

# OSTRICH FARMING IS AN ANCIENT BUSINESS

**F**ormerly found in Africa, Syria and Arabia until the middle of the present century, wild ostriches are now confined to Africa. Apart from being hunted for their flesh and plumes, ostriches were kept in captivity, tamed and semi-domesticated by the early Egyptians, Greeks and Romans. Egyptian and Roman ladies of noble birth rode ostriches on ceremonial occasions. Unlike the feathers of other birds, the barbs of the ostrich feather are equally long on both sides of the central shaft. This is why the ostrich feather was adopted in ancient Egypt as a symbol of justice and truth. There is a description in Tutankhamon's tomb of the king hunting ostriches by bow and arrow, apparently a privilege of the Pharaohs. The Arabs also used to hunt them on horseback for meat, while the skin was used for making protective clothing.

## Heads in the sand

The origin of the false belief that, when faced with danger, ostriches bury their heads in the sand is not known. This belief may have originated from the fact that chicks and adult ostriches sometimes crouch flat on the ground, necks outstretched, trying to merge with surroundings, particularly when approached by humans or other predators, or that when feeding, an ostrich may conceal its head among low vegetation for relatively long periods and hence form a distance only the body and part of the neck would be visible.

The species name *Struthio camelus* comes from the Greek and Latin name *Struthocamelus*, by which the ostrich was known. The word "camelus" is based on a similarity to camels: their long necks, their prominent eyes and eyelashes, the large size and their remarkable tolerance to the desert habitat.

Male ostriches attain the black and white adult plumage when about two years old. Females and

**In many parts of the world ostrich farming is a new business. But what is seldom realized is that these majestic birds have been kept in captivity since before the beginning of Christian era. What is so special about this bird?**

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immatures are much duller, having greyish-brown plumage. The young sport a spiky, black-tipped buff plumage until they are about four months old. Females reach maturity slightly earlier than males at about two years of age. Ostriches can live for 70 years, sometimes even longer, breeding consistently for 40 years or so.

## Remarkable tolerance

The ostrich is very adaptable and thrives under extreme conditions. Among the many ways of regulating its body temperature, it regulates its heat loss during cold weather by covering its thighs with its wings. During hot weather it lifts and moves its wings, thus making a gentle breeze. The feathers are excellent insulators, minimising heat gain due to direct solar radiation as well as reducing heat loss during the cold nights. It has a remarkable tolerance to heat, withstanding air temperatures of 56°C without undue stress. Adaptations of the blood circulatory

system permit the body to heat up to a greater extent than in other warm-blooded animals while still keeping the head at a safe temperature. In addition, the urine contains a mucous substance which helps minimize water loss. Ostriches may be found in a variety of open habitats. They normally avoid areas of thick bush or of heavy tree cover, but inhabit wooded grasslands and other open country. At the other extreme, ostriches are able to thrive in very poorly vegetated areas.

## Seasonal breeders

Ostriches are seasonal breeders; breeding only during particular seasons of the year. The breeding season (mating season) lasts for



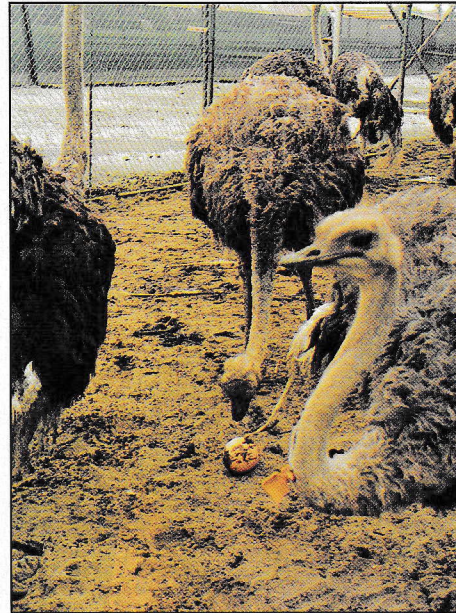
**Male ostriches attain the black and white adult plumage when about two years old. Females and immatures are much duller, having greyish-brown plumage.**



# OSTRICH



Young ostriches sport a spiky, black-tipped buff plumage until they are about four months old. This is also the most critical period in growing an ostrich.



The ostrich lays the largest egg of any living bird, although oddly enough the ostrich egg is one of the smallest in relation to the size of the bird.

6-8 months every year. The timing and duration of breeding in ostriches varies with latitude. In the Northern hemisphere, breeding commences during March and ends around August/September. In the Southern hemisphere, it commences around July/August and ends by end of March. In displaying, the male squats and waves his wings; the neck and thighs blush red. Usually silent, the male has a hollow booming call in the breeding season.

The female produces between 80 and 100 eggs during the breeding season. She lays the eggs in a communal nest on the ground; with the other females laying their eggs in the same nest. She incubates and cares for the eggs during the day, leaving the male to incubate from dusk to dawn; his jet black feathers aid in hiding the eggs at night.

## Largest and smallest

As befits the largest bird, the ostrich lays the largest egg of any

living bird, although oddly enough the ostrich egg is one of the smallest in relation to the size of the bird. Measuring 17-19 cm in length and 14-15 cm in width and weighing up to 1900 g, the ostrich egg is only approximately 1% of the female body weight. The eggs vary from white to yellowish white; their hard shiny surface is pitted with superficial pores of various sizes and shapes. The incubation period is 42-45 days. About 20 cm tall when hatched, the chicks grow at a rate of 1 cm daily until they reach 150-180 cm when the growth rate slows down. They reach 90% of adult weight and height at one year.

## Fit for commercial farming

The first commercial ostrich farm was established in South Africa in about 1860 solely for the purpose of harvesting feathers every eight months. Ostrich farms began to spread gradually to other countries, particularly Kenya,

## LARGEST, STRONGEST AND FASTEST

*The ostrich is undoubtedly the world's largest living bird. The adult male stands 2.4 m tall and could weigh up to 140 kg; the hen is slightly smaller. Ostriches are flightless birds; their body size, combined with reduced wings size, render them incapable of flight. They have a long neck, long bare legs and two toes. Their strong long legs allow the bird to run up to 70 km/h when necessary, with strides of up to 8 m. Neck and thigh muscles are well developed and unfeathered.* □

Egypt, Australia, New Zealand, the USA and Argentina until the total number of ostriches raised commercially was over one million by 1913. However, with the commencement of the First and Second World Wars, the ostrich feather market crashed and the number of ostrich farms dropped significantly. The industry, nonetheless, managed to survive on a much smaller scale in South Africa. By not relying on keeping ostriches only for

their feathers but also for the meat and hide, it grew steadily thereafter and annual export by South Africa of ostrich hide to the USA alone, before the sanctions, reached a record high of 90,000 hides in 1986. The shortage of ostrich skins after 1986 caused prices to rise. This made ostrich farming an attractive proposition and led a number of business persons in Europe and more so in the USA to start ostrich farming in an attempt to fill part of the

Table 1

### THE NUTRITIVE VALUE OF OSTRICH MEAT

Per 100 g	Chicken	Beef	Ostrich
Fat	3.6 g	16.3 g	2.0 g
Cholesterol	85 mg	84 mg	58 mg
Energy	185 cal	256 cal	114 cal
Protein	21.4 g	20.0 g	21.9 g
Calcium	13.0 mg	9.0 mg	5.2 mg

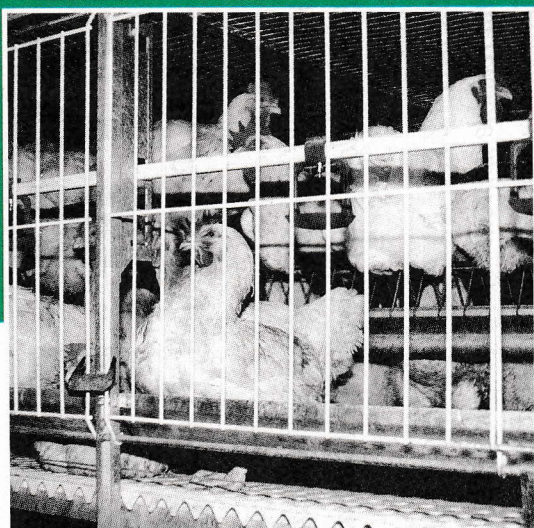
Table 2

### COMPARISON BETWEEN THE PRODUCTIVITY OF CATTLE AND OSTRICHES

	Cattle	Ostriches
Gestation/incubation period	280 days	42 days
Offspring per year	1	40
Period from conception to slaughter	645 days	407 days
Meat produced	250 kg 550 lbs	1800 kg 3960 lbs
Leather produced	2.7 m <sup>2</sup> 30 ft <sup>2</sup>	50.4 m <sup>2</sup> 560 ft <sup>2</sup>
Feathers	-	36 kg 80 lbs



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## OSTRICH

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international demand. The world ostrich industry has finally begun and is growing.

### Ostrich products

Ostrich farms are nowadays considered to be one of the most profitable agricultural projects. They are often referred to as the "farms of the future" due to the large variety of products and hence the high profit potential. Ostriches are raised commercially for their feathers, meat and hide.

**Feathers** - Ostrich feathers are used for cleaning fine machinery and equipment as well as for decorations and in the fashion industry. The quality of feathers produced from ostriches raised in Europe and North America, however, varies from those produced in Africa. The best feathers come from the more arid regions of the world.

**Meat** - Ostriches produce red meat which is very similar in taste and texture to veal and beef (depending on the age they are slaughtered). The United States Department of Agriculture has recently published the following comparison of the nutritive value between the meat of chicken, beef and that of ostriches (Table 1).

The study indicates quite clearly that ostrich meat is far better from a health standpoint because it contains far less fat and particularly cholesterol, than other types of meat. Lately, with increased consumer awareness of the problems of high cholesterol levels in the blood and their possible association with increased incidence of heart attacks and arterio sclerosis, the demand for ostrich meat in the international markets is beginning to increase. The latest statistics show that current ostrich meat production is not enough to fill the increasing demand, whether in Europe, America or Japan. It is expected that, during the next decade, ostrich meat may gradually replace traditional types of meat. Ostrich meat is currently marketed in a variety of ways: pastrami, frankfurters, ham, pate, bacon, fillet steaks, sun dried (Jerky or biltong) in addition to fresh meat.

**Hide** - As to ostrich skin (hide), it is considered to be one of the most luxurious leathers, and some even place it at a similar level in quality to crocodile and snake skin. Ostrich leather is thick and durable, but extremely soft and can be manufactured into shoes, bags, purses and jackets.

### Comparison with other livestock

A number of beef producers in Europe, America and Canada have most recently switched to raising ostriches commercially due to the higher and faster financial returns of ostrich projects. Whereas a cow produces a calf which reaches marketing weight 654 days after conception, yielding 250 kg of meat, an adult ostrich produces no fewer than 40 chicks annually, which reach marketing age only 407 days after conception and yield 1800 kg of meat, 50 m<sup>2</sup> leather and 36 kg feathers (Table 2).

Furthermore, the net weight of meat represents approximately 50% of life weight in ostriches, a percentage much higher than that of other farm animals such as beef, sheep and poultry. In addition, a female ostrich continues on this annual production for up to 40 years. Accordingly, with the use of modern husbandry techniques and the correct management, the overall production of a female ostrich during her "economical life" can reach 72 tons of meat, 2000 m<sup>2</sup> of leather and 1450 kg of feathers.

It is not difficult to raise ostriches successfully. As with traditional farm animals, the critical period in raising ostriches is the first period of their life. An ostrich chick requires good care, a balanced diet containing all essential nutrients in optimal quantities and the maintenance of suitable temperature during brooding up to the age of three months. □