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# AGRICULTURAL ALTERNATIVES

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## Rhea Production

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Rhea farming has become quite popular in the eastern United States during the past five years. The rhea is a flightless bird that belongs to the ratite family and originated in South America. When fully grown, the rhea weighs approximately 60 to 80 pounds and stands five feet tall. This type of alternative livestock enterprise lends itself to small-scale and part-time farm operations with adequate investment capital because the land requirements and husbandry requirements are minimal.

## Marketing

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The market for rheas and other ratites is volatile. Therefore, you should research possible markets for your product thoroughly before establishing an operation. The major market for rheas is for breeder stock. In order for the rhea industry to become a viable alternative agricultural enterprise, the markets for meat and leather need to be further developed. The skin of the rhea is similar in appearance to that of a baby ostrich and is soft and durable. The meat of the rhea is similar to beef in color, taste, and texture, but is lower in cholesterol and fat. Rhea skin boots are sold commercially. White rheas currently are more expensive than gray ones, but the only difference is their feather color.

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## Establishing

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There are several ways to establish a rhea operation. Evaluate all the options and decide which one is best for you. Consider the following:

- The producer can purchase and incubate rhea eggs. This method is lowest in cost, but also highest in risk. The eggs can be candled to determine their fertility, but hatching requires a sound knowledge of rhea egg incubation methods.
- The producer can purchase chicks more than 3 months old. (Mortality is highest during the first three months.) This option is more expensive than purchasing eggs or hatchlings, but this purchase option will probably prove more cost effective because the mortality rate after age 3 months is greatly reduced.
- The producer can purchase yearlings or young adults. While yearlings are more expensive than chicks, yearlings should be productive within two years.
- The most costly method is to purchase a trio of breeder birds (one male and two females) that have produced fertile eggs together. This method will allow production to begin in the next season.

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## Budgeting

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Included in this publication are three sample budgets which summarize the annual costs and returns of buying chicks at 3 months for sale at 12 months of age, buying chicks at 13 months for sale at 18 to 20 months as breeder stock and slaughter stock, and purchasing a breeder trio. These sample budgets should help ensure that all costs and receipts are included in your calculations. Costs and returns are often difficult to estimate in budget preparation because they are numerous and variable. Therefore, you should think of these budgets as an approximation and then make appropriate adjustments using the “Your Estimate” column to reflect specific situations.

From these sample budgets, it appears that if you can sell in the breeder market you may be able to realize substantial profits. Not all birds can be sold in the breeder market and the extent to which this market can be further expanded is not known. The slaughter market is very limited. With the present price of the animals, the overall profitability of the enterprise is very questionable.

## Incubating

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The process of hatching can be very rewarding as well as very frustrating. Incubator costs range from \$300 to \$4,500. For the beginner, it may be more profitable to have a custom hatcher who has experience with rhea eggs do the hatching. If you wish to do your own hatching, get information from the various commercial incubator companies, talk to others who are hatching eggs, and work with poultry specialists on specific incubation questions.

## Housing and Fencing

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Rheas are not monogamous, so the following housing recommendations are based on a unit of two females and one male.

Rheas require chain link or mesh fencing which stops them from putting their heads through and injuring themselves. Rheas can be quite aggressive and will bite or nip. They will reach over, through, and under any type of fence if possible, and can hurt themselves if their necks or legs get caught. Rheas can jump, so a fence that is at least five feet tall is needed. A pen measuring 40 feet by 180 feet (one-third acre) is recommended.

Rheas need to run. As with any grouping of birds, a pecking order will be established. The more room males have to establish their territory the less fighting they will do and the less opportunity for injury.

Rheas need shelter from the extreme cold and shade in the summer. The shelter is best placed inside the fenced area where rheas will have free access to the shelter. The design can range from a plywood three-sided building to a small

barn that can be heated if necessary. A 10-by-10-foot shelter is adequate for a breeder trio. Placing the feed in the shelter will teach the rheas to use the shelter and will also keep the feed dry.

## Nutrition

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As with any livestock, the nutritional needs of the rhea are different at different stages of development.

■ **Chicks**—hatching to approximately 6 months of age. One week after chicks have hatched, feed them a good starter crumble either from the ratite rations developed by certain feed companies or a regular chicken starter. As soon as possible (two days after hatching), put the chicks out on grass and provide water. Vitamins and electrolytes should be added (at the recommended levels) to the drinking water for the first two to three weeks. In the first week after hatching, it is imperative that the yolk sac be completely absorbed. As long as the chick is utilizing the yolk, it does not need food. Running seems to help the chick absorb the yolk sac, and instinct tells the chick to pick at the grass.

■ **Yearlings**—6 months to approximately 18 months. Use a commercial ratite grower feed or a turkey-broiler grower feed. Protein should be 24 to 26 percent and fiber should be 11 to 12 percent when the birds are not on grass.

■ **Adults**—when the birds are sexually mature. Use a layer ration or a breeder ration from a commercial ratite feed company. (Signs of sexually mature behavior are hens making a “booming” noise, strutting, and throwing out their chest and neck feathers; males grunting, strutting, and throwing out their chest and neck feathers.)

Always have clean water available to all birds at all stages of development. Grit is also essential to the rhea diet. Small stones or commercial grit is best.

## Breeding

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Commercially, the ratio of one male to two females is most commonly practiced. Hens will start laying at 18 to 24 months of age. Hens tend to mature earlier than males. Males become very aggressive during breeding season, which is from early March through August. The female can lay up to 60 yellow, waxy shelled eggs per year.

## For More Information

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### **Periodicals**

*Animal Finders Guide*  
PO Box 99  
Prairie Creek, IN 47869

*Emu Today and Tomorrow*  
PO Box 7  
Nardin, OK 74646-0007

*Exotic Livestock & Wildlife*  
Attn: Janet Sands  
424 W. Griggs  
Las Cruces, NM 88005

*The Ostrich News*  
PO Box 860  
502 C St.  
Cache, OK 73527-0860  
(405) 429-3765

*The Ratite Marketplace*  
PO Box 1613  
Bowie, TX 76230  
1-800-972-7730

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714 Poyntz, Suite B  
Manhattan, KS 66502

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## Sample Rhea Chick Budget

Starting with a male and two female chicks purchased at 3 months and sold at 12 months of age.

Item	Rhea trio	Your estimate
<b>Receipts</b>		
Chicks sold	\$3,600.00	_____
Meat	\$0.00	_____
Leather	\$0.00	_____
<i>Total receipts</i>	\$3,600.00	_____
<b>Variable costs</b>		
Cost of three chicks	\$2,100.00	_____
Feed costs	\$44.80	_____
Utilities	\$2.00	_____
Supplies and miscellaneous	\$2.00	_____
Insurance	\$168.00	_____
Interest on three birds	\$141.75	_____
Marketing costs	\$100.00	_____
<i>Total variable costs</i>	\$2,558.55	_____
<b>Fixed costs</b>		
Buildings, equipment, fencing	\$120.00	_____
Insurance, taxes	\$1.20	_____
<i>Total fixed costs</i>	\$121.20	_____
<b>Total costs</b>	\$2,679.75	_____
<b>Returns</b>		
Returns over variable costs	\$1,041.45	_____
Net returns	\$920.25	_____

### Initial resource requirements

- Land: three-tenths acre
- Labor (per trio): 60 hours
- Capital
  - Chicks: \$2,100
  - Buildings, equipment, fencing: \$600
  - Total capital investment: \$2,700

## Sample Rhea Yearling Budget

Starting with a male and two females and selling at 18 to 20 months.

Item	Breeder stock	Slaughter estimate	Your estimate
<b>Receipts</b>			
Three yearlings	\$6,000.00	\$0.00	_____
Meat <sup>a</sup>	\$0.00	\$980.00	_____
Leather <sup>a</sup>	\$0.00	\$430.00	_____
<i>Total receipts</i>	\$6,000.00	\$1,410.00	_____
<b>Total variable costs</b>			
Cost of three chicks (age 12 months)	\$3,600.00	\$3,600.00	_____
Feed costs	\$89.60	\$89.60	_____
Utilities	\$2.00	\$2.00	_____
Supplies and miscellaneous	\$2.00	\$2.00	_____
Insurance	\$432.00	\$0.00	_____
Interest on investment	\$243.00	\$243.00	_____
Marketing costs	\$100.00	\$5.00	_____
<i>Total variable costs</i>	\$4,468.60	\$3,941.60	_____
<b>Fixed costs</b>			
Buildings, equipment, fencing (\$500)	\$100.00	\$100.00	_____
Insurance, taxes	\$5.00	\$5.00	_____
<i>Total fixed costs</i>	\$105.00	\$105.00	_____
<b>Total costs</b>	\$4,573.60	\$4,046.60	_____
<b>Returns</b>			
Returns over variable costs	\$1,531.40	(\$2,531.60)	_____
Net returns	\$1,426.40	(\$2,636.60)	_____

<sup>a</sup> Value for slaughter is wholesale price of products, not price received on the hoof.

### Initial resource requirements

- Land: one-half acre
- Labor (per trio): 30 hours
- Capital
  - Yearlings: \$3,600
  - Buildings, equipment, fencing: \$500
  - Total capital investment: \$4,100

## Sample Budget for Rhea Breeder

One male and two females purchased at 2 years of age.

Item	Year 3	Year 4	Year 5	Year 6	Year 7	Your estimate
<b>Receipts</b>						
Price per chick	\$700	\$700	\$700	\$700	\$700	_____
Number of chicks sold	15	20	25	25	25	_____
<i>Total receipts</i>	\$10,500	\$14,000	\$17,500	\$17,500	\$17,500	_____
<b>Variable costs</b>						
Feeding adults	\$420	\$420	\$420	\$420	\$420	_____
Feeding chicks for 3 months	\$45	\$60	\$75	\$75	\$75	_____
Utilities	\$240	\$240	\$240	\$240	\$240	_____
Supplies, vet, misc. exp.	\$110	\$110	\$110	\$110	\$110	_____
Custom hatch <sup>a</sup>	\$2,625	\$3,500	\$4,375	\$4,375	\$4,375	_____
Insurance	\$240	\$240	\$240	\$240	\$240	_____
Interest on breeder trio	\$51	\$51	\$51	\$51	\$51	_____
Marketing costs	\$750	\$1,000	\$1,250	\$1,250	\$1,250	_____
<i>Total variable costs</i>	\$4,481	\$5,621	\$6,761	\$6,761	\$6,761	_____
<b>Fixed costs</b>						
Cost of breeders	\$1,286	\$1,286	\$1,286	\$1,286	\$1,286	_____
Buildings, equipment, fencing	\$100	\$100	\$100	\$100	\$100	_____
Chick house	\$120	\$120	\$120	\$120	\$120	_____
Micro chip reader and chip	\$375	\$375	\$375	\$375	\$375	_____
Incubator and hatcher <sup>a</sup>	\$0	\$0	\$0	\$0	\$0	_____
Brooder room	\$20	\$20	\$20	\$20	\$20	_____
<i>Total fixed costs</i>	\$1,901	\$1,901	\$1,901	\$1,901	\$1,901	_____
<b>Total costs</b>	\$6,382	\$7,522	\$8,662	\$8,662	\$8,662	_____
<b>Returns</b>						
Returns over variable costs	\$6,019	\$8,379	\$10,739	\$10,739	\$10,739	_____
Net returns	\$4,118	\$6,478	\$8,838	\$8,838	\$8,838	_____
Net present value over five years (time use of money) <sup>b</sup>			\$28,893			_____

<sup>a</sup> Producers can either use custom hatching facilities or learn to do the hatching.

<sup>b</sup> Net present value is used to calculate the returns from a long-term investment at the time the investment is made.

### Initial resource requirements

- Land: 1 acre
  - Labor (per trio): 30 hours
  - Capital
- Breeders: \$9,000  
Buildings, equipment, fencing: \$1,200  
Total capital investment: \$10,200

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