Diffusion and Simple Electrophoretic Techniques for Diagnosis. VRI Seminar, 15 Oct.
11. Rahmat, S. M. S., Parameswaran, S. & Hagiwara, S. (1988): Prevalance and Incidence of Poultry Coccidiosis in various Farms in Malaysia - A Preliminary Report. Seminar in VRI, 28 June.
12. Sharifah, S. H., Mahani, A. H. & Taniguchi, T. (1992): Outbreaks of Duck Virus Enteritis (Duck Plaque) in Malaysia. 4th Cong. Vet. Ass. Malaysia. KL. 2-4 October.
13. Shoya, S. & Mahani, A. H. (1989): A Case of Mesothelioma in Layer Chicken. ASEAN Seminar on Poultry Disease and Their Control. 19-28 February.
14. Wan, M. K. (1992): The Use of Isolators in Chicken Experiments in Veterinary Research Institute, Ipoh. Vet. Ass. Malaysia Conf. 2-4 October. KL.
15. Zaini, M. Z. & Yamamoto, K. (1990): Detection of Mycoplasmal Antibodies by the

- Dot-immunoblot Technique. ASEAN Seminar on Poultry Disease and Their Control. March 11-17, Ipoh.
16. Zaini, M.Z. (1990): The Efficacy and Safety Test of the Infectious Coryza Vaccine. ASEAN Seminar on Poultry Disease and Their Control, March 11-17, Ipoh.
 17. Zaini, M.Z. (1991): Poultry Mycoplasma and E.coli situation in Malaysia. Seminar on Poultry Respiratory Disease & Its Control, Sept. 24, KL.
 18. Zaini, M.Z. (1992): Malaysia - Country Report. ASEAN Seminar on Poultry Disease and Their Control. March 8-13, Ipoh.
 19. Zaini, M.Z. & Yamamoto, K. (1992): Studies on the Various Assays for the Detection of Antibodies in Control, March 8-13, Ipoh.
 20. Zaini, M.Z. & Iritani, Y. (1989): Serotyping of Haemophilus paragallinarum by Dot-blotting technique. First Cong. Vet. Ass. Malaysia, March 10-12, Kuala Lumpur (KL).
 21. Zaini, M.Z. (1992): Current status of Infectious Coryza in peninsular Malaysia. 4th Vet. Ass. Malaysia Cong. 2-4 Oct., KL.
 22. Rahmat, S.M.S., Chikatsune, M. & Parameswaran, S. (1992): Pathogenesis of a Malaysian strain of L. caulleryi. 4th Vet. Ass. Malaysia Cong. 2-4 Oct., KL

(2) Publication of Scientific Papers

1. Chai, K.K. & Yuasa, N. (1989): Antibodies against Reticuloendotheliosis virus and Chicken Anaemia Agent in chicken sera. *J. Vet. Malaysia*, 1, (1) 11-16.
2. Chai, K.K. & Yuasa, N. (1987): A recommended Laboratory Technique in the culture of Primary Chicken Kidney Cells. *J. Sekolah Teknologi Makmal Veterinar*, 4, (1) 10-18.
3. Lim K.T., Mahani A., Lim S.S. & Saroja, S. (1986): Outbreaks of Duck Virus Hepatitis in Peninsular Malaysia. *Kajian Veterinar*, 18, 129-138.
4. Lim, K.T., Mahani, A.H., and Lim, S.S. (1986): Isolation and Characterization of a Poxvirus from an Outbreak in Turkeys. *Kajian Veterinar*, 18, 41-49.
5. Mahani A.H., Yap H.C. and Shyoya S. (1991): Cryptosporidia in the bursa of Fabricius in Chickens. *J. Vet. Malaysia*, 3, 7-12.
6. Rahmat, S.M.S., Chikatsune, M. & Parameswaran S. (1991): A comparative Study on the Preservation of *Leucocytozoon caulleryi* Sporozoites. *Proc. 3rd Vet. Ass. Malaysia, KL*, pp 81-84.
7. Rahmat S.M.S. & Parameswaran, S. (1991): Maintenance of a Colony of *Culicoides arakawae* (Diptera: Ceratopogonidae) in the Laboratory. *J. Tropic. Biomed.* 8, 201-204.
8. Rahmat, S.M.S. & Parameswaran, S. (1991): Isolation and Maintenance of *Leucocytozoon caulleryi*-VRI strain. *J. Vet. Malaysia* 3 (2), 65-69.
9. Sharifah S.H., Mahani A.H., Loganathan P. and Lim K.T. (1989): Pathogenicity of an Avian Reovirus Isolated from Tendons of Broilers with Leg Weakness. *J. Vet. Malaysia*, 1, 17-27.
10. Shimura, K., Fujisaki, K. and Rahmat, S.M.S. (1989): Anticoccidial Effects of Sulphachloropyrazine. *Proc. Jap. Vet. Ass. Cong.* pp33.
11. Yamamoto, K., Kuniyasu, C. Zaini, M.Z. & Tan, L.J. (1990): Development of Dot-immunoblot and ELISA for the detection of antibodies to *Mycoplasma gallisepticum* and *Mycoplasma synoviae*. *Proc. XVII Ann. Cong. Jap. Soc. Mycoplasma*, 22-25 (in Japanese).
12. Yamamoto, K., Zaini, M.Z., Tan, L.J. & Kuniyasu, C. (1992): Bacteriological and Serological Survey of Avian Mycoplasmosis in Peninsula Malaysia. *Jap. Agric. Res. Quart.* 25, 278-282.
13. Zaini, M.Z. (1988): Isolation and Identification of *Haemophilus paragallinarum* from Poultry. *Sekolah Teknologi Makmal Vet.*, 5, 1-3.
14. Zaini, M.Z., Siti, A.T., Iritani, Y. & Maznah, A. (1989): Isolation of *Haemophilus avium* from a poultry farm. *J. Vet. Malaysia*, 1(2), 41-44.
15. Zaini, M.Z. & Iritani, Y. (1989): Serotyping of *Haemophilus paragallinarum* by the Dot-blotting Technique. *Proc. 1st Cong. Vet. Ass. Malaysia, KL*. 36-37.

16. Zaini, M.Z. & Tan, L.J. (1991): The Effect of Incubation and Storage periods on the Haemagglutinating Activity of *Haemophilus paragallinarum*. Proc. 3rd. Cong. Vet. Ass. Malaysia. Sel. 77-79.
17. Zaini, M.Z. & Kanameda, M. (1991): Susceptibility of the Indigenous Domestic Fowl (*Gallus gallus domesticus*) to experimental infection with *Haemophilus paragallinarum*. J. Vet. Malaysia, 3 (1), 21-24.
18. Zaini, M.Z., Siti, Z.A.T. & Tan, L.J. (1991): Characterization of *Haemophilus paragallinarum* isolated in Malaysia. J. Vet. Malaysia, 3 (1), 25-30.
19. Zaini, M.Z. & Iritani, Y. (1992): Serotyping of *Haemophilus paragallinarum* isolated in Malaysia. J. Vet. Med. Soc., 54(2), 363-365.
20. Taniguchi, T., Mahani, A.H. & Zaini, M.Z. (1991): Pathological changes in chicks infected with *Salmonella weltevreden* isolated in Malaysia. Proc. Jap. Vet. Ass. Cong.
21. Kawazu, S., Chandrawathani, P., Kawazu, T., Sekizaki, T., and Fujisaki, K. (1993): Development of DNA probes for the detection and identification of *Babesia ovata*. J. Protozoal Research (in press)

ANNEX 15

List of Publication in the APDRTC

List of Publication in APDRTC

1. Technical Manual for electron Microscopy
Masaru Kobayashi (1991)
2. Supplement to Technical Manual for Electron Microscopy
Masaru Kobayashi (1992)
3. Technical Manual for Avian Virlogy
Masaya Sakata (1991)
4. Technical Manual for Electrophoresis and Western Blotting
Chai Kim Kheong, Chearh Ngan Yok, Hiroaki Ohta (1991)
5. Electronmicrographic Chart of Causative Organisms of Avian Diseases
Mahani A.H. Yap H.C. Ganesan S. Haritani M. (1991)
6. Basic Avian Immunology
Chikara Kuniyasu (1992)
7. Diagnosis of Avian Diseases
Chikara Kuniyasu (1992)
8. Proceeding of the Fourth ASEAN Seminar on Poultry Diseases and their Control:
Vaccins and Vaccination
Gan Chee Hiong (1992)
9. ASEAN Poultry Disease Research and Training Center.
(1990)
10. ASEAN Poultry Disease Research and Training Center
(1992)
11. Bibliography of Veterinary Parasitology Publications
S. Parameswaran, Rahmat S.M.S (1992)
12. Virology Manual for Infectious Bursal Disease
Cheah Nagan Yok et al. (1992)

Year	No.
1986	0
1987	0
1988	0
1989	0
1990	1
1991	4
1992	7
Total	12

ANNEX 16

**Seminar and Lecture given by
Japanese Experts**

Seminar and Lecture given by Japanese Experts

Veterinary Research Institute Seminar

- | | | |
|-------------------------------|----------|--|
| 1. M. Sakata | 23/1/88 | Infectious Bursal disease in Malaysia- Isolation, Identification, Pathogenicity Test and Field Survey |
| 2. S. Shyoya,
M. Kobayashi | 15/4/88 | Introduction to Elementary Electron Microscopy |
| 3. T. Abe | 26/11/87 | Epidemiological Studies of Chicken Diseases in the State of Perak & Kelantan. |
| 4. I. Nonomura | 23/9/87 | Infectious Coryza |
| 5. S. Hagiwara | 28/6/88 | Poultry Coccidiosis |
| 6. H. Ohta | 31/10/88 | Fowl Pox Infection |
| 7. K. Shimura | 24/11/88 | Current Knowledges in coccidian Parasites. |
| 8. H. Hihara | 24/11/88 | Pathogenicity of Avian Leukosis/Sarcoma Viruses. |
| 9. K. Yamamoto | 16/12/89 | An Introduction of Mycoplasma and Mycoplasmosis. |
| 10. M. Haritani | 13/1/90 | *Basic Application of Electron Microscopy in Pathology, Virology, Bacteriology and Parrasitology
*Pneumonic Pasteurellosis in calf: Immunoperoxidase Studies. |
| 11. H. Ohta | 29/3/90 | *Virus Infection and Host Responses
*My stay in Malaysia |
| 12. S. Ikeda | 31/7/90 | Use of Poultry Vaccines in Japan and their Quality Control Results from National Veterinary Assay Laboratory |
| 13. S. Ikeda | 13/10/90 | Concentrated & Detergent-treated Newcastle Disease Antigens for Immunodiffusion and Haemagglutination and Application of its Immunodiffusion to SPF Chick -en monitoring and Antibody Detection. |
| 14. M. Kanameda | 29/11/90 | Development of ELISA for Detecting Serum Antibodies against Melioidosis in Pigs in Townsville, Australia. |
| 15. M. Chikatsune | 3/6/92 | Infectious Bursal Disease and its Control in Poultry |
| 16. H. Hihara | 15/2/92 | Recent Outbreaks of IBD in Japan |
| 17. T. Taniguchi | 15/2/92 | Chicken Anemia Agent Infection and Its Pathological Characteristics. |
| 18. M. Eguchi | 7/3/92 | Isolation of Mycoplasma Bovigenitalium from Bovine Mastitis in Japan. |
| 19. T. Inamoto | 7/3/92 | Studies on Prevention of Salmonella typhimurium Infection in chickens. |
| 20. M. Kishima | 16/1/93 | Immunization of Animal with Non Viable Mycoplasma |
| 21. N. Tsuji | 16/1/93 | Sudden Death of Calves by Experimental Infection with Strongyloides papillosus. |

Lectures in APDRTC

- | | | |
|----------------|---------|------------------------|
| 1. C. Kuniyasu | 20/6/92 | Basic Avian Immunology |
| 2. C. Kuniyasu | 22/6/92 | Basic Avian Immunology |
| 3. C. Kuniyasu | 30/6/92 | Basic Avian Immunology |
| 4. C. Kuniyasu | 4/7/92 | Basic Avian Immunology |
| 5. C. Kuniyasu | 11/7/92 | Basic Avian Immunology |
| 6. C. Kuniyasu | 20/7/92 | Basic Avian Immunology |

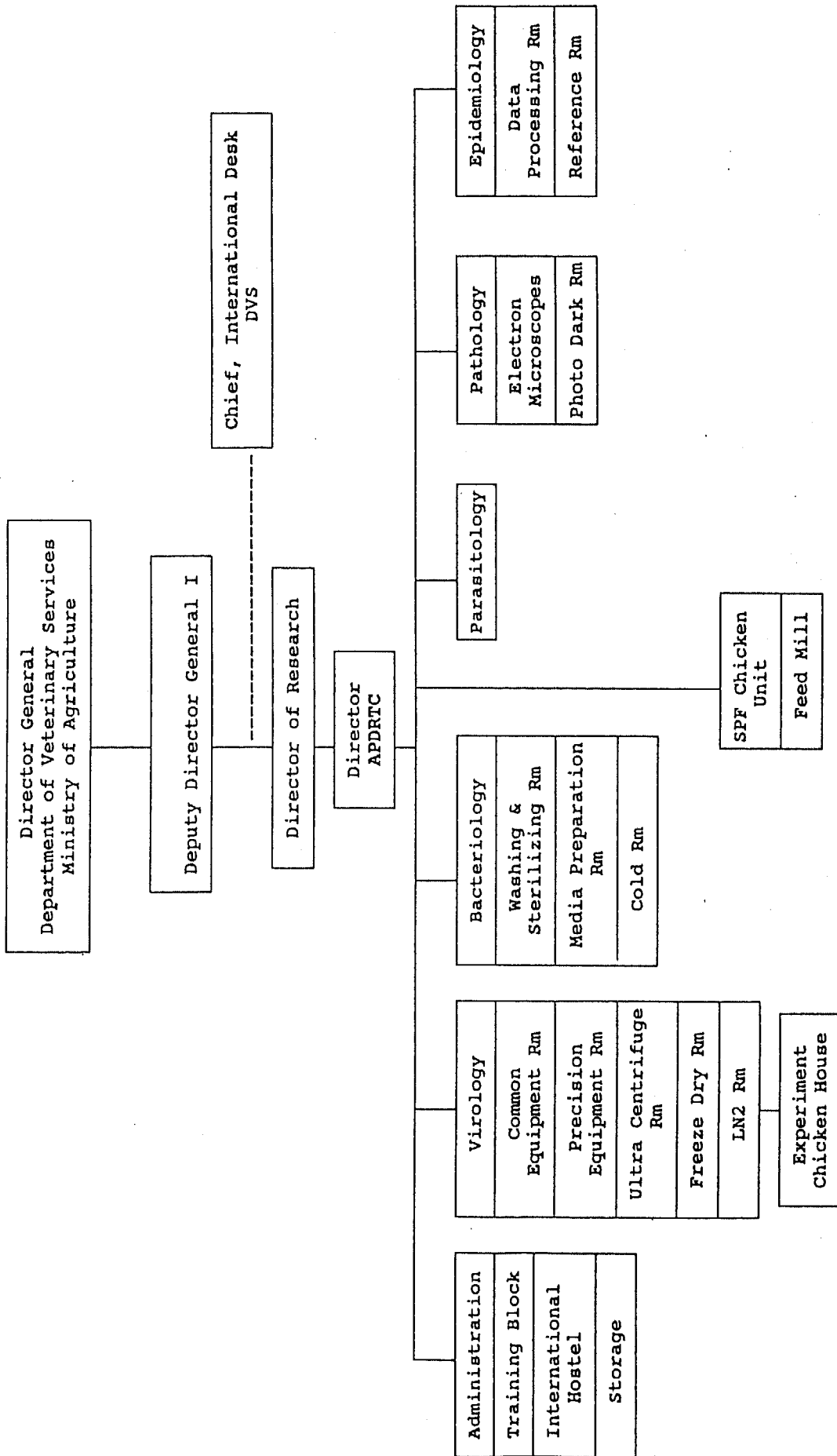
Seminar in Labratory Assistant Union

- | | | |
|----------------|---------|---|
| 1. C. Kuniyasu | 12/8/92 | Diagnosis of Newcastle Disease with Fluorescent Antibody Techniques |
|----------------|---------|---|

ANNEX 17

Organizational Chart of the APDRTC

ORGANIZATIONAL CHART OF ASEAN POULTRY DISEASE RESEARCH AND TRAINING CENTRE



ANNEX 18

List of Recommendations by the Joint-Evaluation Team on the APDRTC

**List of Recommendations by the Joint-Evaluation Team
on the APDRTC**

	Page
1. Completion of the project and post-project maintenance and fundings	19
2. General recommendation for smooth handing over and effective running of the project	20
(i) Provision of research leadership on poultry diseases in ASEAN	20
(ii) Enhancement of publishing capabilities and greater dissemination of information	20
(iii) Assignment of a minimum of two researchers per section	20
(iv) Focus research for the establishment of up-to-date technology to benefit farmers	20
(v) Increase availability of antigens and antisera	20
(vi) Breed SPF chicken locally	21
(vii) Seek assistance through individual expert dispatch and project after-care programmes	21
3. Recommendations on Research Activities of the Project	
(i) Increase publication and dissemination of research findings	12
(ii) In depth research using DIT, SDS-PAGE and western blotting method and PCR	13
(iii) Upgrade capabilities of newly-assigned researcher	13
(iv) Assign another researcher to the Parasitology Section	14
(v) Increase utilization of electron microscopy	15
(vi) Assign full-time epidemiologist to the Epidemiology Section	16
(vii) Continued operation of the SPF chicken unit	16

合同委員会ミニッツ

**THE MINUTES
OF
THE SIXTH JOINT-COMMITTEE MEETING
FOR
THE ASEAN POULTRY DISEASE RESEARCH
AND TRAINING CENTRE**

KUALA LUMPUR

FEBRUARY 15, 1993

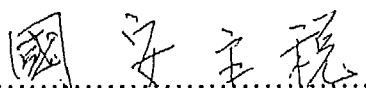
**THE MINUTES OF
THE SIXTH JOINT-COMMITTEE MEETING FOR
THE ASEAN POULTRY DISEASE RESEARCH AND TRAINING
PROJECT**

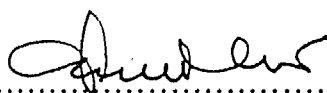
The Sixth Joint-Committee Meeting for the ASEAN Poultry Disease Research and Training Project was held on February 15th 1993 at the Conference Room of the Department of Veterinary Services, Ministry of Agriculture, Kuala Lumpur, Malaysia.

The Meeting discussed the Joint-Evaluation Report presented by the Joint-Evaluation Team of the ASEAN Poultry Disease Research and Training Project which conducted its evaluation study at the ASEAN Poultry Disease Research and Training Centre from February 8th to February 12th 1993. The Team was represented by the Japanese and Malaysian delegations led by Dr. Noboru Yuasa and Dr. Abd. Rahman bin Md.Saleh, respectively. Both delegations formed the Joint-Evaluation Team. All recommendations from the Joint-Evaluation Report were discussed and accepted by the Meeting.

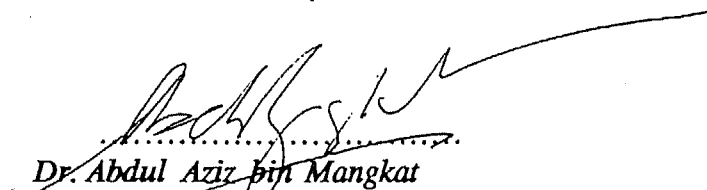
The Meeting agreed to recommend to both Governments to bring this Technical Cooperation Project to an end.

Other recommendations arising from the discussions in this Meeting shall also be brought to the attention of the respective Governments and be executed accordingly.


.....
Dr. Chikara Kuniyasu
Leader
APDRTC-JICA Expert Team


.....
Dr. Hadi bin Dato' Hashim
Representative
Secretary General
Ministry of Agriculture
Malaysia

Witnessed by


.....
Dr. Abdul Aziz bin Mangkat
Representative
Chairman, ASEAN-COFAF
Coordinating Group on Livestock

**MINUTES OF THE SIXTH
JOINT-COMMITTEE MEETING**

Date : February 15th 1993
Time : 09.00 am
Venue : Conference Room
Department of Veterinary Services
Ministry of Agriculture
Kuala Lumpur
Malaysia

ATTENDANCE

1. Chairman

Dr. Hadi bin Dato' Hashim	Deputy Director General 1 Department of Veterinary Services Ministry of Agriculture Kuala Lumpur Malaysia
---------------------------	--

2. Members

(i) Malaysian :

Dr. Abd. Rahman bin Md. Saleh	Deputy Director General II Department of Veterinary Services Ministry of Agriculture Kuala Lumpur Malaysia
Dr. Gan Chee Hiong	Director of Research Veterinary Research Institute Department of Veterinary Services Ipoh, Perak Malaysia

Dr. Nor Aidah bt. Hj. Abd.
Rahim

Director
ASEAN Poultry Disease
Research and Training
Centre
Veterinary Research Institute
Department of Veterinary
Services
Ipoh, Perak
Malaysia

Dr. Abdul Aziz bin Mangkat

Director
Veterinary Public Health
Department of Veterinary
Services
Ministry of Agriculture
Kuala Lumpur
Malaysia

Dr. Hj. Mohd. Yusoff bin
Mohd. Noor

Head, International Affairs
Department of Veterinary
Services
Ministry of Agriculture
Kuala Lumpur
Malaysia

Dr. Mohamad Azmie bin
Zakaria

Planning and Evaluation
Division
Department of Veterinary
Services
Ministry of Agriculture
Kuala Lumpur
Malaysia

Pn. Hajjah Razinah bt.
Hj. Ghazali

Ministry of Foreign Affairs
(ASEAN Division)
Wisma Putra
Kuala Lumpur
Malaysia

Mr. Shigeyuki Oya	JICA Coordinator APDRTC, Ipoh, Perak
Mr. Masato Kishima	JICA Expert APDRTC, Ipoh, Perak
Mr. Naotoshi Tsuji	JICA Expert APDRTC, Ipoh, Perak

3. Joint-Evaluation Team

Malaysia :

Dr. Abd. Rahman bin Md. Saleh	Deputy Director General II Department of Veterinary Services Ministry of Agriculture Kuala Lumpur Malaysia
Dr. Hj. Mohd. Yusoff bin Mohd. Noor	Head, International Affairs Department of Veterinary Services Ministry of Agriculture Kuala Lumpur Malaysia
Dr. Mohd. Azmie bin Zakaria	Planning and Evaluation Division Department of Veterinary Services Ministry of Agriculture Kuala Lumpur Malaysia
Dr. J.M. Zamirdin	Director Poultry Development Institute Johor Baharu Johore

(ii) ASEAN

Dr. Abdul Aziz bin Mangkat
Representative, Chairman
ASEAN-COFAF
Coordinating Group on
Livestock

(iii) Japanese

Dr. Chikara Kuniyasu
Leader
APDRTC-JICA Expert Team

Dr. Noboru Yuasa
Chief
Laboratory of Microbio-
logical Diagnosis
Systematic Diagnosis
Research Division
NIAH, MAFF, Japan

Dr. Toshiaki Taniguchi
Chief
Second Laboratory of
Pathology
Third Research Division
NIAH, MAFF, Japan

Dr. Kameo Shimura
Chief
Third Section
Poultry Disease Research
Laboratory
NIAH, MAFF, Japan

Mr. Kiyotaka Kawakami
Senior Technical Official
International Cooperation
Division
MAFF, Japan

Mr. Nobuo Kato
Deputy Director
Livestock Technical
Cooperation Division
Agricultural Development
JICA, Japan

Dr. N. Krishnan

Director
Regional Veterinary
Laboratory
Bukit Tengah
Pulau Pinang

Japan :

Dr. Noboru Yuasa

Chief
Laboratory of Microbio-
logical Diagnosis
Systematic Diagnosis
Research Division
NIAH, MAFF, Japan

Dr. Toshiaki Taniguchi

Chief
Second Laboratory of
Pathology
Third Research Division
NIAH, MAFF, Ja;an

Dr. Kameo Shimura

Chief
Third Section
Poultry Disease Research
Laboratory
NIAH, MAFF, Japan

Mr. Kiyotaka Kawakami

Senior Technical Official
International Cooperation
Division
MAFF, Japan

Mr. Nobuo Kato

Deputy Director
Livestock Technical
Cooperation Division
Agricultural Development
Cooperation Department
JICA, Japan

4. Observers

Ms. Shanita

APDRTC, Ipoh, Perak

5. Secretariat

Dr. Hj. Mohd. Yusoff bin
Mohd. Noor

Dr. Mohamad Azmie bin
Zakaria

MINUTES

1. OPENING

The Chairman announced the opening of the Sixth Joint-Committee Meeting for the ASEAN Poultry Disease Research and Training (APDRT) Project. He welcomed both the leaders of the Joint-Evaluation Team and the delegates to the Meeting.

In his opening remarks, the Chairman expressed his pleasure to have the privilege of chairing the Sixth Joint-Committee Meeting on behalf of the Secretary General, Ministry of Agriculture, Malaysia, who is the Permanent Chairman of this Meeting. It gave him the opportunity to listen to the presentation of the findings and recommendations of the Joint-Evaluation Team as well as the opportunity to discuss and provide views and suggestions to the future plan of the APDRT Project, especially now that we are coming to the end of the Project period.

He stressed that the APDRT Centre was established for the benefit of ASEAN and initiatives has to be made to get ASEAN researchers to fully utilize the facilities available at the Centre.

2. ADOPTION OF AGENDA

The Meeting adopted the agenda which appears as **Annex 1**.

3. PRESENTATION OF THE EVALUATION REPORT

The Japanese Team Leader, Dr. Noboru Yuasa, briefly explained the history of the Project, overall inputs by the Japanese Government and the results obtained so far. He expressed his gratitude to the Government of Malaysia and hoped that this project will form a base for greater cooperation between Japan and Malaysia.

Dr. Abd. Rahman bin Md. Saleh on behalf of the Joint Evaluation Team presented the findings and the recommendations made by submitting the 'Summary Report of the Joint Evaluation of the ASEAN Poultry Disease Research and Training Project' as shown in **Annex 2**.

He elaborated several issues namely :

- Methodology
- Objectives
- Findings and Recommendations

There were altogether 14 recommendations made by the Joint Evaluation Team for the Meeting to discuss. These were :

- 1) The Project has achieved its objectives and could be completed by the end of Project period.
- 2) The Malaysian Government should undertake to sustain and continue the maintenance of the APDRTC and all its research activities by allocating necessary resources.
- 3) The APDRTC should provide leadership among ASEAN researchers in poultry disease research. It should also promote exchange of views with their ASEAN colleagues.
- 4) Efforts must be made for the enhancement of the publication capabilities so as to ensure greater dissemination of information among ASEAN countries.
- 5) A minimum of two researchers be assigned per section to enhance research activities further.
- 6) In view of limited resources, efforts should be focused on seeking and establishment of up-to-date technology for scientific research on poultry diseases and further improvement of research activities. The results obtained are expected to contribute to the improvement of productivity at farmer's level not only in Malaysia but in other ASEAN countries.

- 7) In view of the high demand for antigens and antisera by course participants in the TCTP, the possibility of increasing the availability for such reagents need to be looked into.
- 8) Taking into consideration the difficulty of purchasing SPF eggs from abroad under the limited budget of the APDRTC after the end of the Project period, it would be more appropriate and economical to raise breeders of SPF chicken at the APDRTC itself.
- 9) The Government of Malaysia may request the Government of Japan for assistance under the individual expert dispatch programme when necessary. In this regard the possible dispatch of an expert to look into increasing the productivity of the SPF unit should be urgently considered. It could also use the project after-care programme 3-4 years after the project period, whenever appropriate.
- 10) Virology Section

Due consideration should in the future be given to publishing its research findings and dissemination of research works to other ASEAN countries.

- 11) Bacteriology Section

In-depth research should be carried out by using the latest techniques such as DIT, SDS-PAGE, western blotting and PCR. It is of vital importance to upgrade the research level of a newly-assigned researcher.

12) Parasitology Section

Another researcher should be assigned to this section for the purpose of continuity of research activities.

13) Pathology Section

The electron microscopy facilities should be utilized for research and diagnosis more widely and effectively.

14) Epidemiology Section

A full time epidemiologist should be assigned to strengthen the capabilities of this unit.

4. CLARIFICATIONS, DISCUSSIONS AND COMMENTS ON THE JOINT EVALUATION REPORT

The Meeting agreed to continue maintaining the contact and collaboration through exchange of knowledge, views and scientific findings between Japanese and Malaysian researchers.

There should be a linkage between the National Institute of Animal Health, Japan and Department of Veterinary Services, Malaysia after the end of Project period.

The APDRTC has undertaken to provide the leadership among ASEAN researchers in poultry disease research through TCTP.

The DVS will study the possibility of allocating a minimum of two researchers per section to enhance research activities further.

The APDRTC has noted a necessity to focus research for the establishment of up-to-date technology to benefit poultry farmers.

As to the breeding of SPF chicken locally, a short-term Japanese expert is requested to make the necessary recommendations.

The Malaysian Government will continue to request for individual expert programme and may request for the project after-care programme. Training of Malaysian researcher and technician may be requested through New Technology Training Programme.

All the recommendations suggested under Research Activities of the Project, were accepted by the Meeting.

The Meeting took note of the necessity to establish a publishing unit in the APDRTC and the VRI and the formation of Editorial Board.

With regard to utilization of Electron Microscope, the Meeting was informed that the problem of professional competency in reading the photograph taken, and that the most experienced technician is going to retire in two months time.

The Meeting noted that a Japanese Expert on Electron Microscopy will be sent to the APDRTC and effort should now be made by the DVS to identify a new technician to understudy from the experienced staff and the expert when he arrives.

5. OTHER MATTERS

1) New Technical Cooperation Project

Deputy Director General of DVS raised the possibility of requesting new TCP in view of privatisation of the Biologics Unit in the VRI and the availability of existing infrastructure and manpower. The Japanese team is of the opinion, that Malaysia is free to request for such project, subject to the standard procedure and requirements.

2) Evaluation Mission on TCTP

A separate Evaluation Mission will be dispatched to Malaysia by JICA to evaluate the performance of TCTP later.

3) Availability of APDRTC No Non-ASEAN Participant

The question of opening the facilities of APDRTC to non-Asean participants from developing countries under the Malaysian Technical Cooperation Programme was raised. The Meeting was informed that, on completion of Project period, APDRTC is fully handed over to the Malaysian Government, it is left to Malaysia's prerogative on how the Centre is to be utilized.

CLOSING REMARKS

The Chairman expressed his thank and gratitude to the Joint Evaluation Team for the very good report and recommendations made. Even though the Technical Cooperation Programme is coming to an end, the linkages and relationship established between the Japanese and Malaysian researchers should be fostered and maintained. The collaborative efforts by the Japanese on Malaysian scientists will give mutual benefits to the two countries.

The Meeting took note of the achievements over the two year period as highly commendable based on research results and number of publications issued. It is hoped that the APDRTC will continue to perform better in the future.

Mr. Kuniyasu on behalf of the Japanese delegation expressed his thank for the good cooperation and an excellent result obtained from the evaluation of the Project.

