Local cattle breeds and performance potentials in rural areas in Iran

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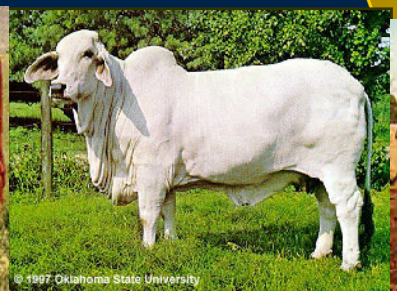

Introduction

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- Growth of the global human population
- Major challenge for food production
- Needs for higher food leads to fewer breed with higher production (decreasing n_e)
- Genetic erosion
- Real threats to local breeds unless new functions for them be found

Introduction

Importance of genetic diversity in local breeds:

- Phenotypic characteristic
- Production traits (quantity or quality)
- Fitness traits (adaptation to different environment, conformation, fertility, disease resistance)
- Suitable for ecosystems

Introduction

Importance of genetic diversity in local breeds:

- Political/ social stability of rural areas
- More job opportunity in local market and Investments
- Insurance against unexpected situations like natural disasters (climate or environmental changes)

Introduction

The aim of our survey was to study

1. The role of local breeds in rural areas of Iran (around northeastern border)

2. Performance potentials

Material and methods

Material and methods

- 3 rural areas in northeastern of Iran
- 65 farmers were interviewed using questionnaire:
  - Family (No. of members and workers, education, occupation, No. of animals)
  - Phenotypic characters (hair coat, horn)
  - Production (daily milk, meat)

Material and methods

- **Milk processing**
- **Feeding management and resources**
- **Reproduction (natural / AI)**
- **Sanitation and diseases management**
- **Housing system (building, facilities, water supply, light, density)**

Results

Results

Family information:

- Farmers were not well-educated
- 5 persons in a family, on average
- 2 family members were directly raising cow
- No non-family worker
- 58% of workers were women
- 87% of women were over 18 years old
- 4 head animals per family; 2 of them cow

Results

Results

- Phenotypic characteristics:
- 93% animals had horn
- Variable coat color from white to black
- dominant colors were black-and- white pattern or completely black
- some crosses taken place with Holstein

Results

Results

- Productions:
- Milking twice with production7.85 kg/day
- 84% of cows could deliver one calf per year
- Families desire to consume their own milk or dairy products like yoghurt, cheese, Kasha, or Dough
- Only 26% of farmers were selling extra milk production to Milk Gathering Centers

Results

- Productions:
- Milking period was 7 months
- calves were kept and fed by dam's milk
- Average weight of matured animals was 289 kg, slaughtered weight of 147 kg
- longevity of 6.9 years
- Selling live cattle or meat production to markets
- only 10% were consuming their own meat production

Results

- Feeding management:
- Daily fed three times by straw and barn
- Only few farmers could provide concentrate (28%), hay (20), and barley (11%), or sugar beet pulp (4%)
- Fodders includes farmer's agriculture or by-product (73%); the others had to buy it

Results

- Housing system:
- Animals could freely moving and grazing around the villages
- Separately housed close to their owners' house, which were permanent places

Results

- Housing system:
- Floors were dusty without any drainage facility
- Light, ventilation, watering trough, and manger conditions were in medium or poor scores
- Density and water quality had generally good conditions
- Water was supplied by connected wells or river

Results

- Sanitation and diseases:
- The most frequent disease was tiderips
- Vaccinated against foot-and-mouth disease,
- Brucellosis (48%)
- Anthrax (30%)
- Natural reproduction
- Only 15% of farmers were doing A.I

Results

Reproduction management:

- 6 males in villages
- Males to females ratio was 0.33
- 1st service of females was around the 25th month of life
- Males were able to mate in the 21.7th month

Discussion

Discussion

Farmers were demanding facilities for:

- providing feedstuffs,
- Purchasing cow,
- or improving the housing conditions

Discussion

Regarding to:

- special geographical places
- ecosystem surrounded by range of mountains in northeast,

1. It would be impossible to establish industrial farms which need high-demand pure breeds like Holstein
2. If basic needs could be met, sustainable livestock system would be work in these areas

Acknowledgement

- National Breeding Center in Iran
- Hospitable people in rural villages

Thank you for your attention

Material and methods