

Non-Conventional Meat

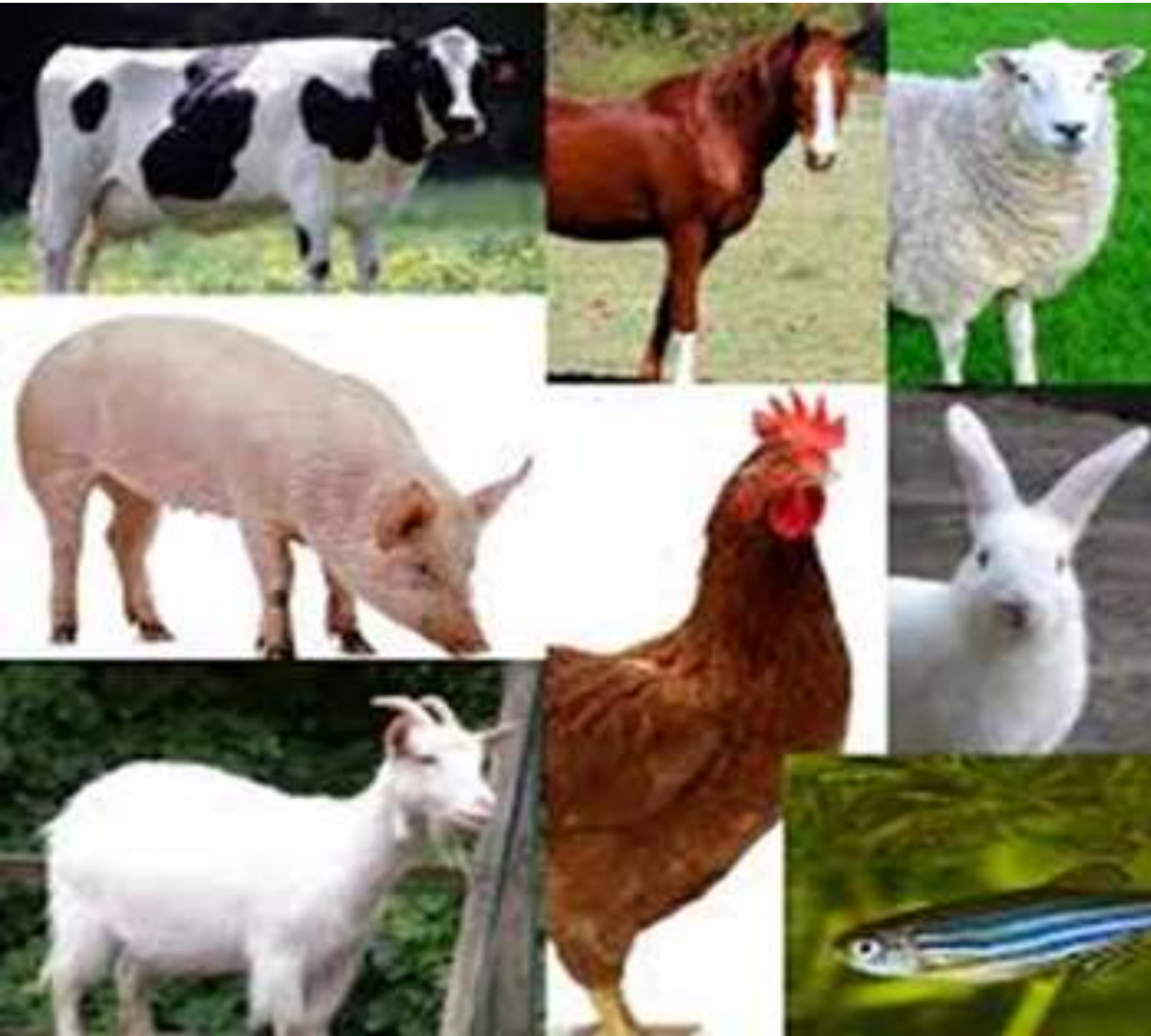
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Introduction

Conventional Livestock



- Performance specialization
- Market demand
- More controlled and intensive production systems
- Commercially exploited

Non-conventional Meat, What & Why?



Non-conventional meat species

What?

- ✓ Reservoirs of valuable genetic resources
- ✓ Traditionally been used as sources of animal protein, fiber, transport and draught power
- ✓ Little has been done to develop their commercial exploitation

Why?

- ✓ Climatic and ecological diversity
- ✓ Different levels of economic development in various parts of the world
- ✓ Large number of other animal species which are potentially suitable for domestication and commercial production

Justification of commercial exploitation of non-conventional meat

- ✓ Unconventional livestock are adapted to harsh environments
- ✓ Can utilize natural resources that conventional stock cannot
- ✓ Suitable for complementary production with conventional species
- ✓ More efficient recycling of nutrients through integrating them into intensified production systems
- ✓ Unconventional animals are easy to feed, manage and handle, and can therefore be raised by landless and smallholder farmers

(Source: Vietmeyer, 1984; Pich and Peters, 1985)

Classification of non-conventional meat species

- Based on ecological distribution and body size
- Classified under 3 categories
 - Animals with a large body size and high ecological affinity
 - Animals with a small body size and high ecological affinity
 - Animals with a small body size and low ecological affinity

Alpaca meat



- ✓ A viable alternative agricultural enterprise
- ✓ Hardy animal and an extremely efficient grazer.
- ✓ Used for meat, leather and fiber
- ✓ Meat is lean, tender and almost sweet
- ✓ High in protein, low in fat and lowest cholesterol level

Camel meat



- ✓ Low fat content and highly nutritious
- ✓ Potential to be used to hypertension, pneumonia and respiratory disease
- ✓ Currently farming for meat in Asia, Africa, Latin America and Australia

Ostrich meat



- ✓ By far the healthiest alternative to our traditional meat (lower fat, calories and cholesterol than beef, chicken, turkey pork and fish)
- ✓ A "red meat" similar in colour and taste to beef
- ✓ Huge portion of all the meat from an ostrich comes from the leg, thigh, and back
- ✓ Fast becoming a favourite with people as a lean meat

Ostriches produce more meat than cattle

Cattle

One calf/yr

250 kg (at 24 months)

Ostrich

40 eggs

1800 kg (at 14 months)

Comparing ostrich with other meats (per 100 grams serving)

Type of Meat	Protein (%)	Fat (Grams)	Calories (KCal)	Iron (mg)	Cholesterol (mg)
Ostrich	26.9	3.0	142	3.2	81
Beef	28.1	10.5	209	3.0	83
Veal	33.9	9.4	225	1.2	124
Pork	29.3	15.2	256	1.1	91
Chicken	28.9	7.4	190	1.2	89
Turkey	29.36	5.0	170	1.8	76
Lamb	30.4	9.4	215	1.2	95

Deer meat

- ✓ Deer meat is called as venison
- ✓ Low in fat, and high in protein and minerals
- ✓ An excellent way to start a new enterprise that diversifies their existing operation in a lower input and more environmentally sound manner
- ✓ Deer farming began in the late 1960s
- ✓ There are more than 1.7 million deer on New Zealand farms
- ✓ U.S. currently produces only 20 percent of the venison demand
- ✓ Deer consume less fodder than cattle, are less damaging to pastures, mature more quickly, and can reproduce for up to 20 years in captivity



Rabbit meat

- ✓ Breed and grow so quickly
- ✓ One pair of healthy does (females) can produce more than 600 pounds of meat in a year
- ✓ More efficient feed utilization
- ✓ Excellent source of protein, has less cholesterol and fat than chicken, beef, lamb or pork
- ✓ Almost ideal fatty acid ratio of 4:1 omega-6 to beneficial omega-3 fatty acids



Guinea pig meat

- ✓ Usually cooked whole, often grilled, sometimes deep fried
- ✓ Considered a fine and valuable food in Ecuador, Peru and Colombia
- ✓ Low-impact meat alternative to carbon-costly beef
- ✓ Don't require the land that cattle do (can be kept in backyards, or in your home)
- ✓ Docile and easy to raise
- ✓ High feed conversion efficiency



Edible insects

- ✓ Insects are an extremely good source of protein and vitamins
- ✓ More efficient feed conversion than other livestock
- ✓ 10 kg feed \longrightarrow 1 kg beef
1.7 kg feed \longrightarrow 1 kg insects
- ✓ Only 1 % GHG emissions



Commonly cultivated species

(a) common cricket



a

(b) house cricket



b

(c) palm weevil larvae



c

(d) mealworm



d

Snail meat

- ✓ Snail is a low fat, high protein meat
- ✓ France alone, 40,000 tonnes of snails are eaten per year
- ✓ Fattening the snails by keeping large numbers of them in small spaces, greenhouses and pens, and feeding them with artificial food mixes.
- ✓ Usually snails are sold conserved in different ways: In tins in a sauce, or frozen



Alternative poultry meat

Guinea fowl



- ✓ Popular in Europe (France, Italy, Poland), Russia, North America and in Africa
- ✓ FCR is 3.1 – 3.5
- ✓ Dark and tasty meat
- ✓ 23% protein and 4% fat (compared to 21% protein and 7% fat in chicken)
- ✓ Dressing percentage is 74%

Pigeon



- ✓ Use squabs for meat
- ✓ Slaughter just before full feather development /flying
- ✓ High flesh : inedible ratio
- ✓ Meat is tender, tasty with good flavor



Duck

- tender and palatable meat
- marketable age – 6–7 weeks



Geese

- Fatty meat
- Gosling market is popular



Muscovy

- Large breast muscle
- Low fat



Quail

- Dark and tasty meat
- Dressing 67 – 72%

Potentials

1. **Specific adaptability to ecological niches**

2. **High reproductive capacity**

Short generation interval

Large litter size

Fast juvenile growth

3. **Efficient utilization of nutrients**

4. **Extended utilization of feed resources**

Minute feed — pigeon, guinea fowl, duck, turkey, snail

Household scraps — guinea pig, rabbit

5. Limited competition with humans for feedstuffs

Utilize roughages and edible byproducts of food processing

6. Flexible adjustment of livestock holding to available resources

Animals are small, prolific and have a fast turnover

7. Low production risk

Small initial investment, fast returns

8. Easy to market or consume at home

Can be transported alive without difficulty; provide cash or meat in small quantities

Constraints

1. Insufficient information about genetic resources for specialized production systems
2. Limited genetic progress, due to lack of breeding strategies, small population sizes and multipurpose production
3. Underestimated importance as sources of food and income
4. Low priority given in research and development
5. Lack of management skills and veterinary inputs
6. Limited scope for improving backyard production systems
7. Legislation to protect wild species imposes limitations on the economic utilization of undomesticated animals

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Thank
You