

# How to Start a Successful Ostrich Farm



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# **How to Start a Successful Ostrich Farm**

**— Production guidelines —**

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## Introduction

Cows and maize are often the first images that come to mind when thinking about farms, but many non-traditional types of farms also exist. Ostrich farming is one type of agriculture that can have many advantages.

The ostrich (*Struthio camelius*) is a member of the ratite family (flightless birds). The ostrich is indigenous to Africa, Syria and Arabia; at present wild ostriches are only found in Africa. The first wild ostrich was tamed in 1863. A new branch of agriculture was established in the Karoo and Eastern Cape due to the farming of tamed ostriches. A severe drought in 1865 was an incentive for farmers to keep ostriches, which are adapted to survive in arid areas, in order to supplement their income. According to research, ostriches produce meat and consume resources at a ratio that is much more profitable than beef cattle. An ostrich farm requires only a small area of land and can generate revenue in several different ways.

Ostrich farming cannot be compared with chicken farming and it is thus important to take note of the finer points of this new farming type in order to ensure good results.

## Area of Land

Locate an area of land that can be used for the ostrich farm. Ostriches require between one and three acres of land in order to run and remain healthy.



**Figure 1.** Ostriches freely roaming about

Build a simple shelter to protect the birds from harsh weather, and construct a fence to prevent the ostriches from escaping.

## Where to Get Stock

Purchase ostriches for the farm. Select from unhatched eggs, young chicks or adult ostriches.



**Figure 2.** Ostrich Chicks

Unhatched eggs and young chicks are relatively inexpensive but require a significant amount of time and expertise to raise properly. Adult ostriches can begin producing new eggs quickly yet are more expensive to purchase initially.

### **Flock Size**

The guidelines on the utilization of pasture by breeding birds prescribe a minimum area of 10 ha per breeding ostrich for an 8-month period. Research shows that breeding ostriches can be kept at higher densities and still have acceptable production rates. The number of birds in a breeding herd will be determined by both the camp size and the condition of the vegetation. However, it is important to remember that there is an interaction between flock size and the various reproduction parameters.





**Figure 3.** Massai Ostrich Hens

When a flock consists of too many birds per flock (e.g. 230 birds per hectare), total and average egg production, fertility and hatchability will decline.

### **Breed**

Choose a type of ostrich to raise. Red neck, blue neck and African black ostriches are the three general types of birds. Red neck and blue neck ostriches are often large and aggressive, while African black birds are smaller and easier to manage. The African black ostrich is often recommended for first-time farm operators. Commercial ostrich production is based largely on flocks that are mated in a male to female ratio of approximately 6:10 in large paddocks.



**Figure 4.** Massai Ostrich Chicks

### **Crossbreeding**

Crossbreeding of divergent types in farm animals is often seen as a method to improve general productivity (and with it profitability).



**Figure 5.** Ostrich eggs

Advantages in crossbreeding that could be utilized are hybrid vigour (heterosis), as well as size differences between male and female lineages (also known as sexual dimorphism). Hybrid vigour is defined as the advantage of the crossbred genotype over the average of the pure breeds from which it was derived (also known as mid-parent value). This is particularly applicable to traits that are of relatively low heritability, such as survival and early growth in ostriches.

The advantage of sexual dimorphism has a bearing on breeds in which the males are relatively heavy, which can be used on considerably lighter females (thus with

lower maintenance requirements). The progeny from such a cross thus grows better than the pure progeny from the female lineage, whereas the feeding costs for the maintenance of female animals are less. Because the male: female ratio in ostriches is so narrow (in other words relatively many males per female are required), this principle will not hold the same advantages as for other farm animals with a wider male to female ratio.

### **Behaviour of Breeding Ostriches**

Adult breeding ostriches display characteristic behaviour during the breeding season. Broody behaviour displayed by the female demonstrates her readiness to mate. This is characterized by the female walking with her wings stretched out alongside her body and shaking them gently, keeping her head close to the ground and pecking at the soil aimlessly. 'Clucking' is observed when a female indicates her solicitation and receptivity to a male. The breeding male is the more aggressive of the two sexes, with typical territorial behaviour displayed during the breeding season. The change in colour of its beak and shins from pale pink to deep red is interpreted by ostrich farmers as a sign of readiness for the coming breeding season – breeding birds are generally put into breeding camps shortly after this change in the colour of the shins. The reproductive behavioural display of males (or 'kantling' display) is characterized by the male sitting on his hocks, and swaying from side to side, with outstretched wings alternately touching the ground. During the display the neck is usually pulled backwards, with the head positioned near the back of the bird. The length and frequency of mating sessions may differ among males, and even for a single male. Mating will occur more often in spring months (September-November), while peak egg production occurs in late winter-early spring (August-September). A mating session can last 30 to 90 seconds, with the male mating several times a day with any one female. A male mounts a female from behind, and the condition of the feathers on her left back side is often used as an indication of mating. The male will search for a suitable place to create a nest for the female, normally after the first mating has occurred. The hen usually lays her egg in the early morning (before 8am) and late afternoon (after 4pm). Both cock and hen sometimes display clucking/broody behaviour next to a nest; it is usually associated with the presence of eggs or the male's solicitation towards the female to produce an egg.

### **Nutrition**

The ostrich is a monogastric animal and the nutritional requirements of the birds are defined according to these guidelines. (Tab.1)



Type of feed	Minimum crude protein (g/kg)	Minimum lysine (g/kg)	Maximum moisture (g/kg)	Minimum crude fat (g/kg)	Maximum roughage (g/kg)	Calcium		Minimum phosphate (g/kg)
						Max (g/kg)	Min (g/kg)	
Pre-Starter	190	10	120	25	100	12	15	6
Starter	170	9	120	25	100	12	15	6
Grower	150	7.5	120	25	175	10	16	5
Finisher	120	5.5	120	25	225	9	18	5
Slaughter bird	100	4	120	25	250	8	18	5
Maintenance	100	3	120	20	300	8	18	5
Breeder	120	5.8	120	25	240	25	30	5

**Table 1.** Commercial guidelines for minimum composition of feeds for different production stages

The digestive tract of the ostrich comprises of the bill and beak, gullet (oesophagus), glandular stomach (proventriculus), stomach (ventriculus), small intestine (duodenum), large intestine (colon + caecum) and cloaca. The most important nutritional components that should be included in ostrich feeds are energy (carbohydrates and fat), protein (amino acids), minerals, trace elements and vitamins.

The most important elements in ostrich feeds that contain the necessary nutrients include energy sources (concentrates and roughage), protein sources, and mineral and vitamin mixtures.

These basic constituents should be provided to the bird in the correct ratio to satisfy its specific needs at the various production stages, and in order to ensure optimal production and health. In many instances, birds are kept on pastures and shortages are supplemented by the provision of concentrated feed mixtures that are adapted to make up the shortfall in nutrients that the bird requires. Provide a sufficient supply of food and water for the ostrich farm. Large birds can drink several gallons of water each day. Ensure that the water is kept fresh. Purchase feed that is specially formulated for ostrich nutrition. Alternately, plant crops and grasses for the ostriches to eat.

### Ostrich Production

Determine which ostrich products to sell in order to produce revenue from the farm. Ostrich meat and ostrich hide are the two most important sources of revenue for the ostrich farmer, representing approximately 90% of the total income from a slaughter

bird. Feathers make up the remainder of the income. Good quality feathers are mostly harvested from adult breeding birds.



**Figure 6.** Ostrich feathers

Given the importance of meat and skins, the production of as many chicks as possible surviving to slaughter age is obviously of vital importance for a good monetary yield. Growth and feed conversion are also important for effective production of meat and skins of an acceptable size. Regarding the quality of skins, the absence of skin damage and the size and form of the nodules represented by the feather follicles are important. The eggs of ostriches can also be sold and do not require the slaughter of the bird.

### Summary

Ostrich farming consists of different systems, one or more of which can be practised concurrently on the same farm. Considering factors such as farm size, farm location, climatic conditions and the skills of the manager, the appropriate system should be chosen for a specific enterprise.

Because management plays such a vital role, the producer should decide which functions the ostrich should perform itself and which functions will be performed artificially, e.g. the incubation process and rearing of chicks. From the age of three months to slaughter, factors such as farm size and availability of home-grown fodder will be of great importance in the choice of a specific system. Feed cost in this phase is the single most critical factor and may be as high as 70% of the total direct costs.

With regard to biosecurity it is important to limit movement of ostriches. In this aspect a closed system, where the chicks can be reared from day-old to slaughter, is the best option to prevent disease spread and risk. There are experts who can support producers make the optimal choice for their own circumstances. Not only is it advisable to approach experts in the choice of a system during planning of an ostrich enterprise, but it is strongly recommended that experts are regularly consulted for advice – to ensure optimal profitability.

### References

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