



# Dairy production Level

## NTQF Level -II

### Learning Guide 45

**Unit of Competence: Assist dairy animal breeding procedure**

**Module Title: Assisting dairy animal breeding procedure**

**LG Code: AGR APR2 M12 L03 LG 45**

**TTLM Code: AGR APR2 TTLM 0919v1**

**LO 3: Facilitate natural breeding**





<b>Instruction Sheet</b>	<b>Learning Guide 45</b>
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This learning guide is developed to provide you the necessary information regarding the following content coverage and topics –

- Securing and providing mating areas for access during joining.
- Carrying out natural mating when required, according.

This guide will also assist you to attain the learning outcome stated in the cover page.

Specifically, upon completion of this Learning Guide, you will be able to –

- Secure and providing mating areas for access during joining.
- Carry out natural mating when required, according.

**Learning Instructions:**

1. Read the specific objectives of this Learning Guide 45.
2. Follow the instructions described in number 1 to 7.
3. Read the information written in the “Information Sheet (**1 and 2**) in page **2 and 5** respectively
4. Try to understand what are being discussed. Ask you teacher for assistance if you have hard time understanding them.
5. Accomplish the “**Self-check 1 and Self-check 5**” in page, **4, and 7** respectively.
6. If you earned a satisfactory evaluation proceed to “Operation Sheet 1 in page 8.
7. Do the “LAP test” in page 9 (if you are ready). Request your teacher to evaluate your performance and outputs. Your teacher will give you feedback and the evaluation will be either satisfactory or unsatisfactory. If unsatisfactory, your teacher shall advice you on additional work.



<b>Information sheet-1</b>	<b>Securing and providing mating areas for access during joining</b>
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The date of joining the sire to the breeding herd/flock is determined by the cycle of estrus in female and sometimes by breeding season planned in the year.

Estrus has been defined as a period when the female shows characteristic sexual behavior in the presence of a mature male, such as immobility, raising the hind quarters or arching the back, pricking of the ears-features that are collectively termed lordosis in small laboratory animals; mounting and riding behavior between females is also common. Where AI or hand mating is being used, estrus detection is the most important limiting factor for optimum reproductive performance. Insufficient and/or inaccurate estrus detection leads to delayed reduced conception rates and thus extended calving intervals.

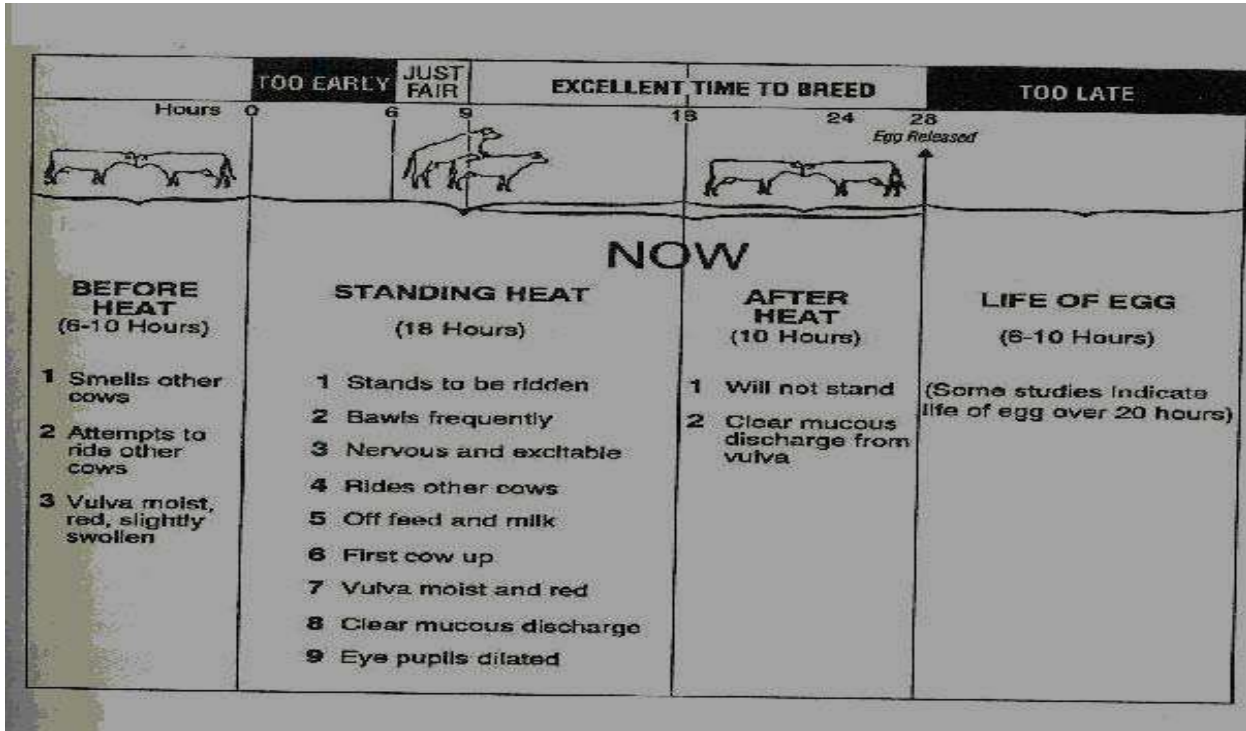


Fig 1. Estrus detection sign of cow



Before selecting certain area for mating services, certain facilities should be available such as milk collection and processing, disease control and high standard of herd management. Resource should not stretch too far because continuity of operation is primarily considered. Area with primitive farm management a change in attitudes management practice is required before AI is introduced successfully. Field service can be organized in several ways.

Mating place/ area/ should

- ☞ Free from any injury and injury cause materials
- ☞ Free from any disturbances
- ☞ Safe and clean
- ☞ Roads and accessibilities such as telephone
- ☞ Feed availability
- ☞ Free from any contaminated area





<b>Self-Check -1</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write down the mating place/ area/ should look like (6 points)

**Note: Satisfactory rating – 6 points                      Unsatisfactory - below 6 points**  
You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. \_\_\_\_\_

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Information sheet -2	Carrying out natural mating when required, according.
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Natural mating is using bulls to service the heifers. The choice of bull depends on many factors, such as:

- ☞ the heifer's age
- ☞ the heifer's size or live weight
- ☞ the heifer's stage of development
- ☞ farmer's requirement for extra heifer replacements to increase herd size or achieve
- ☞ Desired culling rates
- ☞ Availability and cost of bulls.

Natural mating can be done in two ways:

**Free/pasture mating:-** This method of mating is practised by farmers who own bulls which run full time with the cows. One bull can serve 20-25 cows. It has the advantage no no heat detection required and disadvantage of lack of accurate records and possibility of transmission of reproductive diseases e.g. brucellosis.

**Hand mating:-** The bull is enclosed in it's pen and the cows are brought in when they show signs of heat. Most small-scale farmers will practice this method since bulls are owned by few farmers and others bring their cows for service at an agreed fee.

Using beef sires over replacement heifers is a common practice on many dairy farms. The argument in favour of using beef bulls has been that small poorly developed dairy heifers are not big enough at 15 months to be serviced by dairy bulls (except in the case of Friesian heifers, other than by Jersey bulls). Problems can occur with physical damage when small heifers are mated with large bulls, because calving difficulties frequently occur with large calves being born to small heifers. However, heifers that have achieved minimum target live weight are generally capable of being successfully mated and calved to the larger dairy breeds. With the recent influx of large-framed

overseas genetics into what were previously considered small and safe, easy calving beef breeds, such as Angus, many producers now experience calving difficulties through mating their smaller heifers with these beef bulls. If newborn 'bobby calf' prices are low, the value of a beef cross calf is minimal compared with the potential cost of a dystocia and the resultant loss of milk production.

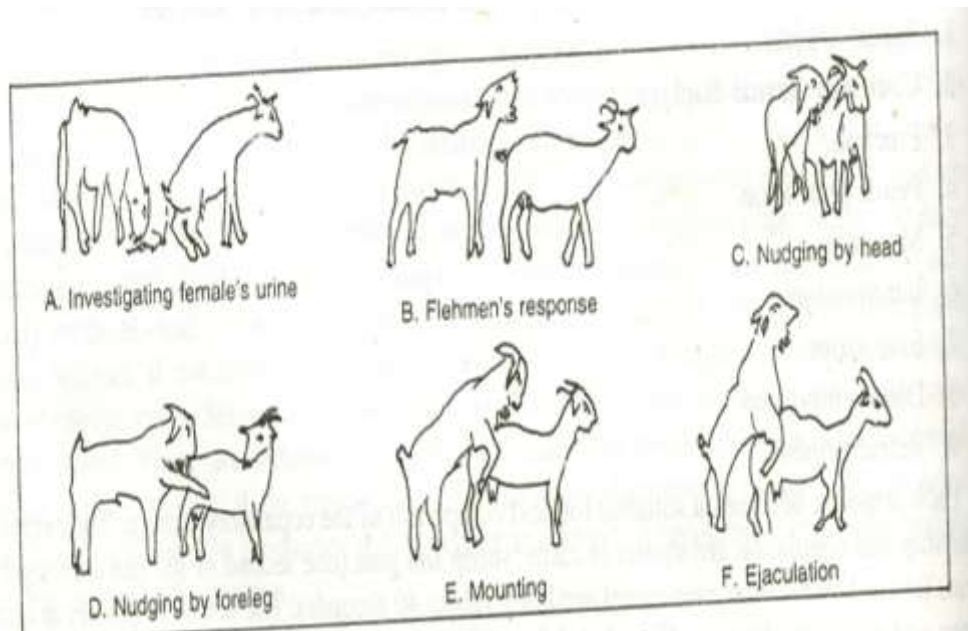


Fig. 2. Natural mating methods in goat



<b>Self-Check -2</b>	<b>Written Test</b>
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**Directions:** Answer all the questions listed below. Use the Answer sheet provided in the next page:

1. Write the two ways of natural mating can be done : (6 points)

**Note: Satisfactory rating – 6 points                      Unsatisfactory - below 6 points**

You can ask you teacher for the copy of the correct answers.

**Answer Sheet**

Score = _____
Rating: _____

Name: \_\_\_\_\_

Date: \_\_\_\_\_

2. \_\_\_\_\_  
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## Operation sheet -1

## Natural mating

### Procedure

1. Identifying the cow on heat
2. Prepare the bull mating the cow
3. Select appropriate place /better to use cattle crush/
4. Bring a cow to mating place and restrain
5. Bring a bull for mating of the cow
6. Assist a bull to insert he's reproductive organ in the female reproductive tract
7. Return the animals to their shelter
8. Provide a feed and water both of the animals after mating process
9. Checking conception





<b>LAP Test</b>	<b>Practical Demonstration</b>
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Name: \_\_\_\_\_ Date: \_\_\_\_\_

Time started: \_\_\_\_\_ Time finished: \_\_\_\_\_

**Instructions:** Given necessary templates, tools and materials you are required to perform the following tasks within 1 hours.

Task 1. Natural mating





## Reference

The Proceedings of National Workshop on Research and Development Strategies for Goat Enterprises in Nepal (Eds. Gurung T.B., Joshi B.R., Singh U.M., Paudel K.P., Shrestha B.S., Rijal K.P. and Khanal D.R.), NARC, Kathmandu, April 2013.(316 page)

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