सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
& ENTREPRENEURSHIP

N·S·D·C
National
Skill Development
Corporation
Transforming the skill landscape

ASCI
Agriculture Skill Council of India

Day 1:

Introduction & Farm Setup

Session 1: Overview of Goat Farming

1. Importance of Goat Farming in Rural Livelihoods

- Explain how goats serve as an economic backbone for small and marginal farmers.
- Discuss their role in income generation, food security, and employment.
- Highlight that goats require minimal investment and have a high reproduction rate.

2. Commercial vs. Traditional Farming

- Define traditional farming: low input, backyard rearing, minimal scientific interventions.
- Define commercial farming: planned breeding, proper nutrition, healthcare, and profit-driven operations.
- Compare profitability, sustainability, and challenges in both methods.

3. Key Economic Benefits

- Revenue sources: sale of meat, milk, skin, manure, and breeding stock.
- Discuss high demand in domestic and international markets.
- Explain how goats have a high feed-to-product conversion ratio, leading to better profitability.

Session 2: Goat Farm Infrastructure

1. Ideal Location and Layout of a Farm

- Selection criteria: availability of land, water, market proximity, and climatic conditions.
- Layout plan: segregation of housing, grazing, feed storage, and medical facilities.

2. Housing and Shelter Requirements

- Different housing systems: intensive, semi-intensive, and extensive systems.
- Requirements for space, protection from extreme weather, and predator safety.
- Importance of proper lighting and ventilation.

3. Flooring, Ventilation, and Drainage Systems

- Recommended flooring materials: concrete, bamboo, or slatted floors for easy cleaning.
- Proper air circulation to prevent respiratory diseases.
- Effective drainage system to avoid moisture accumulation and hygiene issues.

Session 3: Selection of Goat Breeds

1. Popular Goat Breeds in India

- Meat breeds: Sojat, Black Bengal, Sirohi, Osmanabadi, Boer.
- Milk breeds: Jamunapari, Beetal, Malabari.
- Dual-purpose breeds: Barbari, Jakhrana.

2. Breed Selection Based on Climate and Purpose

- Adaptability of breeds to local weather conditions.
- Selecting breeds for specific farming goals (meat, milk, or both).

3. Purchasing Guidelines for High-Quality Stock

- Age, body structure, coat condition, active behavior.
- Checking vaccination and deworming history.
- Avoiding inbreeding by purchasing from reputable sources.

Practical:

- **Farm tour to different goat shelters.**
- **Visual comparison of different breeds and their characteristics.**

Day 2:

Goat Nutrition & Feeding Practices

Session 1: Nutritional Requirements of Goats

1. Types of Feed: Concentrates, Fodder, Mineral Supplements

- Green fodder: Lucerne, Napier grass.
- Dry fodder: Hay, straw.
- Concentrates: Grains, oil cakes, bran.
- Mineral supplements: Calcium, phosphorus, trace minerals.

2. Nutrient Requirements at Different Growth Stages

- Kids (0-3 months): High protein diet.
- Growing goats (3-12 months): Balanced diet with vitamins and minerals.
- Lactating goats: High energy and protein feed for milk production.

3. Importance of Water Intake

- Adequate water improves digestion and milk yield.
- Water cleanliness and accessibility.

Session 2: Fodder Cultivation & Storage

1. Green Fodder vs. Dry Fodder

- Advantages and limitations of each.
- How to ensure year-round fodder availability.

2. Hydroponic Fodder Production

- Introduction to hydroponic systems for growing fodder.

- Demonstration of hydroponic maize or barley fodder.

3. Silage Preparation and Storage Methods

- Step-by-step process of making silage.
- Storage techniques to maintain nutritional value.

Session 3: Least-Cost Ration Formulation

- Formulation of a cost-effective balanced diet.
- Using locally available feed ingredients.
- Feeding frequency and schedule.

Session 4: Nutritional Requirements of Goats

Nutrient Requirements at Different Growth Stages

1. **Growing Kids (up to 6 months):**
    - Crude Protein: 18-20% for proper muscle and bone development
    - Crude Fiber: 12-14% for gut health and digestion
    - Energy (Carbohydrates & Starch): 65-70% TDN (Total Digestible Nutrients)
    - Fat: 2-4% for maintaining metabolic function
    - Minerals & Vitamins: Essential for bone growth, immune function, and digestion
    - Water: At least 1-2 liters per day
2. **Male Bucks for Meat Production (Fattening Purpose):**
    - Crude Protein: 14-16% for lean muscle growth
    - Crude Fiber: 10-12% to avoid digestive issues
    - Energy (Carbohydrates & Starch): 65-75% TDN
    - Fat: 3-5% for faster weight gain

- Minerals & Vitamins: To support metabolism and immunity
- Water: At least 3-4 liters per day

3. **Male Bucks for Breeding:**
    - Crude Protein: 14-16% to maintain reproductive health
    - Crude Fiber: 12-14% for digestion and gut function
    - Energy (Carbohydrates & Starch): 60-70% TDN
    - Fat: 3-5% for maintaining libido and sperm quality
    - Minerals & Vitamins: Zinc, Selenium, and Vitamin E are crucial for fertility
    - Water: At least 4-5 liters per day
4. **Pregnant Female Goats (Last 2 months of Pregnancy):**
    - Crude Protein: 16-18% for fetal development
    - Crude Fiber: 14-16% to prevent bloating
    - Energy (Carbohydrates & Starch): 65-70% TDN
    - Fat: 4-6% to support fetal growth and milk production
    - Minerals & Vitamins: Calcium & Phosphorus for bone formation, Vitamin A & D for immune health
    - Water: At least 4-6 liters per day

Session 5: Role of Different Nutrients in Goat Nutrition

1. **Crude Protein (CP):** Essential for muscle growth, reproduction, and milk production. Sources: soybean meal, groundnut cake, fish meal, etc.
2. **Crude Fiber (CF):** Aids digestion, prevents bloating, and maintains gut health. Sources: dry fodder, wheat bran, rice husk, etc.
3. **Carbohydrates & Starch:** Provides energy for daily activities and weight gain. Sources: maize, wheat, barley, broken rice, etc.
4. **Fat:** Supports metabolic function, reproduction, and weight gain. Sources: vegetable oils, bypass fat, etc.
5. **Minerals & Vitamins:**

- Macrominerals (Calcium, Phosphorus, Magnesium, Sodium) for bone growth and metabolism
- Microminerals (Zinc, Selenium, Copper, Iodine) for immunity, fertility, and wool growth
- Vitamins (A, D, E, K, B-complex) for overall health and reproductive efficiency

6. **Toxin Binders:** Prevents fungal toxin-related issues in feed and improves gut health.

Session 6: Least-Cost Ration Formulation

Simple Method to Formulate Daily Ration for Each Type of Goat

1. Growing Kids (4-6 months, 10-15 kg weight):
    - Green Fodder: 500g (e.g., Lucerne, Napier grass)
    - Dry Fodder: 300g (e.g., straw, dry grass)
    - Concentrate Mix: 200g (maize, soybean meal, mineral mixture)
    - Water: 2 liters
2. Male Bucks for Meat Production (15-25 kg weight, intensive fattening):
    - Green Fodder: 700g
    - Dry Fodder: 500g
    - Concentrate Mix: 400g
    - Fat Supplement: 20g (e.g., vegetable oil)
    - Mineral Mixture: 10g
    - Water: 3 liters
3. Male Bucks for Breeding (30-40 kg weight):
    - Green Fodder: 1kg
    - Dry Fodder: 700g
    - Concentrate Mix: 500g
    - Mineral Mixture: 15g
    - Water: 5 liters

4. Pregnant Female Goats (Last 2 months of pregnancy, 25-35 kg weight):
    - Green Fodder: 1.2kg
    - Dry Fodder: 800g
    - Concentrate Mix: 600g (with added bypass protein)
    - Fat Supplement: 30g (bypass fat)
    - Mineral Mixture: 20g
    - Water: 5-6 liters

Practical Activity: Hands-on Feed Preparation and Ration Formulation

Trainees will:

✓ Learn how to mix different feed ingredients
✓ Calculate the nutritional values for each type of goat
✓ Prepare sample feed for each category
✓ Observe and evaluate the impact of balanced feeding on farm animals

Day 3:

Goat Health Management & Disease Prevention

Session 1: Common Goat Diseases

- Viral Diseases: PPR, Foot and Mouth Disease.
- Bacterial Diseases: Enterotoxemia, Brucellosis.
- Parasitic Infestations: Internal worms, external ticks.

Session 2: Vaccination and Deworming Schedule

- Recommended vaccination schedule for common diseases.
- Deworming practices for internal and external parasites.

Session 3: First Aid & Emergency Care

- Identifying symptoms of sick animals.
- Basic treatments for common illnesses.
- Quarantine and biosecurity measures.

Practical:

- Hands-on training on administering vaccinations and deworming.

Day 4:

Breeding & Reproduction Management

And

Goat Farm Economics & Business Planning

Breeding & Reproduction Management

Session 1: Natural Breeding vs. Artificial Insemination

- Pros and cons of natural breeding and AI.
- Selecting superior bucks.
- Timing and methods of mating.

Session 2: Pregnancy and Kidding Management

- Signs of pregnancy.
- Preparing for kidding.
- Assisting in safe delivery.

Session 3: Newborn Kid Care

- Importance of colostrum feeding.
- Managing weak or orphaned kids.

Practical:

- Identifying pregnant goats and assisting in kidding.

Goat Farm Economics & Business Planning

Session 1: Cost of Goat Farming

- Investment requirements: Land, animals, infrastructure.
- Operational costs: Feed, healthcare, labor.

Session 2: Marketing Strategies

- Identifying potential buyers.
- Pricing strategies for maximum profit.

Session 3: Government Schemes & Financial Assistance

- Available subsidies and loan schemes.
- Registration process for commercial goat farms.

Practical:

- Preparing a sample business plan.

Day 5:

Goat Housing & Waste Management And Hands-On Practical Training & Assessment

Goat Housing & Waste Management

Session 1: Housing Expansion & Space Optimization

- Planning for herd growth.
- Efficient space utilization.

Session 2: Waste Management & Biosecurity

- Managing manure for compost and biogas.
- Biosecurity measures for disease control.

Session 3: Record Keeping & Farm Management

- Importance of maintaining records.
- Digital tools for tracking farm productivity.

Practical:

- Cleaning and maintaining farm hygiene

Hands-On Practical Training & Assessment

Session 1: Farm Visit & Performance Assessment

- Evaluating trainees' skills and knowledge.
- Identifying best practices.

Session 2: Farmer Interaction & Experience Sharing

- Case studies of successful goat farmers.
- Open Q&A session.

Session 3: Learning Assessment& Closing Ceremony

- Feedback and experience sharing.
- Written assessment test.
- Oral assessment test.