

# OSTRICH FARMING IN MALAYSIA

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## SUMMARY

*This paper covers extensively on the various aspects of managing of an ostrich farm. The different farm practices, products obtained, its advantages in comparison to other livestock species, its capital expenditure needed to start and run an ostrich farm and its product marketing are all very thoroughly discussed.*

## INTRODUCTION

Ostrich farming is still very new and only entering its infant stage as compared to our Asia-Pacific region (China, Australia, Indonesia, Tasmania). To date there is no detailed handbook ever been produced, and therefore this paper is an attempt to provide some experience and limited pointers to be shared amongst the JPH community.

The purpose of this paper is to give us, as producers a starting point to begin with and to improve on our efficiency levels. As it is said “A thousand miles begins with a single step”.

## OSTRICH MANAGEMENT

Ostrich management style varies with different people, in different geographic region, climatic conditions, and practices. The management practices carried out by the Unit Unggas/Unit Penetasan are undertaken by only two persons. Ostrich management in Ladang Infoternak is divided into these sections.

1. Chick management (0-3 months)
2. Juveniles management (4 months - 11 months)
3. Adults breeders management (12 months onwards)

4. Incubation and hatching

### 1. Chick Management

#### *Brooding*

Brooding of chicks can be carried out for small numbers in brooding box either carpet or gunny sacks as bedding. Carbon heater bulb of 100W or infrared bulb is used as heat source. The brooding temperature is kept at 90<sup>0</sup> F for the first week and gradually decreased according to age.

As for large numbers floor brooding is practiced whereby the substrate is of cement and carpet or gunny sack is the bedding material. Ostrich chicks too can be brood entirely on fine sand substrate.

Newly hatched chicks normally don't feed for at least 4-5 days as they have to internalize all the yolk before feed and water intake commences. However it is advisable to teach chicks to feed and drink on the second day of hatch for better results in terms of weight gain and livability. The best monitor is the weighing of the chicks daily for the two weeks.

Chicks are brought out to the pen or chick runs after the temperature reaches above 60<sup>0</sup>F and the sun is shining.. Some sort of shelter is provided for chicks to shelter in extreme sun. Normally the chicks are fed before letting out to graze and exercise; brought into the brooding shed after exercise for their rest and sleep. This procedures are performed several times a day according to weather condition.

Chicks are housed in at night and heat source is provided till 3 months of age.

During these 3 months the chicks are on a Broiler Poultry Ration of 20 - 22 % C.P. and supplemented with finely chopped greens as fodder. Green fodder such as Napier, Guinea and Astatasia are mixed with the poultry feed as the farm standard.

The chicks runs of Ladang Infoternak are on natural grass and the height of the grass is kept short by constant mowing.

## 2. *Juvenile Management*

Juvenile birds between 3 and 10 months are maintained in a similar manner but with large facility for young birds. Larger facility here means larger area for exercising and grazing.

Birds after 3 months are no longer penned in even in any adverse weather condition. The fencing facility differs from that of chicks. Fencing materials meant for ostrich are highly recommended.

Feed quantity and types are changed at this age from starter to grower feed with a C.P. of 16%. The protein level is maintained till adult age and the quantity increased correspondingly

with age.

Chopped green fodder to grower feed in a ratio 2:1 is being implemented at this stage.

## 3. *Adults*

Pens and facilities vary considerably. Most ostrich farmers/ranches maintain adults pairs of trios in facilities that range from 5,000 sq. ft to an acre or more.

Adult birds in Ladang Infoternak are penned in pairs and trios as to facilitate better monitoring of fertility and egg production.

At this stage and during breeding seasons the type of feed is being changed from Grower to Breeder feed having a C.P. 20%.

The chopped green fodder to feed ratio is maintained at 2:1 with excess to natural grazing on natural vegetation.

Depending on sub-species , generally ostriches will start to drop her first egg between 24 - 30 months of age. The experience in Ladang Infoternak for subspecies Black to drop the first egg is 18 months of age; Blue subspecies is 24 months and red is 30 months old.

At this stage it is important to train the male and female to build the nest under shelter provided; egg laying under the sheltered area to minimize bacterial and fungal contaminants.

Egg collection is being carried out immediately after laying and this is being performed in the late evening as ostriches lay eggs between 5.00 - 7.00 in the evening.

#### 4. *Incubation and Hatching*

Ostrich eggs have an incubation period of 38 to 59 days, with an average of 42 days. At least five US Companies are marketing Incubators and Hatchers for Ratite industry (i.e Buckeye, GQF, Humidaine, Nature form, Pureflo) Pas Reform from Holland, Nkobi from Canada and ProHatch from S. Africa are the rest of companies that are involved with Ratite incubation.

Suggested temperatures for incubation range from 90°F to 98°F but a temperature of 97.5°F is being calibrated for incubation in Ladang Infoternak.

Relative humidity is regulated so that fertile eggs will lose 13 to 15 percent of its weight.

Eggs are turned through a 90 degree rotation for four to six times per day with air cell up.

Candling of eggs is done at weekly intervals to identify dead embryos. It is also performed prior to transferring the eggs to the hatchery.

Eggs are transferred to the hatchery when they are internally pipped. Internal pipping usually occurs 24 to 48 hours before hatching. Hatching process commences as early as 38 days and drags on till 42 days.

### **OSTRICH PRODUCTS**

The ostrich is unique as it produces four different products:- meat, leather, feathers and oil for which there is an established international demand.

#### 1. *Meat (volaise)*

Ostrich meat is a tasty red meat with a flavour similar to beef. It also has extremely low fat and cholesterol content; which makes it one of the healthiest red meat.

The dressing percentage of an ostrich averages about 25% of the live body weight in terms of meat yield or between 30 - 35 kg. Ostrich meat is dressed from only 3 parts of the carcass namely the drum, thigh and forequarters. From the Drum you get all the drum cuts; from thigh cuts - fillet, round, rump and from forequarters - striploin.

Ostrich meat sells for US\$20/lb depending on the quality of the cut.

#### 2. *Leather*

Ostrich hide is the most durable of all hides and is 5 times more durable than calf leather. Ostrich leather is sought after for its distinctive follicle pattern, attractive appearance and exceptionally durable. An ostrich produces 12 -14 sq. Ft. of green hide valued at US\$260/piece for premium grade. Today, the tanned ostrich hide is expensive. It sells for US\$42.00 sq. ft. wholesale. Today South African organizations depend largely on skins to generate income. Last year 160,000 skins were available for export. The products from ostrich leather are shoes, bags, belts, wallets, clothing, car upholstery. The superb quill texture is described by leather goods manufacturer as the "Rolls Royce" of leathers.

#### 3. *Feathers*

Ostrich feathers have long been associated with the fashion industry. They are still sought after by the world's fashion houses but have

also found new market in the manufacture of feather dusters due to their marvelous anti-static qualities. Electronic and motor vehicle industries are the other utilizer of the of the ostrich feathers. The Oudtshoorn district produces the finest quality of feathers in the world. Adult ostrich 1 year old produces between 850 gm - 1.5 kg of feathers.

#### 4. *Oil*

Ostrich oil is high in natural estrogen and has therapeutic, medicinal and cosmetic values.

#### 5. *Egg-shells*

Egg shells have a lucrative local markets and export market. Empty egg shell can be sold as plain or painted forms for a sum of RM20.00 for plain and RM70.00 for painted.

### **MARKETING**

Marketing of ostrich can be classified under the following categories:-

#### 1. Broiler birds

2. Prebreeder/Adults
3. Proven ostrich chicks
4. Breeders
5. Meat
6. Processed leather
7. Empty egg shell (painted and plain)
8. Fertile eggs
9. Incubation/hatching services
10. Direct or Indirect marketing of ostrich products

### **CONCLUSION**

Ostrich farming can be a very rewarding and profitable venture, given a sound and practical management system is practiced. Only the large capital outlay needed at the start of the project could become a little bit of a drawback and a heartache to an enterprenuer into this field. With experience and confidence and a well planned marketing structure properly laid out, this farming could become a good money spinner.

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**1. OSTRICH MEAT**

USA retail price list - September 1995

	<b>Cut</b>	<b>Price/lb</b>
1	Fillet	\$ 18.75
2	Steak	\$ 17.75
3	Roast	\$ 14.75
4	Stew	\$ 13.75
5	Ground	\$ 8.50
6	Sausage	\$ 8.75
7	Jerky	\$ 1.35 each
8	Snack stick	\$ 1.35 each

**2. COMPARATIVE DATA BETWEEN OSTRICH AND OTHER LIVESTOCK**

**2.1 Nutritional Information**

	Cal	Protein Gm	Fat Gm	Sat. Fat Gm	Mon - Uns Gm	Poi- Uns Gm	Chlstrl Mg	Carbon Gm	Ca Mg
Ostrich	96.9	22	2	0	0	0	58	2.1	5.2
Chicken	140	27	3	0.9	1.1	0.7	73	0	13
Turkey	135	25	3	0.9	0.5	0.7	59	0	16
Beef	240	21	15	6.4	6.9	0.6	77	0	9
Lamb	205	22	15	5.6	4.9	0.8	78	0	8
Pork	275	24	19	7	8.8	2.2	84	0	3

Comparison based on 85 Gm serving

Information compiled from “Nutritive Value of Food” U.S.D.A; Home 7 Garden Bulletin 72 and AMSI Quality Test Laboratory Report No.;;C80-D100 for Dr. Kevin Owen.

*Annex*

### 3. COMPARATIVE DATA BETWEEN OSTRICH AND A COW

	<b>Parameters</b>	<b>Ostrich</b>	<b>Cow</b>
1	Gestation period	42 days	280 days
2	Off spring per year	20	0.9 - 1.0
3	Days from conception to slaughter	407	645
4	Kilogram of meat	600	250
5	Sq. Ft. of leather	240	30
6	Years of production	45 - 50	10 -12
7	Land required	0.25 acre	5 -10 acres
8	F.C.R.	2.19:1	5:1

### 4. CAPITAL OUTLAY

#### A. Fixed Cost

	RM
1. Purchase of a pair of 3 months old chicks from Netherland @ RM 2070.00/chick	4,140.00
2. Fencing facilities for a breeding pen size of 4000 sq. ft.	
2.1 Fences - 73 m @ RM 4.90	358.00
2.2 Elegate T5050 - 12 pairs @ RM 26.50/pair	318.00
2.3 Vertical horizontal and diagonal G.I. post - 28 PCs @ RM 50.00	1,400.00
2.4 3m high staplelock post - 21 PCs @ RM26.50	556.50
2.5 Staplelock post pin - 63 PCs @ RM 0.30	18.90
3. Feed water basins - 3 basins @ RM 16.00	48.00
4. Shed for shelter	600.00
5. Wages for 18 months	
5.1 1 Veterinary Assistant	

	(RM6.70/hr x 2 hr/day x 540 days)	7,236.00
5.2	1 Casual worker	
	(RM 1.95/hr x 2 hr/day x 540 days)	
	Grass chopping, feeding, cleaning)	2,106.00
	<b>Total</b>	<b>16,781.90</b>

## B. Variable Cost

### 1. Feed cost ( Male + Female)

1.1	Poultry broiler starter	
	0 - 30 days 6 kg	
	30 - 60 days 9 kg	
	60 - 90 days 15 kg	
	<b>30 kgs @ RM 0.88 / kg</b>	
1.2	Poultry grower feed	26.40
	4 months - 17 months; 756 kg @ RM 0.56 / kg	
1.3	Quail breeder mash	424.87
	18 months (1 month); 120 kg @ RM 0.72/kg	
		86.40
	<i>Total</i>	<i>537.67</i>

### 2. Medication cost:

	Antistress	
		287.28
	<b>Total</b>	<b>824.95</b>

## C. Total cost

	Fixed cost	
	Variable cost	16,781.90
		824.95
	<b>Total</b>	<b>17,606.95</b>