

# Ostrich producer's attitude to ostrich farming in Zimbabwe

**Ostrich farming, specifically marketing of ostrich products abroad was an integral part of Zimbabwe's regeneration as a global agricultural force. The factors which have contributed to the industry's success lie largely in the producer's management systems. The simplest way to assess just how producers have achieved their success is to ask them.**

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Ostrich farming in Zimbabwe was established in 1985 and a 1999 estimate recorded the domestic ostrich population at ~45,000 and the wild population at ~2,000. The attractiveness of this industry is that it is a major earner of foreign currency netted through the export sales of its healthy, low-fat meat and luxurious leather. A study of the critical success factors of this industry documented 135 ostrich farms in Zimbabwe with 78 being located in Mashonaland and 57 in Matebeleland. The distribution in 1997 of ostrich producers is shown in *Figure 1*.

It is only through research that an indication of the current practices on ostrich farms can be brought to light. These may be through the use of questionnaires and/or structured interviews. Such studies should be conducted regularly in order to identify best practices. These should be compiled into a manual that is updated on an annual basis. Veterinary extension officers should become actively involved in ensuring the well being of the producer's flock and to give advice on the integration of best practices at the farm level. This will help to improve the customer service communication process between The Ostrich Producers Association of Zimbabwe and ostrich producers. Improvements in production management should be focused on the lowering of per unit feed costs, increased reproduction and improved selective breeding for meat and skin. It is only top quality meat and skin that will sell in the export marketplace.

With a view to identifying what management factors are seen as important by ostrich producers themselves, 59 producers were subjected to a questionnaire, which covered a variety of aspects of ostrich production. The responses were analysed using a  $\chi^2$  test. The producers were given a range of statements and were asked to indicate their agreement for strong disagreement through to strong agreement.

## Ostrich farming

A high percentage rating of 46% showed that many farmers feel that ostrich farming can be done in any area, although it has been reported that ostriches thrive in poorly vegetated, sandy areas with good drainage. Clay soils tend to get waterlogged during the rainy season and ostriches might slip causing bruising of their muscles and scratching of their skins. Damaged meat and skin are not acceptable in an export market.

While the recommendation is that a good performing cock should breed with at least two hens, there are no clear conclusions on this by the producers themselves. Hence the percentage rating being spread over agree (29%) to neither agree nor disagree (33%) and to disagree (29%) with that statement. It is important however to maximise the mating behaviour and performance of the cock by pairing it with the correct number of hens.

There is much emphasis on the need to replace breeding birds after each season, shown by an agreement rating of 63%. This is in line with the importance of introducing variety into the gene pool and removing infertile birds. Factors affecting the fertility of eggs include the genetic and nutritional status of breeding birds. 79% of farmers strongly agreed with the statement "Breeding performance may be reduced if nutrition is inadequate".

Ostriches tend to be messy eaters and scatter their food about when eating. Due to the current high costs of commercial feed, a costing should be placed on spoiled feed. This statement was agreed at a 46% rating.

## Feed management

Sticking to one feed type is important to prevent metabolic imbalances. The scoring for this statement was more towards the strongly agreed at 38%, although it was surprising to see a relatively high disagreement of 17%. This may explain high losses in pro-



**Ostrich production is a complicated business but well understood by the Zimbabwean farmers, although there are different ideas about how to keep these big birds**

ductivity by some producers.

It was agreed at 54% that feed must contain adequate and usable nutrients (proteins, vitamins, minerals, etc.) plus fibre to aid digestion. Fibre can be provided from natural vegetation like grass, grain and lucerne (alfalfa). Lucerne hay is a popular source of roughage. 67% of respondents agreed that the fibre from grain is less digestible and should be a limited source. If grass alone is used, there will be a deficiency and imbalance of calcium and phosphorus, with adverse effects on ostrich health and productivity. The response rate of 42% to neither agree nor disagree to this statement is indicative of partial usage of grass. However, excessive dietary fibre can lead to insufficient utilisation of nutrients during

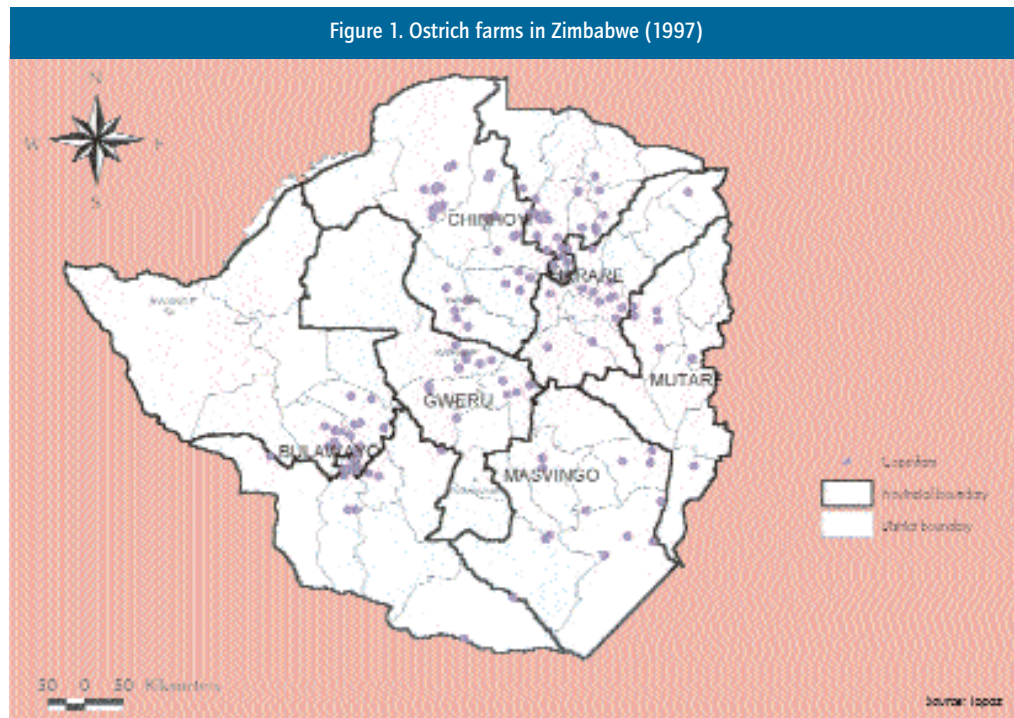
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the early stages of growth. Ostriches show evidence of lower intestinal tract fermentation, digesting about 63% of dietary fibre thus providing about 76% of the metabolisable energy requirement for maintenance of growth and vitamins and energy before the first egg is formed. However, over-consumption of calcium in cocks results in a reduced absorption of zinc, which is essential for sperm production. Too high an energy intake leads to overweight, less vigorous males, hence the need to control weight (58% agreed with this statement). Body weight is heritable in turkeys and may also be so in ostriches.

### Bird handling and record keeping

Workers need to be trained and motivated to be familiar with ostrich behaviour and the handling of birds. Most producers agreed (58% rating) that this could be achieved partly through incentive bonuses



and so is in line with satisfying the internal customer.

Training of chicks to walk in flocks is an important way of artificially providing parental guidance and this statement was strongly supported (63% rating). Daily recording of eggs laid and hatched is a critical component of ostrich incubation success and was strongly agreed at 63%. Daily monitoring of eggs under incubation was agreed at a 50% rating, the most important physical parameters being temperature and relative humidity.

### Chick pen management

Hygiene was well appreciated, as was the importance of heating at night. Chicks younger than four months are highly susceptible to mortality especially under artificial conditions. However, cost considerations might mean that pens are only scrubbed every two days.

Although the use of infrared lighting is widespread, some producers prefer the use of heated trays, as they tend to provide a more uniform distribution of heat.

Straw should be replaced daily given its good absorptive abilities and tendency to accumulate excreta and parasites. This was reflected in the 33% agree rating. Although it has been reported that there is no influ-

ence of litter type on ostrich chick behaviour, straw may be a source of impaction in chicks. Many producers thus use concrete floors with wire or mesh in order to prevent chicks from standing and slipping in their own excreta. The temperature in the brooder house should be maintained at +25°C and there must be adequate ventilation. Groups of more than 50 chicks and groups with chicks of different sizes should be avoided.

The use of coloured drinking water was mostly rated "neither agree nor disagree" (50%). Chicks, however, need to be encouraged to eat from day one by using a natural colour like green, due to green foliage being ostriches' preferred food in the wild. Mixing crushed lucerne into the food also helps in the creation of a green appearance and acts as a stimulant to the chick by encouraging good feeding behaviour. Clean drinking water should always be provided in order to prevent pathogenic infestations from contaminated water.

Portable brooder houses are important in order to prevent the build-up of bacteria and the transmission of diseases. Such enclosures should be placed in a well-drained area. A 58% "neither agree nor disagree" rating indicated individual preferences for other methods of chick housing.

### Brooder house

Sand, if used, should be replaced in order to prevent build-up of bacteria. The low 33% disagree rating is surprising and possibly indicates a major cause of chick deaths.

Smooth surfaces on floors should be avoided otherwise chicks will slip and injure themselves. The agreement rating was highly supportive of this statement. The use of rubber mats also helps prevent slipping. Producers rated their use highly at 42% "agree".

Good drainage is important for hygiene and helps to prevent bacterial/viral infections of chicks. Producers rated this very highly at 58% "strongly agree".

### Transportation methods

Producers were highly supportive of the grouping of birds during transport as they are, by nature gregarious animals. At least 96% agreed (50% "strongly agree" and 46% "agree") with the use of bomas for loading birds. However, the remaining 4% that neither agreed nor disagreed may have done so due to bomas causing injury to birds through scratching. A more natural way of loading may be preferable, such as the use of a shade cloth structure.

### Little support for EU regulations

There was a 38% agreement that the European Union has enforced regulations on Newcastle disease to protect its own industry, and the Zimbabwean ostrich industry has to abide by its regulations if meat and skins are to be successfully exported.

Whilst the structural requirements for quarantine pens of growers was agreed at a 33% rating, there was a high "disagree" rating of 25%, due to the infrastructure being very expensive and ineffective for completely stopping ticks and rats, and poultry and/or wild birds infected with Newcastle disease from reaching the ostriches.

### The ostrich industry in Zimbabwe

The need to fully utilise the ostrich in the feather, offal and egg markets in Zimbabwe was agreed upon by 50%. A joint venture agreement with a processing plant in a high-demand market place may facilitate market expansion and the use of such products. This should be outside the EU in order to eliminate the threat of the EU Harmonisation Policy and the unfavourable Asian skin market.

The potential for developing the Zimbabwean marketplace is high with opportunities to offer quality and diversity in its productivity. There are potential investment opportunities in tourism and manufacturing, especially the processing of agricultural commodities. The tourist industry in Zimbabwe is a valuable foreign currency generator and ostrich products should be promoted strongly in this sector. 46% of producers agreed with this statement.

There was a 58% agreement that producers need to continually perform cost-benefit analyses in order to budget effectively. Farmers should aim for maximum returns via an egg:chick survival rate of at least 15

per hen, and in the selection and active culling of breeders based on performance. A reduction of costs should be encouraged, but without detriment to production. For instance, a reduction in feed costs can be achieved by the inclusion of homegrown roughage, maize and greens. The necessity for a total commitment to ostrich production is necessary if maximum returns are to be achieved.

It was strongly disagreed (29%) that the payment for an ostrich carcass is efficient, due to the long delays in payment to the producer. Due to the low percentage of first grade skins reaching the market (approximately 40%), sales are mainly focused on second, third and fourth grade skins, which take longer to sell, resulting in excessive payment delays to the producer of six-eight or even ten months.

In order for a local market to be developed, cultural norms about eating ostrich meat must be addressed through positive advertising and promotion. Due to a total commitment to the export market, advertising in the domestic marketplace is virtually nil. The use of the Internet will improve the industry's knowledge base and act as a possible medium for international marketing.

### Over-priced products

It was agreed (at 42%), that ostrich meat and skin in the domestic market are excessively priced compared to other livestock. Prices may be lowered by encouraging economies of scale via shared production capacities through an alliance with a local livestock industry. Benchmarking studies with key players in the industry will help to identify and improve core competencies.

It was strongly agreed at 33% that the land designation issue has adversely affected producer confidence, resulting in a reluctance to inject further capital into one's operation. Land reform and resettlement is a policy imposed by the Zimbabwean government for poverty reduction, economic growth and stability. However, misleading press statements and apparent land-grabbing policies have caused many farmers to question their future viability.

A large proportion of producers strongly agree (54%) that the Cites permit required for ostrich exports should be removed. However, there was some disagreement, probably due to the need to protect the wild population of ostriches, which currently stands at an alarming 2,000. Legislation imposes that farming should be controlled to protect this wild population. Hence the enforcement of the Cites permit. However, there has been concern over the bureaucratic procedures involved in permit issuing.

Most producers recognised the need to concentrate fully on production and leave marketing to the abattoirs and tanneries. The need for alternative markets is important and a protective buffer in case competition takes away market share from Zimbabwe. h

# The impact

**The forcible occupation of principally white-owned farms by self-styled veterans of Zimbabwe's guerrilla war has a major impact on crops and livestock production. These activities have already proven to be a major threat to the ostrich industry.**

The wave of land invasions of white-owned commercial farms in Zimbabwe began in 2000 as a politically engineered attempt to distribute land to so-called landless black peasants. This wave has since radically increased in 2001. The lack of transparency in the process and the rampant violence perpetrated against white farmers and their farm workers, has, however, classified this exercise as a mere election ploy divorced from meeting the needs of the under-privileged. The aim of the current investigation was, therefore, to determine ostrich producers' viewpoints on the consequences of occupations on farming operations in Zimbabwe.

### The producers' views

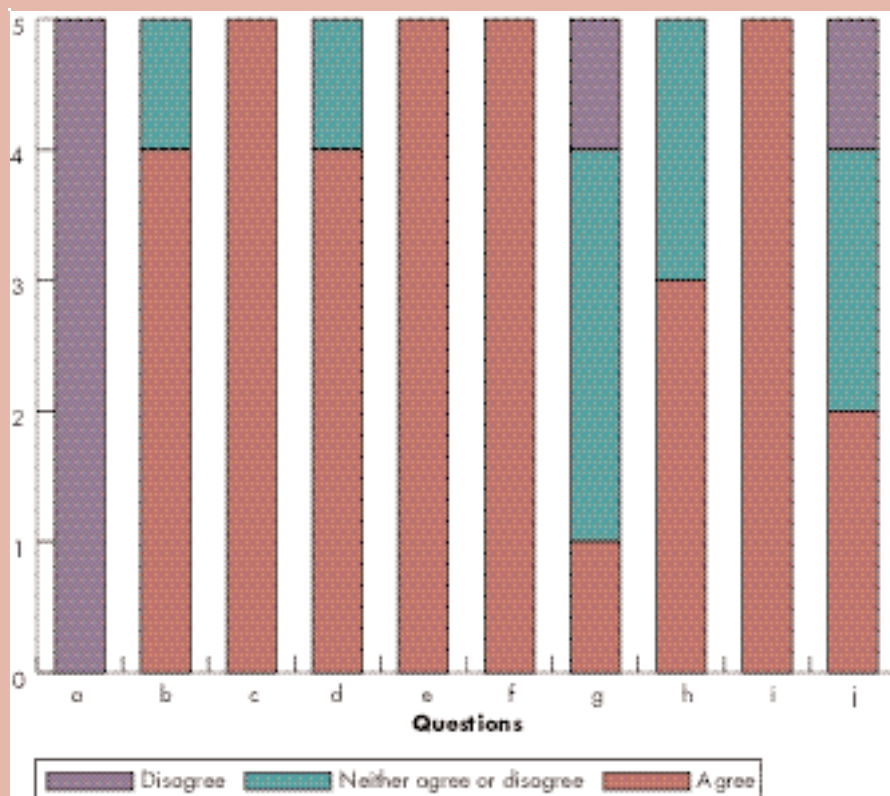
A postal questionnaire was posted to ten ostrich producers in Zimbabwe whose farms have been invaded. Each question was considered an integral part of the impact of invasions on farming practice. A response rate of 50% was attained. The farmers were in absolute disagreement with a transparent Land Resettlement policy. As a consequence of disruptions of farming practices, the export market was principally agreed as being under threat. Associated with this threat is a halt on the expansion and growth of the Zimbabwean ostrich industry. The disruptions are destroying previously established communal farming projects. Indeed, settlers are badly interfering with ostrich farming practices. The occupants keeping chickens on the farms evidence the total disregard for ostrich farming regulations. The mortality of ostrich chicks seems largely unaffected. Settler disruptions are rated by three out of five farmers as causing significant stress to growers and breeders. Massive inflation in Zimbabwe is seriously elevating an increase in feed prices. Although the fuel crisis was rated by two farmers as being a significant threat to transport of live birds, two did not feel this a problem and one disagreed.

### Clear strategy or desperate populism?

Farmers clearly feel that farm invasions are not part of the original strategic policy on land reform, but a consequence of the de-

# of farm occupations in Zimbabwe

Figure 2. The influence of farm occupations on ostrich production in Zimbabwe



## Associated questions:

- According to the international community and other sectors of the Zimbabwean community, the government's current resettlement programme is not transparent.
- The export market for ostrich meat and skin is under threat.
- Expansion and growth of the Zimbabwean ostrich industry is being stifled by the current farm invasions.
- Provision of government technical expertise to communal farmers in their quest to become independent growers is being eroded.
- Settlers are disrupting ostrich farming practices.
- The increase in domestic animals of settlers including chickens is jeopardising ostrich production as a direct violation of European Union regulations for rearing ostriches.
- There is an increase in mortality of ostrich chicks.
- Stress levels in growers and breeder birds have increased significantly due to farm disruptions thus adversely impacting on production.
- High costs of commercial feed due to shortages are negatively impacting on expansion of the ostrich flock.
- The fuel crisis besetting Zimbabwe is severely interfering with transport of slaughter birds to abattoirs.

sire of commercial farmers and, indeed, of the international community, for producers to receive full compensation for their land. Much of the land was bought after independence in 1980 and the farmers borrowed money to develop their enterprises. The establishment of an ostrich industry has benefited the Zimbabwean economy via the netting of foreign currency through the sales of ostrich meat and skins, provided jobs for workers, and contributed to the growth of the Zimbabwean livestock industry as a major global player. The farm invasions clearly instigated as a means of gaining popular support for the ruling party,

however, have alarmed investors and donors with the subsequent withdrawal of funding. Hence the absolute disagree rating noted by producers. A recently cited example is the abandonment of an investment scheme by an Indonesian investor who has pumped more than US\$11 million into Dollar Bubi Farms (Pvt.) Ltd. that rears the birds, and PT Royal Ostrindo Zimbabwe, which specialises in tanning ostrich skins. As a consequence of these invasions, the smooth operation of ostrich farms has been stifled resulting in an almost total halt in production. This has been described as a threat to the jobs of 500 workers, and the

development of rural areas around the farms, and the refusal by settlers to let workers cut grass to feed the birds or trees to make fence poles, is making it impossible to conduct business. Clearly such disruptions are damaging the growth of the ostrich industry and its export market. As many commercial ostrich enterprises provide technical expertise to communal farmers to enable them to become independent growers over a five-year period, farm invasions are effectively stopping this (Figure 2).

## Ban on export

The rearing of chickens for food by the invaders of ostrich farms is a direct violation of EU regulations on rearing ostriches and the export of ostrich meat due to the high probability of Newcastle disease transmission. This explains why producers are adamant to agree that the presence of fowls is likely to result in a ban of ostrich exports to the EU. The neutral response of producers to an increase in mortality of ostrich chicks is a result of many producers stopping breeding because of the cost-constraints due to excessively priced feed; and an increase in stress levels of breeder birds due to noise from the settlers and their dogs. Feed is, indeed, the highest cost in an ostrich enterprise and the importance of minimal stress levels in breeders is crucial for maximum egg productivity and fertility. Additionally, the killing of breeders by settlers and subsequent work stoppages has resulted in the death of further breeders due to neglect.

A personal communication with one producer revealed that 17 were killed, 37 died of neglect and US\$ 7,200 was lost. The fuel crisis impinging on transport of birds to abattoirs received an equal response to both the agree and neither agree nor disagree categories. This is possibly due to the strategically tanked reserves of fuel farmers have on their farms, given that such purchases are made in bulk. The fuel shortage is possibly more significantly affecting the delivery of feed to farms, resulting in farmers trying to revert to home-grown food for their birds, such as maize and Lucerne.

Invasions of ostrich farms are severely interfering with the efficiency of this industry through production stoppages and a damaged export market. The policy of land grabbing has been publicly instigated by a desperate government that is prepared to go to war if the land issue is not resolved. Such violent and dictatorial policies will be the certain demise of a once flourishing Zimbabwean ostrich industry. h