

**BIBLIOGRAPHY AND ABSTRACTS  
OF  
VIETNAMESE POULTRY SCIENTIFIC  
PAPERS**



### **Recommended Citation**

FAO. 2008. Bibliography and Abstracts of Vietnamese poultry scientific papers.  
Prepared by Nguyen Van Duc and T. Long. *GCP/RAS/228/GER Working Paper No. 5*. Rome.

## PREFACE

The preparation of this report was part of the activities for the FAO project "Future prospects for the contribution of village poultry production to food security in developing Asian economies" (GCP/RAS/228/GER) that was funded by the "Deutsche Gesellschaft für Technische Zusammenarbeit GmbH (GTZ)". The production systems of small poultry producers show a significant variety from very low input systems with scavenging birds to those with improved genetic resources, supplementary feeding and animal health interventions. In many countries the exact type of poultry used in the small production systems is presently not well understood. The recognition of the needs to fully consider poultry genetic resources and their genetic diversity has only recently got momentum due to the outbreaks of Avian Influenza and the related control measures. A good understanding of the production systems of small poultry producers including their priorities and constraints is also required to design and implement appropriate control strategies for the small poultry producers. This will help to achieve cooperation and proper involvement of small farmers in disease prevention and control programmes. It will also assist Governments to make appropriate plans for designing and implementing their disease control strategies. The present bibliography summarizes published reports and grey literature about poultry production in Viet Nam in the fields of (i) Management and feeding systems, (ii) feed resources, (iii) poultry genetic resources, (iv) marketing systems, (v) poultry health and health control systems and (vi) cultural issues. The report also includes abstracts of research papers without an English summary. A database with the abstracts of the remaining papers is available on request from the authors or from the Animal Production Service (AGAP)<sup>1</sup> of the Food and Agriculture Organization of the United Nations (FAO). We hope this report will provide accurate and useful information to its readers and any feedback is welcome by the authors and AGAP.

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### Keywords

*Poultry Management, Poultry nutrition, Poultry breeds, Marketing, Poultry and Culture*

**Date of publication:** June 2008

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## Bibliography

### Categories:

B= Breeding, breed characteristic

D= Diseases and disease control including parasites

F= Feeds and feeding

T= General aspects of poultry husbandry

No	Authors	Title	Year	Source	Language	Category
1	Anh, B.Q	Bird flu prevention and poultry husbandry development planning in Vietnam	2004	Workshop of Solutions for developing poultry industries after eliminating bird flu in Vietnam on 3/2004	Vietnamese	D
2	Bac, N.V., Su, V.V., Tieu, H.V., Thin, P.V. and Hai, H.V	Genetic conservation of TauVang poultry breed by IN-SITU method	2004	Proceeding of NIAH Sci. Conference p: 331-333	Vietnamese	B
3	Dieu, B. M and Lich,N, H	Utilisation of anolyte solutions for preventing diseases for Ostrich in 1-3 months of age rearing at BaVi Ostrich Farms	2004	Proceeding of NIAH Sci. Conference Holding in HaNoi on 2004	Vietnamese with English summary	D
4	Dan, B. T., Tien, P. D.,Nga, L. T., Nga, N. T.,Huong, T. T., Dung, N.H,, Dung, L. T and Quang, N. T	Selection suitable chicken breeds for mountain areas of SocSon district (HaNoi)	2006	J. Anim. Sci. and Tech. Vol. 3. P:60-65	Vietnamese with English summary	B
5	Dan, B. T., Vang, N. D., Khiem, N. Q., Thanh, P. T. K., Thai, V. T., Lien, N.B and Dieu, M. D	Some factors affecting to the Ostrich hatchability rate	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	T
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No	Authors	Title	Year	Source	Language	Category
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No	Authors	Title	Year	Source	Language	Category
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15	Lung, B.D, Lien, N.N and Tien, N.C	Energy, Protein and amino acid levels in food ratio for improving meat production in poultry breeds	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	F
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No	Authors	Title	Year	Source	Language	Category
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46	Long, T., Tam, N.T.M., Son, H.L. and Hong, N.T.L	Heritability and genetic correlation of some productive traits in Mia chicken	2008	J. Anim. Sci. & Tech. 11: 20-25	Vietnamese with English summary	B
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49	Lung, B. D., Son, N. T., Hung, V.T., Dat, N.H., Long, T. and San, N.T	Selection for improving the productivities of Ri breed in Northern Vietnam	2001	Final Report of Sci.&Tech. Proj 08.13. p: 11-20	Vietnamese	B
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52	Quy, M.T., Thanh, N.D and Hanh, P	Developing some PS gardening chicken breeds in smallholders at CoNoi - MaiSon - SonLa	2005	Proceeding of NIAH Scientific Conference in HaNoi on 2005	Vietnamese	B
53	Man, L.H. and Quang N.M	Rearing Hungary duck breeds in Vietnam	1993	Agricultural Publishing house	Vietnamese	B
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61	Trong, N.D., Oanh, H.K., Minh, N.T., Phien, L.T., Vinh, N.V and Tho, L.X	The results of genetic conservation of Dom and BauBen ducks in DaiXuyen Duck Breeding Center	2007	J. Anim. Sci. and Tech. Vol. 6. P:11-16	Vietnamese with English summary	B
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67	Trong, N.D., Duy, N.V., Tieu, H.V., Lan, H.T., Vui, D.T, Ho, V.T, Cuong, L.S., Nghia, N.T.T and Quyen, D.T	Selection for stainable meat production duck T5 and T6 lines	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	B
68	Trong, N.D., Duy, N.V., Vinh, N.V., Nghia, N.T.T and Quyen, D.T	Production of M14 duck breed rearing in DaiXuyen Breeding Center	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese with English summary	B
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70	Dat, N.H and Tung, H.X	Selection for improving production and quality of two Ri lines	2002	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
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72	Dat, N.H., Tung, H.X., Dong, N.T and Huong, P.T.B	Studying the crossbreeding between LuongPhuong and Ri to be used in smallholders	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
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No	Authors	Title	Year	Source	Language	Category
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75	Dat, N.H., Dong N.T& Son, V.N	Study on creating two pure broiler stains of high productivity	2007	J. Anim. Sci. and Tech. Vol. 7. P:2-8	Vietnamese with English summary	B
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80	Coi, N.Q and Gioi, P.V	Application of creation of pure lines creation method for Peace bird	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
81	Coi, N.Q., Minh, N.Q., Laon, N.T and Nhung, N.T	Productivities of crossbreds Mia x LuongPhuongand Kabir x (Mia x LuongPhuong) rearing in smallholders	2002	Proceeding of NIAH Scientific Conference in HaNoi on 2002	Vietnamese	B

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88	Nguyen Trong Binh, Pham Doan Lan, Do Ngoc Duy, Nguyen Van Ba, Hoang Thanh Hai, Nhu Van Thu, Le Thi Thuy, Vu Chi Cuong and J.C.Maillard	Genetic diversity of chicken populations in Ha Giang based on microsatellite Markers	2008	J. Anim. Sci. & Tech. Special number, Pp: 121-134	English	B
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91	Hai, N. V, Khoai, N.X., Khanh, Q.T and Loi, N.V	Productivity of fatty liver from crossbreds between Muscovi duck and duck breeds or R51, R71, SuperM pure lines in Summer season in Northern Vietnam	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese	T
92	Nho, L.T	Developing acceptable in the agriculture-forestry system in mountain and upland areas of North Vietnam	2001	NIAH Scientific Information. 2: 1-11	Vietnamese	T
93	Nho, L.T., Cuong, L.D., Giang, D.H., Tung, D.X. and Quyen, D.C	Determining the best pilots for the gardening rearing systems in Northern Vietnam	2001	Final Report of Sci.&Tech. Proj 08.13. p: 317-325.	Vietnamese	B
94	Nho, L.T., Hoan, S.N., Tieu, H.V. and Khang, D.T	Characteristics of Vietnamese Bau duck	1994	Genetic conservation of Vietnamese animals. Agr. publishing house	Only English summary	B
95	Nhu Van Thu, Le Thi Thuy, JC Maillard, J.Spegcer	Utilisation PCR to detect Mycoplasma disease in poultry	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese	T
96	NIAH	Results of creating Ri breed	1985		Vietnamese	B
97	Thieu, P.C., Son, H.L., Viet, T.Q., Hien, T.V	Effects of Bentonit to growing of LuongPhuong breed	2006	J. Anim. Sci. and Tech. Vol. 1. P:24-28	Vietnamese with English summary	F
98	Thieu, P.C., Hong, L.T., Son, H.L., Tuan, T.Q., Tieu, H.V and Su, V.V	Performance and production of BauQuy and vịt BauBen rearing in NIAH	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Only English summary	B
99	Thieu, P.C., Hong, L. T., Hong, N.T., Son, H.L and Tieu, H.V	Productivity of HB7 rearing in Feed animal processing Research Station -NIAH	2008	J. Anim. Sci. and Tech. Vol. 10. P:17-22	Vietnamese with English summary	B
100	Thieu, P.C., Hong, L. T., Tuan, T.Q., Son, H.L and Su, V.V.	Production of Bauquy and Bauben duck breeds	2002	Proceeding of NIAH Scientific Conference in HaNoi on 2002	Vietnamese	B

No	Authors	Title	Year	Source	Language	Category
101	Thieu, P.C., Hong, L.T., Su, V.V., Tieu, H.V and Tung, L	Biological and production of a local poultry breed LunTe	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
102	Thieu, P.C., Viet, T.Q., Hong, L.T., Khoan, H.V., Khoa, N.V and Tu, D.D	Quantity of total Cancio, Phosphorous and easy to absorb Phosphorous for PS LuongPhuong during laying period	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	F
103	Thieu, P.C., Son, V.N., Tieu, H.V and Nhan, T.K	Selection for improving H'mong breed	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	B
104	Thieu, P.C., Son, V.S.,Tieu, H.V., Nhan, T.K, Hang, L.T,Cu, T.P and Hong, N.T	Capacity of production of three imported chicken breeds HW, RID, PGI	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	B
105	Hoan, P.Q., Dat, N.H.,Lien, N.N., Anh, N.K., Dong, N.T and Tung, H.X	Study production and utilization of concentrate, mixture feed for LuongPhuong broiler of Chinese during pre-breeder and player period	2002	Proceeding of NIAH Scientific Conference in HaNoi on 2002	Vietnamese with English summary	B
106	Luc, P.V., Tam, D.T and Hong, L.T	Studied on immune responsibility after vaccination and their sensibility to some diseases for three chicken breeds H,mong, OKe, Te in the North mountain region.	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	D
107	Luc, P.V., Hung, N.N., Dong, N.T., Tam, D.T&An, L.T	The effect of disease of Marek and use of vaccine to protect the breeding stock at LienMinh Station	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese with English summary	T
108	Luc, P.V., Minh, N.T.T and Tam, D.T	Effectiveness of use vaccine for prevention Gumboro disease for gardening poultry during 1-56 day of age	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	D

No	Authors	Title	Year	Source	Language	Category
109	Luc, P.V., Phuong, T.T., Hung, N.N and Quang, M.V	Biological safety methods for rearing semi-intensive poultry production system	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	T
110	Tien, P.D., Thinh, N.K., Loc, H.V., Hoa, N.Th., Thai, V.T., Tu, D.D., Quyet, N.V	The first generation of selection for improving production and quality of 4 Ostrich lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 106-111 holding on 31/07/2008, HaNoi	Vietnamese	B
111	Tien, P.D., Dung, N.N., Hien, L.T., Lanh, N.T., Tuyen, K.T., Phuong, P.T.T., Canh, V.D and Men, N.T	Productivity of 4 imported GP Sasso lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 46-53 holding on 31/07/2008, HaNoi	Vietnamese with English summary	B
112	Tien, P.D., Loc, H.V., Thuc, L.V and Tu, D.D	The effects of different green sources and green/concentrate ratio for Ostrich broilers during the first 12 months of age	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 132-140 holding on 31/07/2008, HaNoi	Vietnamese with English summary	F
113	Tien, P.D., Loc, H.V., Huy, D.Q., Thinh, N. K., Dieu, B.M., Thien, N.T., Son, N.H and Quyet, N.V	Developing ostrich in Vietnam	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	T
114	Tien, P.D., Loc, H.V., Nga, L.T., Thu. P.T.M., Khiem, N.Q., Nga, N.T., Dung, L.T., Soi, D. T., Hong, P. D., Cuong, T.T, Thao, V.T and Hung, T.V	Utilisation of catolyte and anolyte solutions for poultry industry	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	D

No	Authors	Title	Year	Source	Language	Category
115	Tien, P.D., Loc, H.V., Thuc, L.V and Tu, D.D	Capacity of reproductive and production of Ostrich in northern Vietnam farms	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 164-170 holding on 31/07/2008, HaNoi	Vietnamese	T
116	Tien, P.D., Loc, H.V., Tuan, N.X.A and Tu, D.D	Lysine and thethionine rates in the Ostrich food ration during the 0-12 months of ages	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 112-118 holding on 31/07/2008, HaNoi	Vietnamese	F
117	Tien, P.D., Loc, H.V., Tuan, N.X.A and Tu, D.D	Canci-phospho rates in the ostrich food ration during the first three months	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 119-122 holding on 31/07/2008, HaNoi	Vietnamese	F
118	Tien, P.D., Loc, H.V., Xuan, T.C., Thinh, N.K., Huy, D.Q., Toan, N.D and Hoa, N.T	Productivity of 4 Ostrich lines and some crossbreds for meat production	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
119	Tien, P.D., Tieu, H.V., Dao, D.T.A., Nga, L.T., Cuong, T.T., Thao, V.T., Hong, P.D., Hung, N. M., Dung, N.N., Lanh, N.T., Canh, V.D and Tuyet, K.T	Selection for two VS muscovi duck lines	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	B

No	Authors	Title	Year	Source	Language	Category
120	Tien, P.D., Tieu, H.V., Cuong. T.T., Nga, L.T., Thao, V.T., Hong, P.D., Dung, N.N., Lanh, N.T, Canh, V.D and Tuyen, K.T	Results of creation of two V51 and V52 lines through 3 generations	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	B
121	Tien, P.D., Nga, L.T., Dan, B.T.T., Hung, N.M., Kien, N.V., Duong,T.V., Hien, L.T.T	Situation of poultry slaughtering houses in Vietnam	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 179-186 holding on 31/07/2008, HaNoi	Vietnamese	T
122	Tien, P.D., Nga, L.T., Loc, H.V., Dan, B.T.T., Hung, N.M., Kien, N.V., Duong, T.V. and Dieu, N.D	Situation of poultry husbandry in Vietnam	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 171-178 holding on 31/07/2008, HaNoi	Vietnamese	T
123	Tien, P.D., Nga, L.T., Hong, P.D., Cuong, T.T., Thao, V.T., Nga, N.T and Hung, T.V	Utilisation of Anolyte for rearing Muscoviduck for meat production	2004	Proceeding of NIAH Scientific Conference in HaNoi on 2004	Vietnamese with English summary	D
124	Tien, P.D., Dieu, N.D., Loc, H.V., Dan, B.T.T., Hung, N.M., Kien, N.V and Duong, T.V	Contamination from animal husbandry in Vietnam	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 187-196 holding on 31/07/2008, HaNoi	Vietnamese	T
125	Tien, P.D., Thinh, N.K., Loc, H.V., Dieu, B.M and Hoa, N.T	Productivity of some African crossbreds Ostrich	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	B

No	Authors	Title	Year	Source	Language	Category
126	Tien, P.D., Dung, N.N., Nga, L.T., Loc, H.V., Canh, V.D, Xuan, P.T., Tuyen, K.T., Long, H.D., Cam, L.T	Production of 4 GP Super M3 lines rearing in Vietnam	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 82-89 holding on 31/07/2008, HaNoi	Vietnamese	B
127	Tien, P.D., Dung, N.N., Nga, L.T., Canh, V.D., Long, H.D., Tuyen, K.T., Xuan, P.T., Cam, L.T and Huong, N.T	Productivity of 4 imported Super Heavy lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 90-95 holding on 31/07/2008, HaNoi	Vietnamese with English summary	B
128	Tien, P.D., Dung, N.N., Nga, L.T., Canh, V.D., Long, H.D, Tuyen, K.T., Xuan, P.T and Cam, L.T	Productivity of 4 imported Star53 lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 96-100 holding on 31/07/2008, HaNoi	Vietnamese with English summary	B
129	Tien, P.D., Dung, N.N., Nga, L.T., Canh, V.D., Huong, N.T., Xuan, P.T., Cam, L.T., Long, H.D., Tuyen, K.T	Production of CF80 muscovyduck, M15 duck and their crossbreeds rearing in Vietnam	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 101-105 holding on 31/07/2008, HaNoi	Vietnamese	B
130	Tien, P.D., Dung, N.N., Hung, T.V., Tuyen, K.T., Luyen, P.T.,Nga, N.T., Hang, T.T., Men, N.T	Production of imported PS Marshall breed	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 54-59 holding on 31/07/2008, HaNoi	Vietnamese with English summary	B

No	Authors	Title	Year	Source	Language	Category
131	Tien, P.D., Khiem, N.Q., Nga, L.T., Nga, Nga, N.T., Son, L.X., Chuc, D.V., Tung, L.V., Nghia, T.V., Thao, V.T., Canh, V.D	Closed pilot for application of poultry science and technology in HaiDuong province	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 156-163 holding on 31/07/2008, HaNoi	Vietnamese	T
132	Tien, P.D., khiem, N.Q., Loc, H.V., Soi, D. T., Hien, L.T.T., Muoi, N.T., Loan, D.T.B., Hang, T.T.,Linh, P.T and Dung, L.T	Selection, creation and development of 4 colour poultry lines TP1, TP2, TP3 and TP4	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center,holding on 31/07/2008, HaNoi	Vietnamese with English summary	B
133	Tien, P. D., Khiem, N.Q., Dung, L.T., Soi, D. T., Hien, L.T.T., Muoi, N.T and Loan, D.T.B	Productivity of TP2 and crossbred between male Sasso X44 with female TP2	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 34-40 holding on 31/07/2008, HaNoi	Vietnamese with English summary	B
134	Tien, P.D, Khiem, N.Q., Muoi, N.T., Soi, D.T., Oanh, N.T.K., Hien, L.T.T., Loan, D.B., Hang, T.T and Thien, N.T	Crossbreeding and selecting two high egg production lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 12-19 holding on 31/07/2008, HaNoi	Vietnamese	B
135	Tien, P.D., Khiem, N.Q., Nga, N.T., Kien, N.V., Hai, H.T., Loc, H.V., Cuong, V.C and J.C.Maillard	Selection, rehabilitation of black bone chickens at dong van and xin man districts, Ha Giang province	2008	J. Anim. Sci. & Tech. Special number, Pp:58-64	English	B

No	Authors	Title	Year	Source	Language	Category
136	Tien, P.D., Khiem, N.Q., Thien, N.T., Soi, D.T., Hien L.T. T and Muoi, N.T	Production of 4 GP Hubbard Redbro lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 41-45 holding on 31/07/2008, HaNoi	Vietnamese with English summary	B
137	Tien, P.D., Khiem, N.Q., Thu, P.T.M., Dung, L.T., Soi, D.T., Muoi, N.T., Hien, L.T.T., Loan, D.T.B and Linh, P.T	Selection for four poultry meat production lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 20-26 holding on 31/07/2008, HaNoi	Vietnamese	B
138	Tien, P.D., Oanh, N.T.K., Thu, P.T.M., Loc, H.V and Huong, T.T	The results of 3 generation selection for three imported Sao chicken lines	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	B
139	Tien, P.D., Muoi, N.T., Tinh, N.T., Oanh, N.T.K, Soi, D.T and Dung, L.T	Selection for improving the productivities of Ac and ThaiHoa poultry breeds	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 27-33 holding on 31/07/2008, HaNoi	Vietnamese	B
140	Tien, P.D., Muoi, N.T., Soi, D.T and Hien, L.T	Production and Meat quality of Ac ThaiHoa, AiCap and their crossbreds between them	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	B
141	Tien, P.D., Muoi, N.T., Nga, L.T., Soi, D.T and Hang, T.T	Production of crossbred between Goldline males and AiCap females	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B

No	Authors	Title	Year	Source	Language	Category
142	Tien, P.D., Quyet, N.V and Thuc, L.V	Utilisation of different green food and the ratio of concentrate and green for rearing ostrich during laying eggs	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 123-131 holding on 31/07/2008, HaNoi	Vietnamese	F
143	Tien, P.D., Hoan, N.X., Anh, N.Từ., Loc, H.V., Xuan, T.C., Dan, B.T.T., Dieu, N.D., Toan, N.D., Huy, D.Q., Thinh, N. K and Hoa, N.T	Transferring the Ostriches in to production commercial farms	2004	Proceeding of NIAH Scientific Conference in HaNoi on 2004	Vietnamese with English summary	T
144	Tien, P.D., Hong, P.D., Nga, L.T., Cuong, T.T., Thao, V.T., Hung, N.M., Nga, N.T and Huong, N.T	Productivity of 4 imported Muscovi duck lines	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 69-75 holding on 31/07/2008, HaNoi	Vietnamese with English summary	B
145	Tien, P.D., Thu, P.T.M., Dan, B.T.T., Loc, H.V., Khiem, N.Q., Nga, N.T., Huong, T.T., Dat, N H., Thieu, P.C., Hai, N.V., Tan, N.V., Hung, N.N., Hung, D.S., Hang, N.T.L., Dat, N.Q	How to get safety for poultry industry	2006	Proceeding of NIAH Scientific Conference in HaNoi on 2006	Vietnamese	T
146	Tien, P.D., Thu, P.T.M., Khiem, N.Q., Nga, N.T., Quang, N.T., Hung, N.M., Dung, N.H., Nhu, L.T., Dat, N.H and Thach, N.V	Establishing safety zone for poultry rearing slaughtering and consumption of poultry meat in some districts of Hatay province	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 197-204 holding on 31/07/2008, HaNoi	Vietnamese	T

No	Authors	Title	Year	Source	Language	Category
147	Tien, P.D., Thao, V.T., Cuong, T.T., Nga, L.T., Hong, P.D., Giang, T.T. H, Thang, N.Q and Tuan, D.D	Productivities of 4 GP Muscovy duck R71 rearing in Vietnam	2008	Proceeding of Scientific Conference of ThuyPhuong Poultry Breeding Center, P: 76-81 holding on 31/07/2008, HaNoi	Vietnamese	B
148	Son, H.D., Tuan, D.T., Anh, P.V., Vy, N.V., Vang, N.D., Long, T. and Quy, M.T	Results of rearing the colouring feather chicken in small holders in An Nhon district, Binh Dinh province	2001	Statistical Yearbook of Vietnam (2004). Statistical Publishing House	Vietnamese	B
149	Tam, N.T.M., Long, T., Thieu, P. C., Son, H.L. and Hong, N.L	Productivities of Vietnamese KyLua duck breed rearing in NIAH	2006	Proceeding of NIAH Scientific Conference in HaNoi . Pp: 280-289	Vietnamese with English summary	B
150	Tam, N.T.M., Long, T., Thieu, P.C., Son, H.L. and Hong, N.L	Genetic characteristics on body weight of Vietnamese KyLua duck breed	2006	Proceeding of NIAH Scientific Conference in HaNoi . Pp: 273-280	Vietnamese with English summary	B
151	Thien, N., Ly, L.V. and Thuy, L.T	Ho chicken	1994	Genetic conservation of Vietnamese Animal Genes. Agriculture Publishing House. P: 75-81	Vietnamese with English summary	B
152	Thien, N.V., Hai, N.V., Phuong, T.T.M., Van, V.T.K. and Cuc, N.T.K	Productivity of Vietnamese Ac chicken breed	1999	Proceeding of Ministry of Agriculture and Rural Development Scientific Conference Holding in HaNoi. Pp: 156-163	Vietnamese	B

No	Authors	Title	Year	Source	Language	Category
153	Quang N.H; Mylen S. B; and H.V Ba	Evaluation of crude xylanase for wheat- based Broiler (Gallus gallus domesticus, L.) diets	2008	13th AAAP conference	English	F
154	Thu, P.T.M., Mien, T.D and Xuan, T.C	Meat production of crossbreeds between Kabir and RhodeRi-Jiangcun	2000	Proceeding of Ministry of Agriculture and Rural Development Scientific Conference . Pp: 148-154	Vietnamese	B
155	Thuy, L.T	Muscovi duck	1994	Genetic conservation of Vietnamese Anim. Genes. Agriculture Pub. House.p: 108-114	Only English summary	B
156	Thuy, L.T., Thien, N., Tien, B.Q. and Ly, L.V	Biological characteristics, production performance and profitability of local mucoviducks	1999	Poultry husbandry. Anim. Husb. Ass. VN. PP: 199-201	Vietnamese	B
157	Tien, D.C., Bac, N.V. and Duong, N.N	Biology characteristics and productivities of Southern Vietnamese TauVang breed	2001	Final Report of Sci.&Tech. Proj 08.13. p: 21-28	Vietnamese	B
158	Tien, D.C., Vang, N.D., Dat, N.Q., Bac, N.V., Tuyen, D.X., Huan, N.N. and Duong, N.N	Some solutions for improving economical husbandry for rearing chicken gardening systems in Southern Vietnam	2001	Final Report of Sci.&Tech. Proj 08.13. p: 340-344	Vietnamese	T
159	Tien, H.V	How to get added value from raising Ri chicken	2001	Final Report of Sci.&Tech. Proj 08.13. p: 362-364	Only English summary	T
160	Tien, H.V	Acceptable feed formulation for Ri and Mia chicken in the semi-intensive systems	2001	Final Report of Sci.&Tech. Proj 08.13. p: 284-288	Vietnamese	F

No	Authors	Title	Year	Source	Language	Category
161	Tien, P. D., Oanh, N.T.K., Thu, P.T.M., Khiem, N.Q. and Tinh, N.T	Results of three generation selection for Guinea fowl	2008	J. Anim. Sci. and Tech. Vol. 10. P: 9-16	Vietnamese with English summary	B
162	Tien, P.D., Soi, D.T., Khiem, N.Q., Hien, L.T.T., and Len, H.T	Productivity of crossbreeds 3/4LuongPhuong and 1/4Sasso	2003	Proceeding of NIAH Scientific Conference . Pp: 157-165	Vietnamese with English summary	B
163	Tien, P.D., Xuan, T.C., Nga, L.T., Soi, D.T., Loan, D.T.M., Muoi, N.T, and Dung, L.T	Productivity of ISA and their crossbreeds with Sasso, Kabir and LuongPhuong	2003	Proceeding of NIAH Scientific Conference . Pp: 201-208	Vietnamese with English summary	B
164	Tieu, H.V., Ly, L.V., Sat, L.M. and Su, V.V	Vietnamese livestock genetic resources conservation and exploitation from 1990 to 2007	2008	J. Anim. Sci.&Tech. 2: 1-6	English	T
165	Xuan, T.C., Vang, N.D., Tien, P.D., Loc, H.V., Thu, P.T.M., Dan, B.T.T and Oanh, N.K	Productivity of 3 Guinea fowl imported from Hungary	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
166	Xuan, T.C., Vang, N.D., Tien, P.D., Loc, H.V., Thu, P.T.M., Dan, B.T.T., Oanh, N.K	Productivity of 2 imported New Hampshire and Yellow Godollo breeds from Hungary	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
167	Xuan, T.C., Tien, P.D., Dao, D.T.A., Thao, V.T., Hung, N. M., Cuong, T.T., Hai, H.T., Hang, P.N	Limitation of feed intake to reduce body weight of Super Heavy Muscoviduck from 1 to 25 weeks and laying periods	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	F
168	Xuan, T.C., Tien, P.D., Loc, H.V., Dan, B.T.T., Khiem, N.Q., Hien, L.T., Thu, P.T.M and Linh, P.T	Selections for 3 strains of LP1, LP2 and LP3 from Luong Phuong chickens	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B

No	Authors	Title	Year	Source	Language	Category
169	Xuan, T.C., Tien, P.D., Loc, H.V., Thinh, N.K., Dieu, B.M., Huy, D.Q., Toan, N.D., Hoa, N.T	Energy and Protein levels in the dietary for reproducing and meat production of Ostriches	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	F
170	Viet, T.Q and Len, N.T	Evaluation effect of different levels of Ca, P and their relationship to ME and CP content in the diets on egg production and quality of laying ducks at 30-55 weeks old	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	F
171	Anh, T.T.K., Uyen, N.P.Uyên., Dung, T.T and Thuy, L.T	Biological characteristics of Choi breed	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	B
172	Phuong, Tran Thi Mai , Velasco, Esther, Dieleman, Elisabeth Supakankunti, Siripen	The gender dimensions of bird flue situation in Thailand, Cambodia and Vietnam	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	D
173	Phuong, T.T.M., Lien, L.V., Khoai, N.X and Anh, N.T.H	Quality of commercial poultry and duck eggs using different protection methods	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	T
174	Phuong, T.T.M., Lien, L.V., Khoai, N.X and Anh, N.T.H	Situation of commercial egg quality in HaNoi markets	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	T
175	Phuong, T.T.M., Thien, N.V and Long, T	Growth, production, reproductive and meat quality of Ac breed	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B

No	Authors	Title	Year	Source	Language	Category
176	Hien, T.V	Research on use of yeast powder produced from beer yeast by-products as foodstuff for broilers	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	F
177	Huong, T.T., Xuan, T.C., Tinh, N.T and Dieu, N.D	The nutritive of craw fluid of pigeons in period of 1-28 days of age	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	T
178	Huong, T.T., Xuan, T.C., Tinh, N.T and Dieu, N.D	The selection of two imported Titan and Mimas pigeon strains after 5 generations	2003	Proceeding of NIAH Scientific Conference in HaNoi on 2003	Vietnamese with English summary	B
179	Truong, P.V., Dong, L.X., Tieu, H.V., Minh, N.T. and Khang, D.T	Co duck Vietnam	1994	Genetic conservation of Vietnamese Ani. Genes. Agri. Publishing House. Pp: 93-101	Only English summary	B
180	Vang, N.D., Long, T., Quac, N.K., Thang, N.N. and Toan, N.V	The results of productivity of Kabir and TamHoang 882 breeds by utilizing feed with and without animal protein	2001	Final Report of Sci.&Tech. Proj 08.13. p: 296-303	Vietnamese	F
181	Vang, N.D., Xuan, T. C., Tien, P.D., Nga, L.T. and Hung, N.M	Meat production of Dong Tao breed and crossbred DongTao x TamHoang	2001	Final Report of Sci.&Tech. Proj 08.13. p: 169-179	Vietnamese with English summary	B
182	Vang, N.D., Xuan, T.C., Tien, P.D., Nga, L.T. and Hung, N.M	The productivity of Ri chicken reared at Thuy Phuong	1999	Final Report of Sci.&Tech of Poultry and new imported breeds 1989-1999. Pp: 1-5	Vietnamese with English summary	B

No	Authors	Title	Year	Source	Language	Category
183	Vang, N.D., Xuan, T.C., Tien, P.D., Nga, L.T. and Hung, N.M	The reproductivities of Dong Tao chicken	1999	Sci &Tech of Poultry and new anim. breeds imported 1989-1999.p: 38-45	Vietnamese with English summary	B
184	Viet, T.Q., Vang, N.D., Giang, H.H. and Son, L.H	The effects of energy, amino acid in feed race to growth and efficiency of utilizing of feed of Tam Hoang and Kabir breed	2001	Final Report of Sci.&Tech. Proj 08.13. p: 256-276	Only English summary	F
185	Son, V.N., Tieu, H.V., Thieu, P.C., Hang, L.T and Cu, T.P	Genetic conservation for Co goose breed in NIAH	2008	Proceeding of NIAH Scientific Conference in HaNoi on 2008	Vietnamese with English summary	B
186	Weigend, S, H. Eding, Z. Granevitze, and J. Hillel	Assessment of Genetic structure and Differentiation of a Diverse Gene Pool of Chickens	2008	J. Anim. Sci. & Tech. Special number, p: 22-28	English	B
187	Xuan, T.C., Tao, N.T.H., Thu, P.T.M., Tien, B.Q. and Tien, P.D	A Crossbreeding of chickens between TamHoang 882 - line and Rhode Ri)	2001	Proceeding of NIAH Sci. Conference. p: 161-168	Only English summary	B
188	Xuan, T.C., Tien, P.D. and Nga, L.T	Meat productivity of chicken crossbreeds (Kabir x LuongPhuong)	2001	Proceeding of NIAH Scientific Conference. Pp: 98-106	Only English summary	B
189	Xuan, T.C., Tien, P.D., Nga, L.T. and Hung, N.M	The productivity of Mia chicken reared at Thuy Phuong	1999	Sci & Tech of Poultry&new animal breeds imported 1989-1999.p: 6-10	Only English summary	B
190	Tinh,T.V., Hung, D.S., Hanh,D.T., Tinh,N.H., Hang N.T.L.and Hiep,N.T.	Selection for performance improvements of BT2 lines to compete with imported scavenging chicken breeds	2008	13th AAAP conference	English	B

No	Authors	Title	Year	Source	Language	Category
191	Nguyen Duc Hung PhD., Ass. Prof. Dr. Tran Thanh Van	Behavior, adopted, growth, maturity, reproduction and meat production capacity of Guinea fowl strain keeping at Thai Nguyen city	2008	13th AAAP conference	English	B
192	Van, Tran Thanh Ass. Prof. Dr., Nguyen Thi Thuy My PhD.	Comparison of reproduction of Khaki Campbell, Triet Giang and crossed breed F1 (Khaki Campbell female x Triet Giang drake) raising in the garden of Thai Nguyen	2008	13th AAAP conference	English	B
193	Hoan, Nguyen Duy, Ass.Prof. Dr.	Some biological characteristic and productive of Meo chicken and their F1 Hybrids with Ri chicken	2008	13th AAAP conference	English	B
194	Doan, B.H.	Some research results on economic crossbreeding between Ho and LuongPhuong chicken breeds	2008	13th AAAP conference	English	B
195	Son,T.T., Mai, N.T., Anh, T.N.M	The determination of Apparent metabolizable energy (AME) of some maize varieties for poultry by direct methods	2008	13th AAAP conference	English	F
196	Quang N. H. and Edwin S. Luis	Evaluation of boiled soybean [Glycine max (L) Merr]and ricebean [Vigna umbellata (Thumb) Ohwi & Ohashi] for soybean meal in broiler chicken (Gallus gallus domesticus L) diets	2008	13th AAAP conference	English	F
197	Dong, N.T.K.	Apparent digestibility of nutrients and amino acids in intact and cecectomised ducks fed brewery waste	2008	13th AAAP conference	English	F
198	Doan, B.H.	Effects of calcium and phosphorous level in the diet on heat stress resistance of 4 week old chicken	2008	13th AAAP conference	English	F

# Abstracts of papers in Vietnamese without English abstract or summary

## 1. BIRD FLU PREVENTION AND POULTRY HUSBANDRY DEVELOPMENT PLANNING IN VIETNAM

Anh, B.Q.

Presented at MARD congress "Some methods to restore poultry population after extinguishing bird-flu out break"

The paper shows 3 main points:

Poultry production systems have existed for a long time. A total of 254 million poultry are raised and well developed in all regions of Vietnam, mainly in Red River Delta (RRD) with 26%, following 20% in Mekong River Delta (MRD), 16% in North East and 10% in North East South, producing 272,700 ton of meat and 4.79 billions eggs.

Since December 2003, poultry industries in Vietnam are strongly damaged by bird flu: 38.3 million heads was destroyed and died, accounts 15.1% population, including 50% chickens, 30% ducks and 20% other bird races. The bird flu is controlled by March 2004.

Solutions for developing: continue preventing bird flu in the hold country, reproducing breeding stock in order to increase the population the sooner the better and creating suitable areas for poultry industry.

## 2. GENETIC CONSERVATION OF TAUVANG BREED BY IN-SITU METHOD

Bac, N.V., Su, V.V., Tieu, H.V., Thin. P.V. and Hai, H.V.

The survival rate of the TauVang breed is high: 92.6-93.8% during the young period and 95.1-97.7% during the growing period, indicating very good capacity of resistance to diseases in Southern Vietnam condition.

The body weight of TauVang is higher than the Ri breed, at 5 months of age it was 1849-1854g for females and 2271.6-2273.6 g for males.

Egg production of TauVang breed is high, 108.1-121.6 egg/hen/year. After two generations of selection, the number of eggs increased by 13.5 eggs. The weight of eggs of the TauVang breed is 48.21-49.11g/egg with a fertility rate of 85.4-85.6%. The rate of hatchability/number of incubation eggs is 67.4-70.2 eggs. For meat production the TauVang reach after 3.5-4.5 months of rearing, 1958g-2000.3g with a survival rate up to slaughtering of 86%.

## 6. SOME FACTORS AFFECTING THE HATCHABILITY RATE OF GUINEA FOWL

Dan, B.T.T., Khiem, N.Q and Thanh, P.T.K.

Guinea Fowl eggs are different from other breeds. It, therefore, must look for acceptable incubating method in order to increase the rate of hatchability rate. For single phase, the best method is incubating applied 1-7, 8-15, 16-23 days with the temperature is 38.1, 37.7, 37.5°C and the humidity is 60-65, 55-60 and 50-55%, respectively get results of hatching/fertile eggs being 89.06%. For multiple phases, the best method is incubating applied 1-23 days with the temperature is 37.7°C and the humidity is 55-60%, respectively get results of hatching/fertile eggs being 85.09 and 89.36%.

Times for keeping breeding eggs is also effected to hatching rate: 10 day keeping with 20-25°C and 7 days with 30-35°C gets 90.42 and 90.34%.

### **8. SOLUTIONS FOR REARING GARDENING CHICKEN IN MOUNTAIN AREAS OF SOCSON - HANOI**

Dan, B.T.T., Tien, P.D., Nga, L.T., Nga, N.T., Huong, T.T., Dung, N.T.H., Dung, L.T. and Quang, N.T.

200 broilers/smallholder of Sasso and LuongPhuong, 100 LuongPhuong and 100 AiCap hens/smallholder was the best to be used in SocSon district because the survival rate up to 10 weeks is high (96.8%), weight is 2.46kg/head, FCR is 2.73kg and food consumed for producing 10 eggs is 2.80kg. Fertile rate is high (95.36%).

For AiCap breed: Number of egg in the first three laying month is 54.59 egg/hen; food consumed for producing 10 eggs is 2.10kg. Fertile rate is high, reaching up to 97.27%.

### **9. DIFFERENT SOLUTIONS FOR OSTRICH HATCHABILITY REGULATION**

Dan, B.T.T., Thai. V.T. and Son, N.H.

To get the Ostrich hatchability regulation, calling up the embryos chicks before hatching is one of the techniques in order to improve hatchability rates. Increasing up to 28°C, 35°C and 38°C during 0-8hrs, 8-16hrs and 16-24hrs before hatching in order to prevent the temperature stress. After calling up, keeping 36.4°C with humidity being 28-30% within 1-10 days and 17-28% from 11 days to 38 days giving the hatchability highest, reaching up to 66.67%.

Reducing egg weight is another solution for improving hatchability rates. With 17-28% of humidity, egg weight reduces 14.39-15.96% get higher hatchability rates.

Cooling eggs from hatchability machine from days 35<sup>th</sup> to day 39<sup>th</sup> with 10 minutes per days at 11 AM will increase the hatchability rate up to 3.99% higher than do not cooling.

### **11. ECONOMICAL COMPARISON ON SASSO, KABIR AND TAMHOANG BREEDS BETWEEN TWO DIFFERENT REARING SYSTEMS OF INDUSTRY AND GARDENING WITH AND WITHOUT MEAL FISH**

Binh, D.V., Lien, D.T., Hung, P.Q. and Hoa, D.V.

Sasso, Kabir, TamHoang broiler breeds are fed with or without fish powder has the same results of experiments from Viet *et al*, (2001) and Vang *et al*, (2001). The growth rate of three gardening chicken breeds, Sasso breed is highest, following in the Kabir breed and the lowest body weight is TamHoang breed. Feed to be used for these breeds with meal fish gets high body weight in comparison with no fish meal. The price of each kg of body weight is high.

### **12. MEAT PRODUCTION OF SASSO, KABIR AND TAMHOANG BREEDS REARING IN RED DELTA RIVER**

Binh, D.V., Lien, D.T., Hung, P.Q. and Hoa, D.V

In semi-intensive poultry production system with energy 3000-3100 KcalME/kg, crude protein is 21-21,5% in 1-4 weeks of age and in second phase with 3100-3200 KcalME/kg, crude protein is 19-19,5% from 5 weeks, at 12 weeks of age, Sasso and Kabir get 2.6-2.7 kg for males and 2.2 – 2.3 kg for females, FCR is 3.2-3.3 kg/kg body weight increasing. At 13 weeks of age, TamHoang gets 2.1 kg for males and 1.7 kg for females and average of FCR is 3.7 kg/kg.

In the second phase, if feed without fish meal, growing rate is lower than with fish meal. At 13 weeks of age, Sasso and Kabir get 2.2 kg for males and 1.9 kg for females with FCR is 3.3 kg/kg body weight increasing. For TamHoang breed, gets 1.5 kg for males and 1.4 kg for females and average of FCR is 3.9 kg/kg.

In the non-intensive system, after 10-11 weeks, Sasso gets 2.4-2.8 kg for males and 1.8-2.3 kg for females, Kabir gets 2.0-2.8 kg for males and 1.7-1.9 kg for females and TamHoang gets 1.6 -2.1 kg for males and 1.3-1.7 for females. The average of FCR is 2.5-3.2 kg with the price of food is 7100-12900 VND/kg body weight increasing after 4 weeks of age.

**18. GROWTH CHARACTERISTIC AND SOME BLOOD BIOPHYSICAL, BIOCHEMICAL INDICATIONS OF NATIVE POULTRY RACES: AC, RI, HO AND DONGTAO**

Coi, N.Q., Thuy, T.P.T. and Gioi, P.V

The authors determined the growth characteristic from 1 to 60 days of age and the blood biophysical, biochemical indications of native domestic poultry races: Ac, Ri, Ho and DongTao at 2 month of age. The relation between their weight and the biophysical, biochemical indications at 2 month of age have been determined. The results can be applied in selection, breeding and reservation of these native poultry.

**19. THE RESULT OF MAKING PILOTS IN GARDENING REARING SYSTEM FOR HIGH QUALITY POULTRY BREED**

Cu, T.X., Vang, N.D. and Son, H.L

It is necessary to get cooperation between researchers and farmers to determine the best profitability pilots for rearing gardening chicken. To reduce the cost of poultry products, the best rearing pilots and the safety environment for housing system should be considered.

**20. GENETIC CONSERVATION AND DEVELOPING H'MONG BREED IN HANOI**

Cuc, N.K., Van, V.K., Binh, L.T., Su, V.V., Thieu, P.C. and Hai, N.V.

H'Mong chicken is originated in Son La. Presently; it is kept largely in other regions. Feather of H'Mong is variable. Skin and meat are black. H'Mong meat is delicious and highly nutritious. Survival rate at 16 weeks age is 97%. Weight at 16 weeks age of male and female is 1230 gr and 1075 gr, respectively.

Egg production is 70 eggs per year and quality of eggs is same as eggs of Ri and Ac breeds.

In the first two generation selection, body weight at 8 weeks of ages reaches 478 g for males and 377 g for females in the first generation and 678 g for males and 595 g for females in the second generation. Body weight at 11 weeks of ages is 808 g for males and 661 g for females in the first generation and 1080 g for males and 880 g for females in the second generation.

Amino acid in meat of H'Mong breed is higher than Ac and Ri breeds, especially Glutamic (3.49%) higher than Ac breed 0.32% and 0.703% higher than Ri breed.

**28. DAILY FEED INTAKE FOR MELE LINE OF SUPERMEAT DUCK BREED AT VIGOVA**

Tuyen, D.X., Hai, L.T and Tieu, H.V.

40 males and 241 females of Super Meat (SM) for each treatment were used in BenCat, BinhDuong (VIGOVA station).

Quantity of daily feed for experimental unit for Crude Protein is 150-146 (1-7 laying weeks) and 142.1 depending on body weight, number of eggs and housing temperature (8-20 laying weeks) while 141.1 for all time of laying for control unit.

Number of eggs in first, second and average of experimental unit increases 1.81, 2.68 and 2.38 eggs higher than control unit. Consumption feed for producing 10 eggs is also reducing 0.11, 0.12 and 0.12, respectively. The difference of fertile, hatching, embryo died rate is not significantly between these two units.

### **29. DAILY FEED INTAKE FOR FEMALE LINE OF SUPERMEAT DUCK BREED AT VIGOVA**

Tuyen, D.X and Hai, L.T.

Quantity of daily food intake, ME and crude protein as well as amino acid balance for laying period of duck breed is very important and necessary. From 1 to 7 laying weeks and from 8 to 25 laying weeks for Super Meat duck breed get better reproductive traits in comparing with permanent crude protein of 138.5 as the control unit. Number of eggs produces in the first 25 laying weeks in experimental trail is better than control group, increases 10.36 egg/hen, the rate of laying hens is 5.93% and number of breeding eggs is 1.88% being higher than control group ( $P < 0.001$ ). Feed intake to produce 10 eggs in the experimental unit is lower than control unit about 0.52kg.

### **30. EFFECTS OF TEMPERATURE, HUMIDITY AND LIGHT INTENSITY TO THE RATE OF LAYING EGG DUCK BREEDS REARING AT VIGOVA STATION**

Tuyen, D.X., Hai, L.T and Tieu, H.V.

Temperature and humidity was measured daily with 12 month at 6, 10, 13.5, 18 and 21hrs and velocity of light was measured very 7 days in 15 places inside of housing and one place in the garden.

The correlation between temperature and humidity with number of eggs in SM female line from 70% to 38 laying weeks. The housing is open with 600 m<sup>2</sup> and the density is 2.0-2.5 birds/m<sup>2</sup>. Three lighter with 75W was used in the between 2 rooms with the average is 4.125W/m<sup>2</sup>. Switch on at 18 hrs and off at 22 hrs. The data was analyzed by MINITAB.

The correlation between temperature and number of laying birds was -0.357, indicating that should be used some presenting methods for ducks in the afternoon. Humidity varies in different between dry and raining seasons but not showing any effects to number of laying birds.

### **32. GENETIC CONSERVATION OF BAUBEN DUCK BREED IN HOABINH PROVINCE**

Oanh, H.K., Tieu, H.V., Truong, P.V., Trong, N.D., Minh, N.T., Chien, P.H., Thanh, B.V. and Chum, B.V.

Due to there are many good characteristics of BauBen duck breed, it is necessary for conservation and developing this breed. Based on number of eggs producing of BauBen breed, it characterizes for dual purposes of meat and egg production types.

It is important to select and create better environmental condition for rearing this breed in order to increase the productivity as well as profitability.

### **33. CAPACITY OF GROWING OF CROSSBREDS BETWEEN CV2000 LAYER AND CO DUCK BREEDS**

Oanh, H.K., Truong, P.V., Trong, N.D., Minh, N.T., Xuan, D.V. and Nghia, N.T.

Capacity of growing of different crossbreds between CV2000 Layer and Co duck breeds. The first experiment showing that the results of growing are higher for crossbreds between male line CV2000 Layer and female Co duck breeds.

### **34. REPRODUCTION OF CROSSBREDS BETWEEN CV2000 LAYER AND CO DUCK BREEDS**

Oanh, H.K., Truong, P.V., Trong, N.D., Minh, N.T., Xuan, D.V. and Nghia, N.T.

Reproduction of crossbreds between CV2000 layer line and Co duck breeds (it calls Mule) is acceptable in Vietnamese condition. From these crossbreds, using male line of CV2000 layer line and female Co duck breed get better results of reproducing traits.

Due to very short times of experiments, therefore the detail results of each crossbred will be presented in next time.

### **35. ENERGY, RATE OF LYSINE/ENERGY FOR BROILERS DURING SUMMER SEASON AND THE EFFECTS OF PHOSPHOROUS TO THE SURVIVAL RATE IN HIGH TEMPERATURE HAPPENED**

Son, H.L., Cu, T.X and Dat, N.H

In the period 1-21 days of age, food for broilers contain 3200Kcal/kg and Lysine is 0.344%/Mcal (11.0g/kg) get better ADG and lower FCR.

In the period 22-49 days old, food for broilers contains 3200Kcal/kg and Lysine is 0.403%/Mcal (12.8g/kg) get better ADG and lower FCR. The survival rate in 22-49 days varies from 92% to 94.9%.

To prevent temperature stress in summer season, Phosphor should increase up to 0.55%/kg of food.

### **36. UTILIZATION OF CASSAVA AND RICE BRANCH FOR REARING BROILER**

Hoan, P.Q.

For rearing Broilers, cassava can be used instead of maize with the rate of 15.69% in 0-4 weeks and 37.902% in 5-7 weeks of age. For this substitution, feed price reduces 1.58% and product of 1 kg body weight reduces 3.64%.

It also can be used rice branch of 15% in 0-4 for rearing broilers will reduce 3.19% for food and 0.66% for producing 1 kg of body weight.

It, therefore, farmers can replace maize in ration by 15.7% cassava in 0-4 weeks old and 37.9% in 5-7 weeks old. Maize can be replace by 5% broken rice in 0-4 weeks old and 10% in 5-7 weeks old.

### **37. ANALYSIS OF RESTRICTION FRAGMENT LENGTH POLYMORPHISM IN THE CHICKEN GROWTH HORMONE GENE (eGH) OF VIETNAMESE NATIVE CHICKEN**

Hoan, T.X. and Vang, N.D.

Two pair of PCR primers PM3 and PS1 was used to amplify growth hormone gene of Vietnamese native chicken: Ri, Ac, and Ho. They are different from each to another.

PCR primers PM3 were designed according to the published cGH sequence and used to amplify a fragment which contained two MspI sites, one polymorphic and another non-polymorphic. The length of the amplified fragment was expected to be 580 bp. However the PCR product of primers PM3 was longer than expected of all these breeds. This discrepancy was further characterized by analyzing MspI digests of the PCR product. Analysis of MspI RFLP revealed some polymorphic sites. It is essential to sequence the PCR product of primer PM3 in the next study.

PCR primers PS1 were designed to amplify a fragment which contained one polymorphic MspI site and two SacI sites. One of SacI sites is polymorphic. The PCR product of primer PS1 was the same size as expected. Analysis of RFLP in 30 chicken Ac, 20 chicken Ho was not found polymorphic sites for SacI and MspI, receiving only non-polymorphic SacI site at nucleotide + 2949.

### 39. TO ANALYZE THE GROWTH HORMONE OF THE RI CHICKEN BY PCR-RFLP TECHNIQUES

Hoan, T.X., Vang, N.D. and Lan, P.D.

Determined 4 gene types in Ri chicken breed by PM3 using the MspI enzyme.

There are significant of number of eggs producing between gene types of PM+174+/-PM+174-/-PM+441 get 48 and 33.3 eggs/hen in 42 weeks.

### 40. THE SPECIFIC STRUCTURE OF INTRON 1 IN THE CHICKEN GROWTH HORMONE GENE OF VIETNAMESE NATIVE CHICKENS

Hoan, T.X., Vang, N.D. and Luong, L.D

A pair of PCR primers PM3 was used to amplify growth hormone gene of Vietnam chicken: Ri, Ac, Mia, and Ho. These breeds are difference from each to another. The chickens Ri, Mia, Ac were reared in the National institute of Animal husbandry. The chicken Ho was reared in the BacNinh province in the North of Vietnam.

DNA was extracted from blood by Sepagene kit. The PCR reaction was carried out for 40 cycles each cycle consisted of 30s at 94<sup>0</sup>C, 120s at 60<sup>0</sup>C and 90s at 72<sup>0</sup>C. The PCR product was removed these unwanted materials by PCR product pre-sequencing kit US 70996 of Amersham Life Science. The sequencing was carry out by ABI- PRISM model 3700.

PRC primers PM3 were designed based on the sequence of Tanaka *et al* (1992). The forward primer started at nucleotide- 189 and the reverse primer at nucleotide + 391. The length of the amplified fragment was expected to be 580 bp. However after sequencing revealed the PCR product was 198 bp longer expected. The sequence was identical to the sequence of Tanaka *et al* (1992), except for an additional nucleotide T and an additional segment of 197 bp inserted at nucleotide + 160 and +309 respectively. A comparison of the inserted sequence with sequence of L. Mou *et al* (1995) revealed that the inserted segment of Vietnamese native chicken was longer one nucleotide A at nucleotide +302 and contained polymorphic Msp site at nucleotide +441.

The PCR product of 4 chicken breeds contained some polymorphic MspI sites: chicken Ac and Mia contained 3 and 2 polymorphic MspI sites respectively. Chicken Ho and Ri contained only one polymorphic site in the inserted segment.

### 41. SELECTION FOR IMPROVING HIGH PRODUCTIVITY AND PROFITABILITY MUSCOVY DUCK LINES

Tieu, H.V., Tien, P.D., Cuong, T.T., Thao, V.T., Nga, L.N., Hong, P.D., Thang, N.Q., Giang, T.H., Tuan, D.D. and Huong, N.L.

Survival rate up to 24 week old of 2 Muscovi duck lines was high: 97.67-100% male line V51, V71 and VS1 selection for improving body weight. After 2 generations, weigh at 8 weeks in generation 1 get 0.17 g for male and 0.90g for female higher than parental generation. In V71 line, male increase 0.40g and female increase 0.12g. However, in VS1 line, male increase 128g and female increase 0.74g. Female lines as V52, V72 and VS2 were used for selection to increase number of eggs. After 2 selecting generations, at 10 laying weeks, V52 line increases 1.19 eggs, V72 increases 1.02 eggs and VS2 line increases 0.78 eggs.

#### **42. IMPACT OF INDUSTRIAL FEEDING SYSTEMS FOR VIETNAM DURING THE WTO PARTICIPATING**

Kinh, L.V.

The impact of industrial feeding systems for Vietnam during the WTO participating. There is high potential of high carbohydrate foods for animal in Vietnam. Amount of high energy food for animal in Viet Nam is  $3,453 \times 10^3$  metric tons maize,  $1,790 \times 10^3$  metric tons rice,  $2,569 \times 10^3$  metric tons broken and bran rice,  $115 \times 10^3$  tons cassava,  $100 \times 10^3$  tons by-products of cassava, and  $461 \times 10^3$  tons dry sweet potato. But high protein food is short in Vietnam. In 2005, 1 million metric tons of high protein feed are imported to adapt a half of demands. The addition food depends strongly on import resources.

#### **43. REARING MUSCOVI DUCKS IN SMALLHOLDERS**

Ky, L.

Muscovi ducks can find food on water areas, in the field and garden. Muscovi husbandry is not depending on seasons. Food resource for muscovi ducks does not require high quality resource. Due to muscovi husbandry is not paid much attention, then there are few scientific papers.

Local muscovi duck breeds, it contains 3 kinds, white muscovi (re muscovi) has white feather covered, slim body, easily move, accounts 30.06% of total local muscovi; spotted white muscovi accounts 67.41%; black muscovi (buffalo muscovi) has black feather, heavy body, move heavily, accounts 4.5% of total local muscovi population.

#### **47. RI CHICKEN**

Long, T., Thu, N.T. and Lung, B.D.

A local Ri chicken is very closed with agricultural development for a thousand of year in the country. Small size, good meat taste, easily to raise and resistant with some diseases are trait to be considered. Ri chicken has low death percentage at 1-42days of age in comparison with others. The growth rate and feather grow has been investigated. Proposal for the conservation of Ri chicken has made.

#### **49. SELECTION FOR IMPROVING THE PRODUCTIVITIES OF RI BREED IN NORTHERN VIETNAM**

Lung, B.D., Son, N.T., Hung, V.T., Dat, N.H., Long, T. and San, N.T.

After two generation of selection for improving the productivities of Ri breed in Northern Vietnam, body weight at 7 weeks is 428 g/chick for first generation and 430 g for second generation. Body weight at 19 weeks is 1700 and 1214 g/chick for males and females in the first generation and 1720 and 1216 g for males and females in second generation. It is 22-24 g higher than the result in the year 1985.

Survival rate from 1 to 19 weeks is 84.5 and 85.6% in the first and second generation.

The average of feed consumed from 1 to 19 weeks is 6.34 and 6.19 kg in the first and second generation and for producing 10 breeding eggs is 2.7 and 2.65 kg better than in year 1985 (4.73kg). Egg production is 122.49 and 123.53 eggs/hen, higher than 1985 (113.3 eggs).

## **50. CONSERVATION OF TWO LOCAL CHICKEN: DONG TAO AND MIA**

Lung, B.D. and Long, T.

There are some local meat chickens in the country. The two DongTao and Mia breeds have large body size and high meat percentage.

The genetic dilution of Mia, DongTao has been existed. The populations of these breeds are small. At the present, Mia breed population is very limited. Live weight of Mia chicken is 800-900gr at 60 days old. Number of eggs is 55-60 eggs/year.

The phenotypic characters of Mia and DongTao breeds have been described. They are good meat chicken breeds. The cock body weight is 700-800 g at 55-60 days and 3.200-4.000 g at 140 days while the hen 2.300-3.000 g. Similarly, Mia chicken body weight reaches: 800-900 g at 56-60 days and body weight at 140-150 days are 3.500-4.000 g and 2.500-3.000 kg in the cock and the hen respectively. The need of conservation and preservation program for the Mia and DongTao chicken has been discussed.

## **52. DEVELOPING SOME PS GARDENING CHICKEN BREEDS IN SMALLHOLDERS OF CONOI – MAISON – SONLA**

Quy, M.T., Thanh, N.D. and Hanh, P.

3000 LuongPhuong (LP), 938 Sasso (SS), 655 Kabir (KB) of PS stocks at one day of age and 2000 Kabir, 800 Sasso, 600 LuongPhuong from commercial stocks were used for this study. PRA was used for this study. The quality of food: 18%-14,5% Crude Protein, 17,5% and 2850 Kcal/kg, 2750 Kcal/kg and 2850 Kcal/Kg of food in 1-12 weeks, 13-22 and 23 weeks to laying.

Vaccinating to prevent Marek, Lasota, Gumboro, will get higher survival rate up to 12 weeks is 94.82%, 76.76%-90.18% for LP, 93.0%, 82.01% for SS in the first two experiments and 97.74% for KB. Age at 5% laying birds for LP: 158-162 and 143-174 days. In 300 laying days, LP gets 139.2 eggs/hen in first experiment and SS is 101.8 eggs/hen/182 laying days and KB is 96.22 eggs/hen/246 laying days.

Feed for producing 10 eggs 3.22- 2.57kg for LP, 2.77 kg for SS and 3.59Kg for KB. LP is best breed to be used for mountain areas of MaiChau – SonLa due to higher profitability.

## **53. REARING HUNGARY DUCK BREEDS IN VIETNAM**

Man, L.H. and Quang, N.D.

Hungary duck breed is reared in Vietnam not only in intensive system but also in field of paddy rice. Body weight of Hungary breed rearing in the rice field is 2.0-2.5kg/bird. In rural areas, over 65-70% of total water-bird heads and products belonging to fielding ducks. Duck meat is produced with low input but high risks of diseases and long time rearing. Fielding duck is the reason of almost disease which spreads by poultry in Vietnam.

## **54. DETERMINING THE QUANTITY OF FOOD FINDING INTAKE IN THE GARDENING REARING SYSTEM OF DIFFERENT CHICKEN BREEDS AND MAKING THE PILOT FOR REARING SYSTEM**

Minh, D.V., Long, T. and Vang, N.D.

The first result is determining the quantity of food finding intake in the gardening rearing system of different chicken breeds is about 20-25% in the gardening areas.

The pilot for the gardening rearing systems for crossbred between Mia x Kabir get high meat percentage and very good smell. It, therefore, the price of this meat is higher than those in intensive production system.

**55. EFFECT OF ENERGY AND PROTEIN SUPPLEMENTATION STRATEGY ON THE PRODUCTION PERFORMANCE OF LOCAL AND IMPROVED SCAVENGING HENS IN NORTHERN VIETNAM**

Minh, D.V. (1999). MSc thesis. Uppsala.

**56. SELECTION FOR IMPROVING THE PRODUCTIVITIES OF VIETNAMESE CO BREED TO MAKE A NEW LINE C1**

Minh, N.T., Tieu, H.V. and Trong, N.D

Co duck is a local duck breeds with closed symbiotically to rain-fed rice. It has been reduced the numbers because farmers aimed to high meat production exotic ducks. To get maximum egg production potential from Co duck, the selection for a high egg production line. From the year 2001-2005, Co duck line C1 was selected and bred in DaiXuyen Duck Breeding Research Centre and adjacent areas, after several generations selection, live weight of male Co duck reaches 1,193 gr and female is 1,027 gr at 8 weeks old.

It has shown that egg production was improved 17.6 eggs/female higher than before selection and 33 egg per female higher than control group. Other characteristics such as body weight, egg weight, egg quality, fertility, hatchability and also feed conversion...was kept sustainable

Females lay 247-267 eggs per year. The selection is successfully in NIAH, after 10 years selection, average of number of eggs is increased 33-35 eggs.

**57. MEAT PRODUCTIVITY OF CHICKEN CROSSBRED BETWEEN KABIR AND TAMHOANG JIANGCUN BREEDS**

Nga, L.T., Vang, N.D., Xuan, T.C., Long, T. and Loan, D.T.B.

For meat productivity of chicken crossbreeds of Kabir x TamHoang Jiangcun and TamHoang Jiangcun x Kabir rearing in ThuyPhuong Poultry Breeding Center showing that the survival up to 12 months of age is 93.33%; body weight is 2221 g/bird and 2289 g/bird; FCR is 2.89 and 2.87 kg/kg of increasing weight and carcass percentage is 71.9 and 72.3%, respectively.

**58. SOME CHARACTERISTICS ON BIOLOGY, PRODUCTIVITY OF SOME CHICKEN CROSSBREDS**

Nga, L.T., Vang, N.V., Xuan, T.C., Tien, P.D., Long, T. and Loan, D.T.B

Kabir x Jiangcun crossbreeds: High survival rate (94.6-96%) in chick and growing stages. Egg yield: 170.11 eggs/hen/68 weeks of age; it was higher than that of Jiangcun (153.6 eggs). Feed consumption per 10 eggs: 2,74 kg; it was lower than that of Jiangcun (3,1Kg). Eggs weight: 53-54. The haugh unit: 80-81. Number of 1<sup>st</sup> class chick produced per hen till 68 weeks: 125.12 chicks; it was higher than that of Jiangcun (114.31 chicks).

Mia x (Kabir x Jiangcun) for meat production: High liability (97,78%). Body weight: 1821.25 g; it war higher than that of Mia (1628.02g) (P<0.001). Feed consumption per kg body weight: 3.15 kg; it was lower than that of Mia (3.57 kg).

### **59. PRODUCTION OF PS SUPERM STOCK OF TWO NEW LINES AND THEIR CROSSBREDS**

Ngoc, N.T. and Lan, H.T.

PS stock of T46 duck breed gets high survival rate, up to 100%. Age at first laying egg is 175 days and number of egg in 32 weeks laying is 154.81 eggs.

T64 gets higher hatchability and hatching rate per number of incubation eggs, they are 95.52% and 96.48% and the lowest of consumption food per producing 10 eggs.

The commercial crossbred groups T5164 gets highest weight at 7 and 8 weeks and better the meat quality rate. It, therefore, should use T5 for male lines and T6 for female line in crossing between them.

In conclusion, it better use T51 males and T64 females in crossing system to product commercial crossbreds.

### **62. SUITABLE PILLOTS OF REARING PS CHICKEN AND INCUBATION METHODS IN DIFFERENT CONDITIONS OF VIETNAM**

Trong, N.D., Lan, H.T., Vi, N.H., Oanh, H.K., Phien, L.T., Minh, N.T. and Tieu, H.V.

Transferring technology of PS poultry production pilots for different ecological regions has been done successfully in Vietnam.

It also establish fulfillment of the incubation regulation for countryside areas of Ostrich and chicken breeds.

It depends on condition of each place, if we want to apply any methods for any places, it is necessary to be done some experiments by changing some steps of techniques for adaptable of the regulation then the results will be better.

### **65. FACTOR AFFECTING SPERM QUALITY IN ARTIFICIAL INSEMINATION TO PRODUCE MULA (CROSSBRED BETWEEN MUSCOVIDUCK AND DUCK BREEDS)**

Trong, N.D., Vinh, N.V., Lan, H.T. and Phien, L.T.

Quality of Muscovi duck semen depending on age, seasons and collecting time. Volume of semen of Muscovi duck depending on age: during 1-20 weeks collecting: 1.21ml/cock and then reducing gradually to 40 weeks.

To get high profitability, semen should be collected in period of 1-30 weeks.

Seasons also are effected to the semen quality: Autumn, Spring-Summer are the best seasonal for AI.

Dilution is 30% and inseminates in the morning, from 7.00AM to 9.00AM, is better than in the afternoon.

### **74. BIOLOGICAL CHARACTERISTICS AND PRODUCTIVITY OF LUONGPHUONG (M1 AND M2) LINES REARING AT LIENNINH STATION**

Dat, N. H., Dong, N. T., An, L.T., Tung, H.X and Huong, P.B.

Survival rate of M1 line during 1-5 weeks of age is 97.5-97.8% and M2 line is 96.3%. However, in 6-20 weeks of age the survival rate is 97.5-98.0% and 96% in these two lines, respectively. However, during laying period, it is 98.4-98.8% and 98.3% corresponding M1 and M2 lines.

Body weight at 5 weeks is 606-621gram for females in M1 line and 750 gram for males in M2. FCR for M1 and M2 lines is 2.3 and 2.1kg/kg. Body weight at 20 weeks is 2014-2036gram in M1 and 2550gram in M2.

Egg production: in the first 7 laying months, M1 produces 157.1-167.6 eggs and M2 is 158.3 eggs. Feed consumed for producing 10 breeding eggs is 3.0-3.26 in M1 and 3.17 kg in M2 line with the weight of eggs is 55-55.4g and 55.3 gram in these two lines.

70 days of age, the body weight of LuongPhuong is 1870 g for males and 1580 g for females and survival rate is 93%.

FCR is 2.53kg per 1 kg of live weight increasing.

#### **78. TRANSGENIC GENE GFP-ACTIN THROUGH PACGFP1-ACTIN VECTOR FOR GALLUS GALLUS DOMESTICUS BY TRANSFERRING GENE THROUGH CHICKEN SPERM**

Hung, N.M., Tien, P.D., Dan, B.T.T., Dieu, N.D., Tuyet, L.T., Uyen, T.T.T., Hang, P.N. and Quyen, T.T.L.

Establishing the procedure of transgenic gene GFP-Actin through pAcGFP1-Actin vector for poultry by SMGT methodology, using Lipofectamin™2000 to create chicken embryo carrying GFP-Actin gen.

The result is acceptable, getting 55.29%, 95.24 and 68.97% in case of incubating the gene with sperm within 10-30, 30-50 and 50-70 minutes.

#### **79. THE PRESENT OF SALMONELLA FOR CV SUPER-M REARING AT VIGOVA STATION**

Huan, N.N., Hanh, T.X. and Phan, T.T.

The present of Salmonella in CV Super M housing is affected to the CV Super M in different ways. The experiment was conducted in VIGOVA Station (HoChiMinh city) from February 2003 to December 2004 mainly in two seasons: dry and rainy.

The duck faces and eggs without cleaning as well as wasted water were used for analyzing the contamination of Salmonella and the results showing that the effectuation of CV SM is not high, only 8.8%.

From 10 medicines has been used, Amocilline and Norfloxacin get higher successful for Salmonella (100%).

#### **81. PRODUCTIVITIES OF CROSSBRED MIA X LUONGPHUONG AND KABIR X (MIA X LUONGPHUONG) REARING IN SMALLHOLDERS**

Coi, N.Q., Minh, N.Q., Loan, N.T. and Nhung, N.T.

Meat productivities of Mia, LuongPhuong and Kabir breeds rearing in Vietnam are different. Body weight of Mia at 12 weeks is 1386g for females and 1623g for males. The survival rate is 92.00-96.67%. Number of eggs is 55-60 eggs/hen/year.

Body weight of Luong Phuong breed at 12 weeks is 1900,5 g for females and 2800.7 g for males. The survival rate is 96.00-98.5%. The carcass rate is 71-91 for females and 72.28% for males. Number of eggs is 166.5-171.1 eggs/hen/64 weeks.

Body weight of Kabir breed at 9 weeks is 2009 g for females and 2092 g for males. The survival rate is 97.00-100%. The carcass rate is 58.57%-71.84%. Number of eggs producing is 157.17-161.35 eggs/hen/60 laying weeks.

Body weight of Mia x LuongPhuong crossbred at 12 weeks is 1407.95 g for females and 1821.97 g for males. The survival rate is 94.00-98.3%. The carcass rate is 60.37% - 65.31%. Number of eggs is 124.25 eggs/hen/66 laying weeks.

Body weight of Kabir x (Mia x LuongPhuong) crossbred at 12 weeks is 2210.09 g for males and 1987 g for females. The survival rate is higher than 98%. The carcass rate is 72.34% for males and 70.5% for females.

### **83. E. COLI AND CL. PERFRINGENS FOR OSTRICH AND SOLUTIONS TO PREVENT THESE DISEASES**

Huong, N.T.L., Dieu, B.M., Phu, C.H. and Lich, N.H.

Researching of diseases on Ostrich chick is very important and necessary. E. coli and Cl. Perfringens are the two dangerous diseases for Ostrich. The died rate of Ostrich depends seasons.

To prevent these two E. coli and Cl. Perfringens diseases for Ostrich, Amoxicillin, Colistin, and Trimethoprim should be used and to cure these diseases, Ceftriaxon is the best effectiveness.

### **86. REGULATIONS OF USE VACCINE FOR PREVENTING NEWCASTLE AND GUMBORO DISEASES FOR GUINEA FOWL**

Nga, N.T., Tien, P.D., Tuan, C.D., Dung, N.H., Oanh, D.T., Huong, P.M. and Nhung, N.T.

For laying period Guinea Fowl birds, applies ND-IB at 10 and 25 days of ages and inject ND-Imunision at 45 and 170 days of ages. For broilers, applies ND-IB at 10 and 25 days of ages and inject ND-Imunision at 45 days of ages.

For Guinea Fowl breed, to prevent Gumboro, vaccination must be applied.

### **87. EFFECTIVENESS FOR REARING POULTRY IN SMALLHOLDERS IN THAIBINH PROVINCE**

Quang, N.T., Tien, P.D., Tuan, N.A., Hang, T.T.T., Dung, N.T.H., Loan, D.T.B. and Son, L.X.

All poultry pilots are applied in smallholders in ThaiBinh province have been successfully due to they applied all technology regulation for rearing them. The survival rate in this project increases 10-25%, FCR reduces 0.45-0.60kg and body weight increases 27.5% or 0.6-1.2kg/bird. It, therefore, the poultry product increases up to 85.3 ton and profitability increases 835,000VND/smallholder.

### **90. FACTORS AFFECTING TO THE HATCHING RATES OF DUCK EGGS**

Dien, N.V. and Tien, D.C.

The longer egg keeping times the higher embryo died rate. The rate of embryo died is 8.97%, 10.06% and 31.05% corresponding the egg keeping times less than 5 days, 5-7 days and more than 7 days ( $p < 0.01$ ). The rate of hatchability is also reducing, 13.65% less if keeping more than 7 days in comparing with 5-7 days.

Cooling eggs 3 times per day gets lower the hatchability rate than only one time per day ( $p < 0.06$ ).

The hatchability per fertile eggs of high, medium and low cleaning egg is 86.49%, 80.71% and 63.61%.

The weight of eggs no hatching reducing very clearly due to losing water.

**91. PRODUCTIVITY OF FATTY LIVER FROM CROSSBREDS BETWEEN MUSCOVIDUCK AND DUCK BREEDS OR R51, R71, SUPER MEAT PURE LINES REARING IN SUMMER SEASON IN NORTHERN VIETNAM**

Hai, N.V., Khoai, N.X., Khanh, T.Q. and Loi, N.V.

To get high fatty liver products, crossbreds between muscovi duck and ducks or pure muscovi ducks imported from France as R51, R71 and Super Meat have been reared in different Northern Vietnam areas. The result showing that it can produce fatty liver in Summer season in Northern Vietnam but should create cooling condition for rearing them.

**92. DEVELOPING SUITABLE AGRICULTURE-FORESTRY SYSTEM IN MOUNTAIN AND UPLAND AREAS OF NORTHERN VIETNAM**

Nho, L.T.

The mountain and upland areas of Northern Vietnam consists of 6 provinces with 31.37%. To develop poultry husbandry, the main solutions following may be applied:

Production system should be used semi-intensive with the high poultry meat and egg production, mainly in the border of town and industry areas.

Select local breeds and cross with imported gardening breeds in order to increase quantity and quality of poultry products.

Develop high duck meat and egg breeds, mainly in valley of MuongThanh, MuongLo, ThanUyen.

Develop Turkey and Goose because they can find food easily.

**93. DETERMINING THE BEST PILOTS FOR GARDENING REARING SYSTEMS IN NORTHERN VIETNAM**

Nho, L.T., Cuong, L.D., Giang, D.H., Tung D.X. and Quyen, D.C.

Income from poultry production in rural areas accounted 32.% of total husbandry income lower in comparing with 54.72% from pig production.

Rearing 30 LuongPhuong and TamHoang birds per smallholder for egg production gets high profitability (521,500 VND).The value for one day working is 21.580 VND.

Rearing 30 LuongPhuong and TamHoang birds for each time per smallholder for meat production during 4.5-4.6 months also gets high profitability (73,400-93,300 VND/time). The value for one day working is 14,190-15,330 VND.

The pilot of rearing 100 LuongPhuong and TamHoang birds for each time per smallholder for meat production during 4.8 months gets higher profitability (455,200 VND/time).The value for one day working is 18.670 VND.

**94. CHARACTERISTICS OF VIETNAMESE BAU DUCK**

Nho, L.T., Hoan, S.N., Tieu, H.V. and Khang, D.T.

Bau duck is one of the native breeds originated from Ben market, HoaBinh Province. The color is not unique. Bau duck is raised for meat purpose. Live weight of Bau duck is 1,100-1,200 gr at 60 days old and 1,400-1,600 gr at 70 days old and adult weigh of male and female are 2.0-205 kg and 1.7-2.0 kg.

For egg production: The first laying age is at 154-160 days of age (average 156.7 days). Bau duck lays 165-175 eggs/female/year with the fertility rate is 87 – 88% and hatchability ratio is 72-73%.

For meat production: Carcass percentage: 66-67%, thigh meat: 180-220 g and meat of side: 120-200g.

Blood composition: Hemoglobin, Albumin, Globulin and GOT, GOP enzyme are reported.

The proposal program for conservation of Bau duck is suggested.

#### **95. APPLICATION OF PCR TO DETERMINE MYCOPLASMA IN POULTRY BREEDS**

Thu, N.V., Thuy, L.T., JC Maillard and J. Spegcer

Utilization of PCR techniques to determine the Mycoplasma diseases for poultry breeds is more executively in comparing with other methods. There are two different MG and MS types in poultry.

Use the PCR reaction combined with limit enzyme to detect and differentiate Mycoplasma types in poultry breeds.

There are 5 species of Mycoplasma have been identified (MG, MS, Mgn, M.iowae, A.laidlawii) and other two species have not yet been determined in poultry breeds.

#### **96. RESULTS OF CREATING RI BREED**

Summarized by NIAH from different papers of Scientific and Technology Project 08.13.

#### **98. PERFORMANCE AND PRODUCTION OF BAUQUY AND BAUBEN DUCK REARING IN NIAH**

Thieu, P.C., Hong, L.T., Son, H.L., Tuan, T.Q., Tieu, H.V and Su, V.V.

BauQuy and BauBen ducks are 2 local duck breeds that have been in the animal conservation program in Vietnam.

Both of these get external appearance of small square statues, short necks, deep breast, short legs and variety of colors of feather: the light-brown which is popular, then the white, the white-black...The rates of breast circle and body length are 1.25 for female and 1.31 for male.

The viabilities: 93.3; 94.8 for 1-10 weeks of age and 96; 97.3% for 11-24 weeks of age. Both are sensitive with E.coli, salmonella and aflatoxin.

Boy weights of male and female: 1266.1 and 1195.6 gr for BauQuy duck and 1277.3 and 1255.4 gr for BauBen duck at 8 weeks for age. These figures at 10 weeks of age are 1787.9, 1543.8 and 1805.5, 1587.0 gr, respectively.

Feed conversions: from 1-10 weeks of age: 3.68 kg for BauQuy duck: 3.67 kg for BauBen Duck. These figures at 11-24 weeks of age 7.6 kg and 8.2/head. Feeds for 10 eggs are: 4.5 for BauQuy duck and 3.4 BauBen duck.

Carcass rates: 69.2 and 71.6%. Thigh meats: 21.1 and 22.8%. Breast meats: 22.8 and 26.8% respectively for BauQuy and BauBen Ducks.

The first egg laying ages: 168 and 154 days of age. Pick laying at 30 and 30 weeks of age which reached 77.3 and 95% with egg weight of 61.1 and 63.8 gr... Haugh units: 84.9 and 80.9> Fertilities: 95.9 and 96.4%. Hatchability: 62 and 76%.

#### **100. PRODUCTION OF BAUQUY AND BAUBEN DUCK BREEDS**

Thieu, P.C., Hong, L. T., Tuan, T.Q., Son, H.L and Su, V.V.

The form of BauQuy and BauBen duck breeds is: short feeds and there is different color, mainly is brown with black dots (80%).

Survival rate up to 10 weeks is 93.3% for BauQuy and 94.8% for BauBen duck breed, respectively;

The food consumption of these two breeds is 6137.4g and 6319.1g and FCR is 3,68 kg and 3.67kg/kg of live weight, respectively.

Body weight at 10 weeks varies 1787.9-1543.8g/berd for BauQuy breed and 1850.5-1587.0g/bird. The difference of body weight between males and females is not significant in these breeds.

Body weight at first lay is 1035.3g (male) and 995.0g (female). Egg production is 251.3 eggs per female per 52 weeks of lay. TrietGiang is an egg type duck breed that satisfied farmers.

The carcass and meat of these two breed is as same as Co breed.

It, therefore, to get high profitability in these two breeds should be used for semi-intensive or non-intensive, but not for

#### **110. THE FIRST GENERATION OF SELECTION FOR IMPROVING THE PRODUCTION AND QUALITY OF 4 OSTRICH LINES**

Tien, P.D., Thinh, N., Loc, H.V., Hoa, N.T., Thai, V.T., Tu, D.D and Quyet, N.V.

Individual and family selection methods are to be used for this experiment. Zim and Blue lines for resistances to diseases, growth, body weight and fertile rate to be used as male GP and Black and Aust lines for reproductive traits to be used as dam GP. In the parental generation, 64 hens and 23 cocks have been selected. The proportion selection is 85.3 and 72.5%. Estimated genetic gain for egg production is 0.08-0.27egg/generation and for fertile rate is 0.11-0.34%/generation. 108 birds of these 4 Zim, Blue, Black and Aust lines have been selected for next generation.

#### **113. DEVELOPING OSTRICH IN VIETNAM**

Tien, P.D., Loc, H.V., Huy, D.Q., Thinh, N.K., Dieu, B.M., Thien, N.T., Son, N.H. and Quyet, N.V.

Ostrich is one of poultry breed getting high profitability in comparison with other birds due to all meat, leather, and skin being high economic value.

During past 10 years, ThuyPhuong Poultry Breeding Center supplied for different places (47 farms belonging 30 provinces in North, Central and South) a total of 5436 Ostrich and also, transferring into Laos.

The results are acceptable in Vietnamese condition:

For reproduction: The survival rate is 97.5-100%. Age of first egg laying is 19-26 months. Number of eggs in the first three seasons is 12-14, 24.5-25.5 and 35-36 eggs. The fertile rate is 55-65%, 73-75% and 73-77%, respectively.

For meat production: it gets high profitability in condition of Vietnam: 911,000VND/bird (1USD=16,500VND).

All technique characters are same as in developed countries. Ostrich can be reared in Vietnam not only for Vietnamese people uses but also for exportation.

#### **114. UTILIZATION OF CATOLYTE AND ANOLYTE SOLUTIONS FOR POULTRY INDUSTRY**

Tien, P.D., Loc., H.V., Nga, L.T., Thu, P.T.M., Khiem, N.Q., Nga, N.T., Dung, L.T., Soi, D.T., Hong, P.D., Cuong, T.T., Thao, V.T and Hung, T.V.

Using Catolyte solution for rearing broiler during 12 continuously hours get better survival rate (99%), body weight at 8 weeks is 1.95kg/bird, low FCR (2.25kg) and the cost of products reducing to 91.21% .

Using 5% Anolyte solution for AiCap breed get better in young period and survival rate increases up to 95.85%, number of egg is 60.69 egg/hen/15 laying weeks. Food consumed for producing 10 eggs reducing to 93.55-95.85%. Fertile rate is 97.36% and hatching rate is 89.26%.

Using 5% Anolyte solution for layer Muscovi ducks also get good results. Survival rate increases up to 97.40%, number of egg is 104.09 egg/hen/24 laying weeks. Food consumed

for producing 10 eggs 3.69kg. Fertile rate is 94.62% and hatching rate/number of incubation is 82.34%.

#### **115. CAPACITY OF REPRODUCTIVE AND PRODUCTION OF OSTRICH IN NORTHERN VIETNAM FARMS**

Tien, P.D., Loc, H.V., Thuc, L.V. and Tu, D.D.

Ostrich has been developed in Vietnam from 10 year ago. ThuyPhuong Poultry breeding Center – NIAH has transferred 12,000 Ostrich heads into different ecology zones in Vietnam. This specie becomes the Vietnamese new poultry branch, mainly in Northern areas: Number of Ostrich increases rapidly, from 323 birds in the year 2002 up to 800 heads in 2007. Numbers of province also increase from 13 provinces in 2002 to 21 provinces in 2007. The survival rate is high (94.5-100%). The age of first egg laying was 26-28 months. Number of eggs was 11, 24.5, 35.6 and 40eggs in the first four laying seasons. The fertile rate was 40.5, 56.2, 65.5 and 72.2% in first four seasons, respectively. Rearing Ostrich get high profitability, 531,775VND per Ostrich head.

#### **116. LYSINE AND THE METHIONINE RATES IN THE OSTRICH FOOD RATION IN 0-12 MONTHS OF AGES**

Tien, P.D., Loc, H.V., Anh, N.X.A. and Tu, D.D.

Survival rate is very high in all 3 periods' experiments, getting 100%. The body weight of Ostrich at 3 months of ages was 18.38kg/head. The body weight of Ostrich at 6 month old rearing with 0.8% Lysine and 0.4% methionine experiment get better, reaching 64.52kg/head. In this experiment, the FCR for concentrate and green food is minimum, being 4.49 and 3.69kg, respectively.

This ration experiment get lowest cost for producing 1 kg of body weight of Ostrich, only 20,814VND (1USD=16,500VND). The carcass rate is 71.99% and meat rate is 31.71% of live weight.

#### **117. CALCIUM-PHOSPHOROUS LEVELS IN THE OSTRICH FOOD RATION DURING THE FIRST THREE MONTHS OF AGE**

Tien, P.D., Loc, H.V., Tuan, N. X.A. and Tu, D.D.

Mortality rate is low in all experiments ( $P>0.05$ ). However, there is an significant difference between different experiments for feet abnormality. Ostrich chicks in the experiment which the rate of 1.46% Ca and 0.71P in food ration is better with higher living rate (94.44%) and lower feet abnormality. The bird weight at 3 month of age is 18.55kg, with the FCR of concentrates and green food being 1.64 kg and 1.72kg, respectively.

### 119. SELECTION FOR TWO VS MUSCOVI DUCK LINES

Tien, P.D., Tieu, H.V., Dao, D.T.A., Nga, L.T., Cuong, T.T., Thao, V.T., Hong, P.D., Hung, N.M., Dung, N.N., Lanh, N.T., Canh, V.D. and Tuyen, K.T.

Body weight of VS1 line is 2830; 2861.5; 2870,8 g for males and 1904, 1913.4 and 1927.3g for females with the response to selection is 10.59, 10.13 and 9.79; and genetic gain is 9.45, 8.73 and 8.74 in first three selection generations.

In the first 7 laying months is 90.37-91.62 egg and fertile rate is 91.91-92.37%. Hatching rate is 81.36-82.67%.

In the first 7 laying months of VS2 lines is 105.64, 107.34, 107.52 eggs. The response to selection is 1.56, 0.37 and 1.95 eggs; and genetic gain is 1.39, 1.18 and 0.85 eggs in first three selection generations.

Feed consumption for producing 10 eggs is 4.01-4.1 kg, fertile rate is 91.64-92.06%. Hatching rate is 81.74-82.42%. Survival rate up to 12 weeks is 98%. Body weight of VS2 line is 3614.17g.

The heterosis of survival, body weight and FCR are 0.51%, 3.78% and 3.3%.

### 120. RESULTS OF SELECTION ON V51 AND V52 LINES THROUGH OUT THREE GENERATIONS

Tien, P.D., Tieu, H.V., Cuong, T.T., Nga, L.T., Thao, V.T., Hong, P.D., Dung, N.N., Lanh, N.T., Canh, V.D. and Tuyen, K.T.

Muscovi ducks at one day old was used for this study. Body weight of Muscovi duck V51 at 8 weeks old of parental, first and second generations were 2607.33, 2703.07, 2772.69 g/bird for females and 1708.3, 1768.04, 1828.49 g/bird for males.

Response to selection in the first generation is 132.34 g for males and 45.78 g for females and for second generation are 128.11 g for males and 43.38 g for females.

Concerning to V52 line, number of eggs produces during 28 laying weeks of hen is 109.2 eggs at parental generation, 110.5 eggs in the first generation and 111.45 eggs in the second generation.

Response to selection in the first generation is 2.71 eggs and 2.76 eggs for second generation of selection.

### 121. SITUATION OF POULTRY SLAUGHTERING HOUSES IN VIETNAM

Tien, P.D., Nga, L.T., Dan, B.T.T., Hung, N.M., Kien, N.V., Duong, T.V. and Hien, L.T.T.

Slaughter houses were surveyed in 8 ecological zones in Vietnam with one province/zone and six slaughtering houses/province. A total of 48 slaughtering houses have been done, from which, 81.25% belonging private companies. Slaughtering houses locate in or very near to the living people areas, connecting the markets and without the path for slaughtering houses (91.67%). Quantity of slaughtering chickens are different, mainly is very low number, it is about 70-270 heads/day. Equipment for slaughtering houses is not met the demand and not acceptable. Concentration of Asen is higher than acceptable value twice (ThaiNguyen province) and Pb is 6-21 times and Hg is 8.5 times (ThanhHoa province) higher than the acceptable values. The number of poultry without examination go to the slaughtering houses is 25%. Concentration of NH3 is very high in almost slaughtering houses.

From these problems, Vietnam should organize the areas for slaughtering houses of poultry, with the bigger size of poultry number and creating the acceptable markets for poultry meat selling as well as creating good policies, including financial field for poultry slaughtering houses.

**122. SITUATION OF POULTRY HUSBANDRY IN VIETNAM**

Tien, P.D., Nga, L.T., Loc, H.V., Dan, B.T.T., Hung, N.M., Kien, N.V., Duong., T.V and Dieu, N.D.

Surveying 8 ecological zones in Vietnam with one province/zone, two districts/province and 3 different sizes (<200, 200-2,000 and >2,000 heads). A total of 288 smallholders have been done. Quality of breeds is different. In small size, local breeds dominated, takes 89.69% and they are very low productivity. However, in medium size, mainly are colored breeds and crossbreds. In the big sizes, mainly are industry meat and egg breeds. Breeding stock mainly is selfish themselves. The non-intensive production system is dominated in Vietnam. Very few farms pay attention on veterinary matters. Almost economic technology characters are low, mainly productivity. In other sides, the contamination is very high, mainly the concentration of NH<sub>3</sub>, H<sub>2</sub>S, Phosphor. From these problems, Vietnam should organize the areas for rearing poultry, choosing acceptable size with the bigger size of stock and breeds and creating good policy for poultry industry.

**124. CONTAMINATION FROM ANIMAL HUSBANDRY IN VIETNAM**

Tien, P.D., Dieu, N.D., Loc, H.V., Dan, B.T.T., Hung, N.M., Kien, N.V. and Duong, T.V.

Contamination have been surveyed in 6 provinces HaNam, HungYen, DongNai, BinhDuong, LongAn and CanTho showing that the rate of stallholders/farms using technology of waste processing. From that, only 15, 37 and 35.71% have used waste processing in poultry non-intensive, semi-intensive and intensive production systems. For pig industry, it is 48.39, 55.17 and 51.72% in these production systems, respectively. It is contaminated not only in air but also in waste water and drink water for animals, mainly in poultry intensive production systems and pig husbandry.

**125. PRODUCTIVITY OF SOME AFRICAN CROSSBREDS OSTRICH**

Tien, P.D., Thinh, N.K., Loc., Dieu, B.M and Hoa, N.T.

Three experiments of crossbreds between 4 African Ostrich lines imported into Vietnam from 1996 (Zim, Blue, Black, Aust) in order to find out the best crossbred for Vietnam. Randomly method is used for this experiment.

The survival up to 12 months of age rate is 75-91,7%. The highest survival rate heterosis is, in the BlackxAust (15.9%), following is in ZimxBlue (5.2%) and lowest in ZimxAust (2.0%). Body weight at 12 months of ZimxBlue is 114.5kg, ZimxAust is 112.8kg and BlackxAust is 107.5kg. The heterosis of body weight in these crossbreds is 3.22%, 2.97% and 3.82%. FCR for concentrate and green food corresponding to these three crossbreds is 4.50 and 4.50 kg (ZimxBlue), 5.69 and 4.56 kg (ZimxAust) and 5.08 and 3.98 kg (BlackxAust). Carcass rate is 69.7% and meat percentage is 36.34%. Crude Protein is 21.2%, crude fat is 1.13% and calcium, phosphorous is 0.01, 0.05%. There are all essential amino acid in Ostrich meat.

ZimxBlue and ZimxAust are the best crossbreds for meat production in Vietnam.

**126. PRODUCTIVITY OF 4 GP SUPER M3 LINES REARING IN VIETNAM**

Tien, P.D., Dung, N.N., Nga, L.T., Loc, H.V., Canh, V.D., Xuan, P.T., Tuyen, K.T., Long, H.D and Cam, L.T.

Research upon production of the 4 GP Super M3 duck lines showing that survival from 0 to 24 week old varying from 97,58 to 1007%. The feed consumption/bird from 0 – 24 weeks of ages is 30,812kg for A males; 26,125kg for B females; 28,061kg for C males and 22,976kg for D females, respectively.

The bodyweight at 24 weeks is 4377,68g for male line A, 3768,35g for female line B, 3829,69g for male line C and 2567,20g for female line D. The egg production/hen is 199,22 eggs for line B and 194,52 eggs for line D. The fertile egg of the crossbreed ( $\sigma^{\text{A}} \times \text{B}$ ) is 85,82% ; with hatchability are 60,87%. The fertile eggs of the crossbreed ( $\sigma^{\text{C}} \times \text{D}$ ) is 86,84% ; with hatchability is 60.87% for B line and 72,09% for line D.

The Super M3 PS stock has the survival rate of 96,34%-98.28% from 0 to 24 weeks. The bodyweight at 24 weeks is 3907,33g for males and 3087,34g for females. The feed consumption/bird from 0 – 24 week of age is 29,717kg and 22,754kg for males and females, respectively. The egg production/hen of the first 28 laying weeks is 141,96 eggs . The fertile eggs are 89,82%. The hatchability/total hatched is 80,59%.

**129. PRODUCTION OF CF80 MUSCOVI DUCK, M15 DUCK AND THEIR CROSSBREEDS REARING IN VIETNAM**

Tien, P.D., Dung, N.N., Nga, L.T., Canh, V.D., Huong, N.T., Xuan, P.T., Cam, L.T., Long, H.D. and Tuyen, K.T.

The survival rate varying from 93.65% to 100% for M15 duck breed and 94.12-92.50% in CF80 Muscovi duck breed in the period from 0 to 24 weeks of age.

The bodyweight at 8 weeks old is 2098g for males, 1932g for females in M15 breed and 2899g for males and 1628g for females. The feed consumption/bird from 0 – 24 weeks of ages is 1716-2118g for M15 and 1697-2678g for CF80 breed, respectively. The egg production/hen in the first 24 laying weeks is 116,09 eggs for M15 and 79,59 eggs for CF80. The fertile eggs are 85.80% for M15 and 88.57% for Muscovi duck breed. The hatchability/total hatched is 69.85% and 74.84% for M15 and CF80. For crossbreed between these two breeds, body weight at tree week of age was 707.54g and liability was 100%.

**131. CLOSED PILOT FOR APPLICATION OF POULTRY SCIENCE AND TECHNOLOGY IN HAI DUONG PROVINCE**

Tien, P.D., Khiem, N.Q., Nga, L.T., Nga, N.T., Son, L.X., Chuc, D.V., Tung, L.V., Nghia, T.V., Thao, V.T and Canh, V.D.

10 training groups was used in 5 districts in HaiDuong province (50 persons per group), who participate into the project about the methodology for rearing poultry in small production system. The GP stock of LuongPhuong, Sasso, R71 and Super M breeds. The results were successfully, for chicken: survival rate was 93.12-98.67%, egg production was 48.46 eggs/hen/40weeks, hatchability rate was 88.58%; for muscovi duck breed: survival rate was 97.37-97.82%, egg production was 51.76 eggs/hen/40weeks, hatchability rate was 90.35% and for duck breed: survival rate was 95.42-98.50%, egg production was 65.21 eggs/hen/40weeks, and hatchability rate was 85.42%.

The commercial poultry stock with the size of 1000-1500 heads get higher profitability compare with the size of 300 and 500 chicks.

### **134. CROSSBREEDING AND SELECTING TWO HIGH EGG PRODUCTION LINES**

Tien, P.D., Khiem, N.Q., Muoi, N.T., Soi, D.T., Oanh N.T.K., Hien, L.T.T., Loan, D.T.B., Hang, T.T and Thien, N.T.

To create two high egg production HA1 and HA2 lines, high egg production Hyline and good quality meat as well as good resistance to diseases of Ac breeds have been used.

Survival rate of females in HA11 and HA21 is 95.30-98.65%. Feed consumption from 0 to 9 weeks of HA11 is 2.18kg and HA21 is 2.25kg and from 10 to 19 weeks of HA11 is 6.05kg for males and 5.12kg for females and HA21 is 5.86kg for males and 5.10 for females.

Weight at 19 weeks of females in HA11 is 718.33g and HA21 is 735.2g ( $P < 0.05$ ) and for cocks is 1798.33 and 1313.17g, respectively.

Number of eggs per hen per 57 weeks of HA11 is 176.23 eggs and HA21 is 171.74 eggs. Consumption feed for producing 10 eggs is 1.71 and 1.84kg. Fertile rate is 97.47-98.18% for these two HA1 and HA2 lines.

### **137. SELECTION FOR FOUR POULTRY MEAT PRODUCTION LINES**

Tien, P.D., Khiem, N.Q., Minh, P.T.M., Dung, L.T., Soi, D.T., Muoi, N.T., Hien, L.T.T., Loan, D.T.B and Linh, P.T.

4 GP imported poultry meat production lines rearing in Vietnam showing that the liability is 97.04-99.35% and 95.02-97.25% in before and broiler periods. Egg production within 63 weeks is 103.65 eggs for ST4, getting 84% of original and 141.81 eggs for ST8, getting 85% of original. Fertile rate of ST1 males x ST4 females is 83.12% and the hatchability per number of incubation is 70.27% and of ST7 males x ST8 females is 87.79% and the hatchability per number of incubation is 76.03%.

Weight at 6 weeks of age of F1(ST14 and ST78) before selection was 1,065.5g for males and 785.4 g for females and 1020.5g for males and 680.3 g for females, respectively. Weight at 20 weeks of age of ST 14 was 2982.0 g for males and 2127.34 g for females and 2503.4 g for males and 2058.55 g for females, respectively.

After selection, weight at 6 weeks of age of ST14 was 1,207.02g for males and 892.0 g for females and ST78 was 1092.5g for males and 692.5 g for females. Weight at 20 weeks of age of ST 14 was 3152.45 g for males and 2240.6 g for females and 2622.0 g for males and 2065.2 g for females, respectively.

### **138. SELECTION FOR IMPROVEMENT OF PRODUCTION OF 3 GUINEA FOWL LINES AFTER 3 GENERATIONS**

Tien, P.D., Oanh, N.T.K., Thu, P.T.M., Loc, H.V. and Huong, T.T.

In April, 2002, the 3 Guinea fowl lines of Large, Middle and Small are imported into the Thuy Phuong Poultry Research Center (POREC). These chickens are considered specialties in the world with the high-quality eggs and meat.

Number of eggs producing in different lines is different, but all of these are higher: increasing 32.27, 16.85 and 13.69 eggs for small, medium and large size lines. The egg production/hen/1 egg cycle is 85-98 eggs with the feed consumption/10 breeding eggs of 1.9-2.5 kg. Fertile rate increases from 2 to 12.86%, hatching rate increases 6.35 to 15.03%. Broilers at 12 wks gain 1,300-1,800 g/bird.

Weight at 12 weeks of age is 1415.10, 1420.24 and 1891.17g/bird in these three lines. The feed consumption/kg of weight gain is 2.53, 2.52 and 2.34kg corresponding to large, medium and small sizes.

To maintain and gradually improve production as well as ensure supply of breeds, the research is carried out.

### **139. SELECTION FOR IMPROVING THE PRODUCTIVITIES OF AC AND THAI HOA POULTRY BREEDS**

Tien, P.D., Muoi, N.T., Tinh, N.T., Oanh, N.T.K, Soi, D.T. and Dung, L.T.

Skin, meat, born of Ac and ThaiHoa poultry breed is black. Meat of Ac and ThaiHoa breeds is very precious. Survival rate is high, varying from 95.71 to 97.98%. FCR low, in the period of 0-9 week old, each bird eats only 1.09kg for Ac and 1.20kg for ThaiHoa breed. From 10-19 week of age, they eat 2.53 kg for female and 3.13 for male of Ac breed and 3.27 kg for female and 3.99 for male of ThaiHoa breed.

The selection difference at 9 week old for Ac breed is 52.58 g for males and 26.67g for females and for ThaiHoa breed is 46.81 g for males and 17.20 g for females. The selection proportion at 19 week old for Ac breed is 52.63 % for males and 77.82% for females and for ThaiHoa breed is 41.54% for males and 77.98% for females.

Number of eggs at 58 weeks of Ac was 69.64 eggs and ThaiHoa was 94.17 eggs, higher than unselected 2.22 and 3.59 eggs. Feed for producing 10eggs was low: 2.26 and 2.34kg, respectively. Hatchability rate is 84.05 and 83.24%, respectively.

### **140. PRODUCTION AND MEAT QUALITY OF AC THAI HOA, AICAP AND THEIR CROSSBREDS**

Tien, P.D., Muoi, N.T., Soi, D.T. and Hien, L.T.

M1 and M2 were created between Ac ThaiHoa (TH) and AiCap breeds. 240 chicks per group of AiCap, AcTH, M1 and M2 were reared in the same conditions. The data were analyzed by Excel and Minitab software.

Skin, meat, born of M1 and M2 were black. Meat of M1 and M2 was very precious. Number of eggs at 38 weeks of M1 was 60.07eggs and M2 was 72.14 eggs, higher than AcTH 14.28 and 26.35 eggs. Heterosis of egg production for M1 and M2 was high, 1.93 vμ 22.42%, respectively. Feed for producing 10eggs was low: 1.62 and 1.50kg, respectively. M1 and M2 are used as dam lines for crossing with AcTH to produce 3/4AcTH for commercial stock.

### **142. UTILIZATION OF DIFFERENT GREEN FOOD AND THE RATIO OF CONCENTRATE AND GREEN FOR REARING OSTRICH DURING LAYING EGGS**

Tien, P.D., Quyet, N.V and Thuc, L.V.

Using 3 different grasses as VA06, Ghine and BEOTAY with the rate of concentrates and green food as 1/1.0, 1/1.2 and 1/1.4 for rearing Ostrich during laying period showed that the rate of 1/1.2 is better than others. The VA06 experiment get: number of eggs, number of eggs for incubation. Survival rate is very high in all 3 periods' experiments, getting 100%. The body weight of Ostrich at 3 months of ages was 18.38kg/head. The body weight of Ostrich at 6 month old rearing with 0.8% Lysine and 0.4% methionine experiment get better, reaching 64.52kg/head. In this experiment, the FCR for concentrate and green food is minimum, being 4.49 and 3.69kg, respectively. This ration experiment get lowest cost for producing 1 kg of body weight of Ostrich, only 20,814VND (1USD=16,500VND). The carcass rate is 71.99% and meat rate is 31.71% of live weight.

### **145. HOW TO GET SAFETY FOR POULTRY INDUSTRY**

Tien, P.D., Thu, P.T.M., Dan, B.T.T., Loc, H.V., Khiem, N.Q., Nga, N.T., Huong, T.T, Dat, N.H., Thieu, P.C., Hai, N.V., Tan, N.V., Hung, N.N., Hung, D.S., Hang, N.T.L and Dat, N.Q.

Rearing chicken must follow all technique regulations, mainly are veterinary rules, cleaned water, food and housing systems.

Safety time must be considered after using medicines, mainly in broilers in order to eliminate all residual medicine in their poultry products.

Slaughtering house must follow the respective regulations so that not effecting to the environmental condition. Poultry meat must be safety in special car during transferring from slaughtering to markets.

**146. ESTABLISHING SAFETY ZONE FOR POULTRY REARING, SLAUGHTERING AND CONSUMPTION OF POULTRY MEAT IN SOME DISTRICTS OF HATAY PROVINCE**

Tien, P.D., Thu, P.T.M., Khiem, N.Q., Nga, N.T., Quang, N.T., Hung, N.M., Dung, N.H., Nhu, L.T., Dat, N.H. and Thach, N.V.

Based on veterinary conditions in poultry rearing farms, poultry slaughters and chicken meat markets, ThuyPhuong Poultry Breeding Center has been studied creating the pilots how to make the good relationship between them. 6 training courses have been applied for 180 people. 34,000 one day Trovacinated chicks have been used in this pilot. Bird flue, Newcastle, Salmonella and Mycoplasma has been well prevented and checked before slaughtering. Safety condition has been applied for all poultry farms and places of selling poultry meat. Total cost is 40,017VND/head and the profitability per pilot of 2,000 heads is 22,000,000-26,000,000VND (1USD=16,500VND).

**147. PRODUCTIVITIES OF 4 GP MUSCOVY DUCK R71 REARING IN VIETNAM**

Phung, P.D., Thao, V.T., Cuong, T.T., Nga, L.T., Hong, P.D., Giang, T.T. H, Thang, N.Q. and Tuan, D.D.

The survival rate varied from 96.15% to 99.24% during the period of 0 - 24 weeks of age. The feed consumption/bird from 0 to 24 weeks is 26.142 kg for A males, 14.575 kg for B females, 25.229 kg for male C, 12.838 kg for D females. The bodyweight at 24 weeks is 4682.69 g for A males, 2441.67 g for B females, 4313.33 g for C males, and 2151.67 g for D females. The number of eggs producing per hen in the first phase of B line is 109.62 eggs and the first three months of second phase is 43.94 eggs and in the D line is 111.65 eggs and the first three months of second phase is 49.16 eggs. The fertile egg is 92.67% and 93.41% in B and D lines, respectively. The hatchability/total hatched is 84.51-84.98% and hatchability/total eggs are 84.51-84.98%.

**148. RESULTS OF REARING THE COLORING FEATHER CHICKEN IN SMALL HOLDER IN ANNHON DISTRICT, BINHDINH PROVINCE**

Son, H.D., Tuan, D.T., Anh, P.V., Vy, N.V., Vang, N.D., Long, T. and Quy, M.T.

Results of rearing the coloring feather chicken in small holders in AnNhon district, BinhDinh province is acceptable due to high profitability.

Survival rate up to 12 weeks is 98-100%.

Body weight of crossbreds is higher than pure TamHoang breed. Kabir x LuongPhuong is 1635 g/bird, Kabir x TamHoang 882 is 1608 g/bird. The lowest body weight is in TamHoang breed, only 1475 g/bird. Other crossbreds vary in 1527-1554g/bird.

FCR in TamHoang breed is highest, reaches 3.4 kg/kg of increasing body weight. FCR in Kabir x LuongPhuong and Kabir x TamHoang 882 crossbreds is better, only 3.06 kg/kg of increasing body weight. The rest varies from 3.1 to 3.2 kg/kg.

**152. PRODUCTIVITY OF VIETNAMESE AC CHICKEN BREED**

Thien, N.V., Hai, N.V., Phuong, T.T.M. Van, V.T.K. and Cuc, N.T.K.

Ac chicken is used as tradition medicine for pregnant women, old people and children. Ac chickens are kept in households with extensive and semi-intensive systems.

Average of serving rate from 1 to 56 days of age in 95-98%. Body weight at one day of age in 16.3-16.5g/chick at 60 days is 229g/chick and 120 days is 639-757g/chick.

Weight at 8 weeks is 296 gr (male), 260 gr (female). Ac hens lay 90-95 eggs/year. Ac chicken has scratch white feather; skin, legs, meat, bone are black

Egg production is 70-80 eggs/year. Weight of egg is 30.2g. Feed consumed for producing 10 breeding eggs is 3.4 kg. Fertile is 90% and hatching is 63.5%

#### **154. MEAT PRODUCTION OF CROSSBREDS BETWEEN KABIR AND RHODERI JIANGCUN**

Thu, P.T.M., Mien, T.D and Xuan, T.C.

The color of Kabir RhodeRi, Jiangcun is suitable for people.

Survival rate is high (94.00%) for Broiler, body weight is 2013.96 g/head higher than RhodeRi Jiangcun (1553.66g/head) and similar as Kabir (2137.44g/head). The heterosis of body weight is 9-12%. FCR for Kabir is 2.74 kg/kg, for RohodeRiJiangcun is 3.19 and Kabir RhodeRi Jiangcun the body weight at 12 weeks is 1927.15-1972.51g/head and FCR is 3.01-3.04 kg.

#### **155. MUSCOVY DUCK**

Thuy, L.T.

Muscovy duck has long been existed in Vietnam. The distribution of breed and biological characters has been described. There are three types of muscovi duck regarding with feather colors and their distribution in the investigated places. In HaiHung province only white type; in Hanoi 8.39% of black type, 56.44% medium type and 35.12% white type. The major portion of medium type of 92.91%, black type 3.11% and white type 3.98% is found in HaBac province. The data of body weight, body length, and thigh and side length is recorded.

There is no different in live weight of spot muscovi and white muscovi ducks. Live weight of female muscovi duck is 1,700-1,900gr at 11 weeks old and male is 3,800gr at 12 weeks old.

The proposal for conservation of muscovi duck and the initial work done has been discussed.

#### **156. BIOLOGICAL CHARACTERISTICS, PRODUCTION PERFORMANCE AND PROFITABILITY OF LOCAL MUSCOVIDUCKS**

Thuy, L.T., Thien, N., Tien, B.Q. and Ly, L.V.

For muscovi duck, slaughtering age is 12 weeks, with body weight is 2.8-3.0 kg for males and 1.7-1.8 for females. Quality of Muscovy duck meat slaughtering at 12 weeks of age for carcass is 61.85-64.27.

For egg production: Muscovi ducks lay 66-70 eggs per female per year.

Net profit of rearing Broiler Muscovi duck in smallholder form 1-12 weeks is 5.000-10.000 VND per and 206 kg of race for breeding hen per year.

#### **157. BIOLOGY CHARACTERISTICS AND PRODUCTIVITIES OF SOUTHERN VIETNAMESE TAUVANG BREED**

Tien, D.C., Bac, N.V. and Duong, N.N.

TauVang is the most popular native chicken breed in Southern Vietnam. The average of live weight is 637gr at 60 days old. At 80 days old, live weight of male is 1,300gr and female is 1,060gr.

Number of eggs is 120 eggs/year. In poor condition as in village areas, performance of TauVang breed is 10-15% lower.

Rearing TauVang Broiler closed housing up to 16 weeks will get 1991 g for males and 1422 g for females. And the survival rate is 92.5% and FCA is 3.97 kg/kg.

For breeding stocks, at 19 weeks, body weight is 1942 g for males and 1466 g for females. The survival rate is 92.1% and 94.8% in 1-8 and 9-14 weeks, respectively. The FCR for these two ferried is 2.32 and 6.85 kg/kg for females and 4.64 for males, respectively.

In non intensive production system, the egg production is 120eggs/hen, feed consumed for producing 10 breeding eggs is 3.14 kg fertile is 86% and hatching rate is 88.1%

### **158. SOME SOLUTIONS FOR IMPROVING ECONOMICAL HUSBANDRY FOR REARING CHICKEN GARDENING SYSTEMS IN SOUTHERN VIETNAM**

Tien, D.C., Vang, N.D., Dat, N.Q., Bac, N.V., Tuyen, D.X., Huan, N.N. and Duong, N.N.

To increase high profitability for gardening chicken in southern Vietnam, it is necessary to apply many solutions at the same time: selecting, cross breeding and importing breeding chicks.

It is also necessary to create pyramid breeding systems with GP, PS and commercial tiers. Selection must be done in GP in order to improve quality of breeding stock for smallholders.

The size of each stock should be big enough.

### **159. HOW TO GET ADDED VALUE FROM RAISING RI CHICKEN**

Tien, H.V.

In order to get added value or increasing high profitability from raising Ri chicken breed, the farmers have to do the following steps:

To select high quality breeding chicken for raising,

To manufacture food for themselves, concentrate and compound feed with get lower prices of food.

To follow vaccination schedule and to realize completely nutritional regime.

### **160. ACCEPTABLE FEED FORMULATION FOR RI AND MIA CHICKEN IN THE SEMI-INTENSIVE SYSTEMS**

Tien, H.V.

Utilization of two different types of food concentrate and mixed get high profitability for Ri and Mia breeds.

Semi-intensive production system for Mia and Ri chicken breeds gets 10% of one day chicken higher than in non intensive system. Concentrated food with balance necessary nutrition for chicken consists 32% of fish powder; 63,5% of soybean seed cake, 3% mineral, 1,25% of vitamin and 0,25% of salt.

### **179. CO DUCK VIETNAM**

Truong, P.V., Dong, L.X., Tieu, H.V., Minh, N.T. and Khang, D.T.

Co is a Vietnamese local duck breed, raised in the north of Vietnam for egg production. There are 8 different color types in Co duck breed, but almost is brown with small black spots.

The Co duck occupied about 85% of duck breed in Vietnam. They are so called egg type breed and be considered as economical breed to compare with others in expenditure for feeding and raising.

The biological character of the breed has been described.

Moving fatly and adapt well in the hard scarcity of food, changing of weather and resistance to some diseases are characters of this breed.

Live weight is 900gr at 60 days old and 1,050 gr at 75 days old.

The hatchability ratio can be 85.5%; Viability is high 96-98% at 75 days in average.

The crossing between Co and AnhDao, Pekin and Bau is resulting in breed dilution. The need to keep pure Co breed for egg laying capacity and exploration of this trait has been requested.

**180. THE RESULTS OF PRODUCTIVITY OF KABIR AND TAMHOANG 882 BREEDS BY UTILIZING FEED WITH AND WITHOUT ANIMAL PROTEIN**

Vang, N.D., Long, T., Quac, N.K., Thang, N.N. and Toan, N.V.

80% householders which use semi-intensive have been joined training courses on feeding, rearing, management, breeding and veterinary services

No significant between feed with or without meal fish for survival rate of Kabir and TamHoang (94%) up to 10 weeks of age.

With the meal fish in food, the growth is better. At 10 weeks, body weight of Kabir is 1928.29 and TamHoang is 1677 g in comparing with no meal fish 1735.4 g and 156.2 g, respectively FCR in these 2 feed types is 2.63 and 2.75 kg for Kabir and 2.58 and 2.70 kg for TamHoang Breed.

Meat production as well as quality of meat is these two different feed is not significant differently.

**184. THE EFFECTS OF ENERGY, AMINO ACID IN FEED RACE TO GROWTH AND EFFICIENCY OF UTILIZING OF FEED OF TAM HOANG AND KABIR BREED**

Viet, T.Q., Vang, N.D., Giang, H.H. and Son, L.H.

Experiment was conducted in 660 TamHoang chicken with 2 trials to investigate effect of energy, lysine levels in diets and type of rations on growth and some parameters of carcass quality of chicken. Rearing broilers in semi-intensive using different ration for different age periods: 0-4, 5-8 and 9-12 weeks: Energy levels are 2,950 Kcal, 3,000 Kcal, 3,100 Kcal; Crude Protein levels are 19.0%, 18.0%, 17%; Lysine levels are 1.05%; 0.9%, 0.7%; Methionin and Cystein levels are 0.09%, 0.61% and 0.82%, respectively. To reduce food price, 15-20% of cassava powder are used. This result showed that it can be used as a reference for other colored chicken breeds.

Results of the studies showed that there were no significant differences in growth rate (ADG) between TamHoang chickens given diets with high and middle levels of total amino acids (19.87 g so 20.19g ;  $P > 0.05$ ) and ADG of chickens fed diets with middle and high amino acid levels.

No significant differences were found in ADG and FCR between Kabir chickens fed diets high and low in ME content.

There were no significant differences in growth and feed efficiency in both TamHoang and Kabir Broilers fed diets with and without fish meal in growing and finishing period. In The starter phase these differences were found in both chicken breeds, especially with groups to be fed diets including cassava meal.

**187. A CROSSBREEDING OF CHICKENS BETWEEN TAMHOANG 882 - LINE AND RHODE RI**

Xuan, T.C., Tao, N.T.H., Thu, P.T.M., Tien, B.Q. and Tien, P.D.

Body weight of cock was 1446 g at 11 weeks old and the FCR was 3.14 kg/kg body gain. The heterosis of meat was 13.04%. Under the intensive rearing system, hen's egg yield per year was 189.55 eggs/bird with the FCR of 2.12 kg/10 eggs. The heterosis of egg was 9.46%. Meanwhile hens raised under the semi-intensive system produced 105.9 eggs in average FCR/10 eggs.

F<sub>1</sub> cocks raised under the semi-intensive system at 14 weeks of age in 1500g.

**188. MEAT PRODUCTIVITY OF CHICKEN CROSSBREED**

Xuan, T.C., Tien, P.D. and Nga, L.T.

Kabir (K) and LuongPhuong (LP) have been crossed. With nice appearance, the crossbreeds were accepted by consumers.

At 12 weeks of age the crossbreed had high survival rate (95-96%); their body weight (BW) was 2350 – 2380 g, higher than that of TP (2195 g). The heterosis was 3.27-4.6% compared to their parent. The feed consumption was 2.8-2.78 kg/kg weight gain (lower than that of LP (2.9 kg).

The carcass rate was 72.3-72.4%. The thigh and breast rate was 41.2-41.3%. The thigh protein rate was 20.53-20.68%. The breast protein rate was 23.85-23.87%.

600.000 heads of crossbreed have been rearing in different region throughout the country and giving good performance resulted in good economical efficiency for farmers.

**189. THE PRODUCTIVITY OF MIA CHICKEN REARED AT THUY PHUONG**

Xuan, T.C., Tien, P.D., Nga, L.T. and Hung, N.M.

Mia chickens, a native breed, were reared in DuongLam (SonTay small town-HaTay province) with fast growth and good taste of meat and egg. The average body weight at 6- weeks was 418.27 g for males and 358.55 g for females and at 21 weeks 1999.33 g and 1421.55 g respectively.

The average feed consumption at chick stage (0-6 weeks) was 1.05 kg per bird and in the produced eggs per hen was 20.48 eggs with the feed consumption rate for 10 eggs was 3.92 kg.

The average viability during chick stage was 92.33%, of growing period was 92% that belonged to males while females were 95.83% and in laying stage (at 22-31 weeks- old) was 96.07