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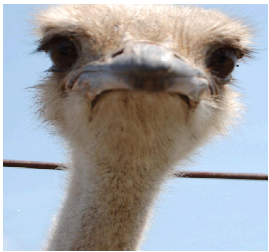
Sustainable ostrich production system in Romania

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Ostrich production is a relatively new industry in Romania. However, at about 50 km from Bucharest one may find probably the largest integrated ostrich production system in Eastern Europe. Part of the costs required by this large investment were covered by European funds allocated to Romania during the EU joining process (SAPARD Program). The system includes: a modern incubator (3,000 eggs capacity), a breeding /grower /finisher farm (20,000 heads per year), and ostrich slaughter house (300 birds per day), a meat processing plant, a skin processing plant, sewage treatment station and incinerator. A farming area of about 300 ha provides all the needed feed for the birds, creating a fully integrated system. This paper is a case study on the specifics of ostrich production in Romania, the costs involved by the investment in an ostrich farm, the technological characteristics of an ostrich slaughter house and the social impact of the industry on the area, as well as presenting elements of marketing of ostrich meat locally. The study highlights the benefits of breeding ostrich: the successful use of degraded agricultural land, the reduced polluting impact on the environment, the high nutritional value of ostrich meat for human consumption, and the added value of the wide range of by-products that complement the meat production for increased efficiency. This is a clear example of a sustainable livestock production system.

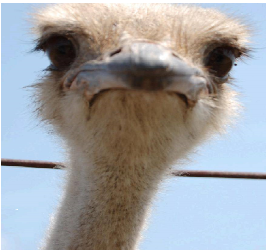


SUSTAINABLE OSTRICH PRODUCTION SYSTEM IN ROMANIA

Nicoleta Ciocîrlie
Valentin KREMER

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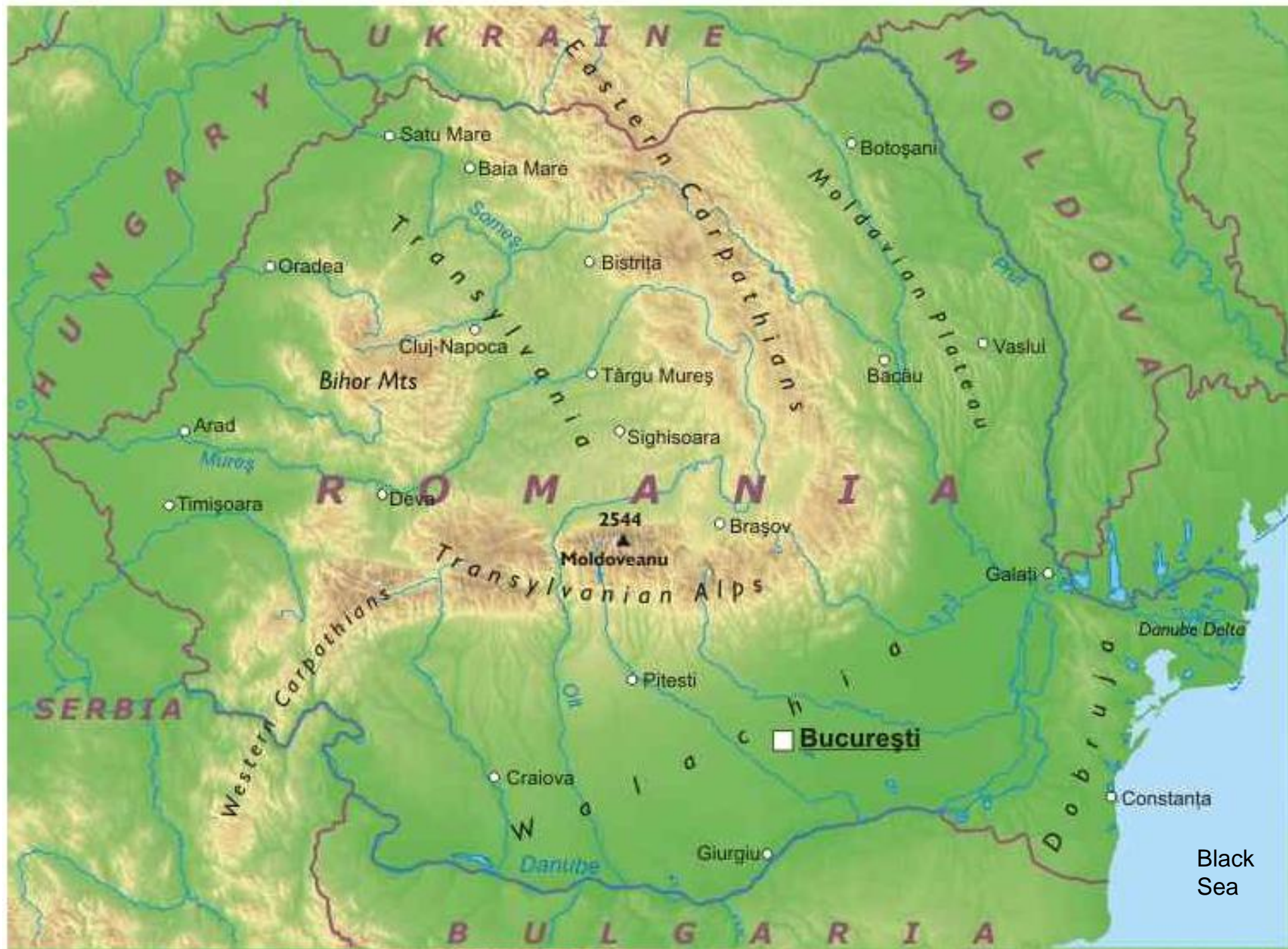
Romanian environment

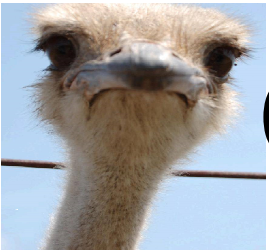
In geo-climatic terms, Romania is part of the north Mediterranean region, which is suitable for ostrich breeding.

Areas of Romania that match specific breeding methods for ostriches could be: Banat, Dobrogea and the Romanian Plain lowlands, Oltenia and south of Muntenia, the entire Baragan and Moldova lowlands up to Botosani, Tisa Plain and some areas of the Transylvanian highland.

More or less, all green areas on the physical map of Romania are suitable for ostrich breeding.

Physical Map of Romania





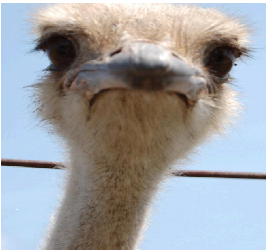
Ostrich Breeding in Romania

Since 1995, numerous small ostrich farms were scattered throughout the country. One exception is provided by a farm located in southern Romania, at approx. 50 km from Bucharest, in an area not affected by industrial development.

This ostrich farm has developed progressively since 2001 and was designed as a large agro-industrial complex, consisting of:

- Feed production farm of approx. 300 ha (with a fully integrated production cycle)
- Grower and breeding farm - capacity of up to 20000 head/year
- Hatchery for up to 3000 eggs / cycle
- Slaughter house, Meat and Leather processing plants
- Incineration station and Manure processing plant

Farm development and operation complies with European veterinary and environmental legislation



Genetic material

The genetic material used at start for populating the farm, was brought from: Belgium, Spain, Portugal, Australia and South Africa.



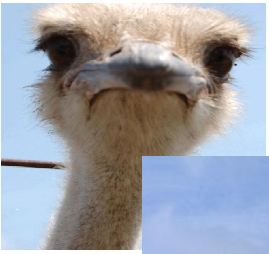
After the acclimatization, the birds were selected to constitute the base population of the farm.

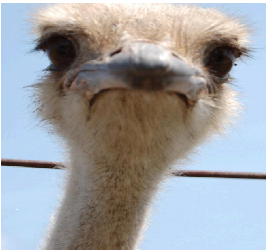
From about 30 families of ostriches (about 100 heads) the capacity of the farm slowly increased up to about 4000 heads.

Currently, the population is made of about 700 adult ostriches and 300 youngs of various ages.

The hatchery is made of number of incubation machines with capacities between 250 and 1,000 eggs per series and a maximum incubation capacity of 3000 eggs/series – to our knowledge, this is one of the largest in SE Europe.

The hatchery





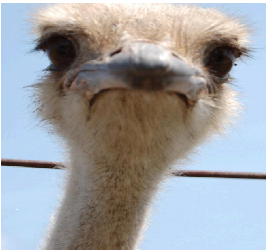
Farm paddocks

Paddock numbers and sizes vary depending upon the age and purpose of the birds:

- Adults raised for fattening - one or two ostriches per paddock of 200-250 sqm
- Reproductive adult pair – 1 male + 1 female, 350 sqm
- Reproductive adult family – 1 male + 2 females, 500 sqm
- Youngs (10 - 12 months) - 75 sqm
- Youngs (6 - 8 months) - 60 sqm
- Youngs (3 - 5 months) - 40 sqm

200 paddocks are used for adult birds and about 50 paddocks are used for the three categories of young birds





Feeding

Feeding is provided from the own production farm.

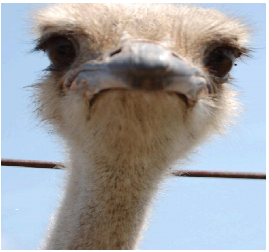
Of the 300 ha of land:

- about 100 ha are planted with lucerne,
- about 150 ha are planted with wheat,
- and the remaining 50 hectares are planted with various other plants



Ostriches are fed twice a day and receive ad libitum water.
Overfeeding is avoided.

The feed used contains: 70% - green grasses (lucerne, clover) and
30% - cereals (wheat, corn, barley, sunflower seeds or soy)



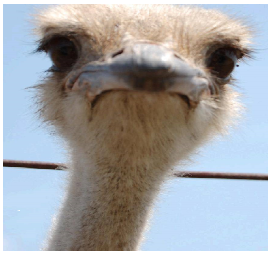
Slaughter House

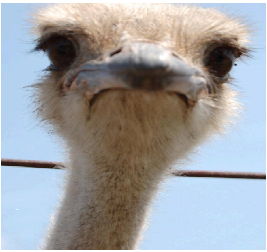
The main product of the company is ostrich meat, the target being the segment of market for natural, dietetic products without affixes and preserving agents.

The slaughter house is fully equipped and authorized to slaughter ostrich, sheep and goats. The capacity of slaughter house is 300 ostrich/day. At present, about 30% from the capacity is used for this species.

There is a butcher's section for raw-dried products with two processing lines: dietetic products and spicy products. The main products from ostrich meat are: salami, sausages and ham.

The farm submitted documentation to apply for BIO Certificates for all its products.





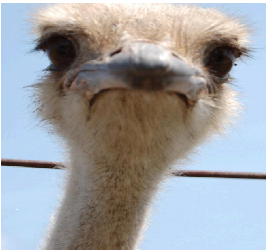
Modern management

Complex tackling of ostrich breeding problems in The South Plain of Romania expresses both entrepreneurial spirit and special management abilities, proved through initiative of attracting funds from financing European programs.

The discipline of carrying on the European projects and availability of farm owner to gear into the complicate and bureaucratic mechanism imposed by the checking procedures of these projects, as well the capacity to co-finance the projects, are possible explanations for the achievements of this farm, which is distinct in comparison with all others with the same profile.

The exigency required to access European funding, imposed the respect of the norms for food safety and welfare of the birds and allowed the farm to obtain certifications for 3 international standards of quality:

* ISO 9001/2001 ** ISO 14001/2005 *** ISO 22001/2005



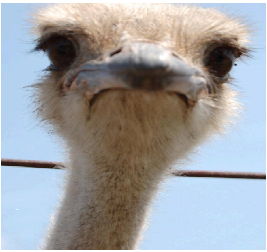
Ostrich leather

In order to use all products and secondary products resulted from ostrich breeding, the ostrich skin is processed into leather.

The processing technology uses plant-derived chemicals. The leather processed this way is better accepted by human skin.

All processing systems use substances and consumable items which are biodegradable, so that, after treating and purifying the waste water, it is transformed into water of industrial purity used in irrigation.





Costs / Funding

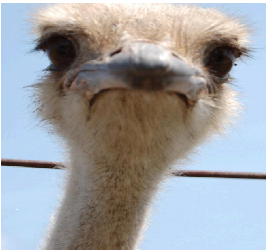
The farmer's investment into developing this integrated complex was completed with funds attracted through different European projects:

2001-2004 - Research project financed by World Bank: „Extension of ostrich breeding in the south of Romania in order to organize and exploit family farms for ostrich breeding“- approximately 150 000 USD. Visits in South Africa, Belgium, Holland and Spain to make contacts with experienced breeders and acquire biological material for testing.

2000-2004 - SAPARD program to support the research and initial investment - approx 1 000 000 Euro out of which the waste water treatment station cost 500 000 Euro)

2004-2007 – final phase of the project (slaughter house, leather processing, raw-dried products, incineration station, waste water treatment station) - SAPARD project providing 6 000 000 Euro.

2009 – applied for funds for a research project intended to give superior value to ostrich fat



Marketing of products

Given their good quality and the certification at European standards, the access to market of these ostrich products is very much simplified

Ostrich meat, in raw or processed form, is present for sale in most Romanian supermarkets (Metro, Real, Selgros, La Fourmi, Nic, Gmarket, Primavara), and also in the chains of hotels and restaurants from Bucharest and Prahova Valley

Ostrich skin is promoted for the manufacturing of luxury leather products and contracts were drawn with well known brands from the leather industry

Eggs and feathers are transformed into art objects and presented at different fairs and exhibitions

