



Best Practices for Managing Awassi Sheep

Lambing

3

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3- Lambing

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Foreword

This booklet is part of a ten-part series of technical Guidelines describing 'Best practices for managing Awassi sheep' – the dominant sheep breed in several countries across the Middle East. The series is targeted at sheep farmers and milk processors, and provides practical, easy-to-follow advice on managing Awassi sheep under dryland conditions. Efficient husbandry, feeding and milk processing are crucial in management of Awassi sheep in dry areas; but many small-scale producers are unfamiliar with simple productivity-enhancing practices. This series aims to fill this information gap, enabling farmers to increase their income from livestock while using resources more efficiently and sustainably.

The series draws on the practical experience of researchers, as well as the extensive literature, to capture scientific and local knowledge in an easily accessible format in the local language. The bulletins are organized in accordance with sheep management calendar, and describe the management of Awassi ewes during important physiological stages over the year. Supplementary guidelines provide additional information on each stage.

These booklets were produced as part of an IFAD-ICARDA project, Scaling up best practices for managing Awassi dairy sheep to small-scale sheep farmers in West Asia, implemented in Syria and Lebanon in collaboration with IFAD development projects in both countries.

We would like to thank all those involved in the preparation of these guidelines and also for IFAD's financial support to this important project. We expect these booklets will be useful to sheep farmers, milk processors, extension staff, as well students of agricultural development and knowledge transfer.



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Lambing and reduction of new born lamb loss



Lambing is an important event that one should be prepared for, since maintaining new born lambs is a key for the success of any sheep raising project. New born lambs' losses cannot be avoided completely, but may be reduced, by applying preventive health program, providing appropriate feeding and monitoring and assisting ewes when needed. This booklet aims at providing workers' raising sheep with instructions and skills to make lambing process successful and to reduce new born lambs' losses

Planning for lambing season

Regulation of mating process helps to control date of lambing and consequently undertakes appropriate and timely procedures



To successfully manage a sheep herd, the followings should be observed:

- Isolate ewes from rams
- Prepare ewes and rams separately (preparation for mating)
- Determine the preferred time for lambing.

Join rams to ewes 5 month prior to preferred time for lambing and for two to three oestrus cycles, e.g. 35 – 51 day. Preparation process includes excluding ewes not suitable to bear pregnancy and lambing burdens such as aged ewes, and ewes suffering dystocia and mismothered ewes (fail to care for their new born lambs), ewes with udder infection and ewes with little milk. It also includes provision of enough number of strong, healthy and genetically superior rams, and to replace them after 3 years of being in the flock. Furthermore, animals' preparation includes feeding these animals to reach optimal body condition and carrying out health procedures at appropriate time.

Ewes' nutrition during pregnancy period

Over or under nutrition of ewes during pregnancy period leads to dystocia and to losses of new born lambs



Most of dystocia cases and new born lambs' losses are attributable to ewes' malnutrition during pregnancy period. Malnutrition during intermediate phase of pregnancy leads to a slow placenta development and reduced weight of the new born lamb. Also, malnutrition during the last phase of pregnancy leads to reduction in colostrum and milk production which increases the probability of lambs' death.

As the ewes' body condition is important during mating, it is also important at lambing. It is recommended that ewe's body condition, by the end of the third month of pregnancy, should be at score 2.5, and body condition at lambing is score 3. Therefore, thin ewes are isolated and fed to reach this level. Ewes will lose weight because of suckling and mobilization of body reserves that are necessary to produce the quantity of milk needed. Clean and fresh water should be provided abundantly, and ensure that ewes are getting their feed needs required for pregnancy period, and that all ewes have access to mangers.

For more information, please refer to feed reference booklet and pregnancy period booklet in this series.

Health Procedures

Prevention is better than cure, and quick treatment when the disease occurs is the best means to limit losses.



Execution of vaccination program and the schedule followed in the region where the flock is present should be followed. Of the most important diseases affecting ewes during pregnancy period and at the advent of lambing are enterotoxaemia, smallpox, anthrax, brucellosis, toxoplasmosis and fibrosis, or giving birth to weak lambs that often die within few days. Immunization of ewes one month prior to lambing as a preventive measure against bloody intestinal poisoning is of vital importance because it gives new born lambs the immunization needed.

How to act in cases of abortion?

Aborted ewe should be checked by a veterinarian to find out the reasons behind its abortion and to take the necessary measures. As abortion may be contagious and might spread and cause a real disaster, hence, the followings should be undertaken:

- Isolate the aborted ewe to avoid infection,
- Dispose of the foetus and its aftermaths by burning, and disinfecting the contaminated place,
- Dispose rapidly of dead animals by healthy means,
- Warn pregnant women not to deal with aborted animals to avoid infection,
- Keep cats away from sheep barns as they are disease vectors

For more information refer to health care guide booklet in this series



Barns' Preparation

Securing appropriate barn and caring of its cleanliness and disinfection facilitate taking care of ewes and limit the losses of new born lambs'.



Lambing season in Syria synchronises with winter season, where the climate is cold and rainy. Therefore, it is important to isolate ewes that will be lambing soon and keep them in the barn or transport them to a nearby pasture. When delivery signs appear, the ewe is transported to the barn. If the pasture is far, an appropriate shelter in the pasture should be provided to protect mother ewes and their new born lambs from winds and rains until they are transported to the barn. The lambing barn should be clean, well illuminated, ventilated and protected from air and rain currents. It is preferable that the barn is dividable in smaller boxes by means of metal or wooden cutters, and it is advisable that it has an electric socket, if possible. Feeders and water troughs should be placed so they do not hurt the new-born lambs or hinder their movement. The barns should be well cleaned before the lambing season, disinfected and bedded with dry straw, so lambing is performed under optimal conditions. Flies and mosquitoes should be controlled (if in high numbers) using formulations that do not hurt the sheep, in order to avoid diseases' transmission and not to disturb the animals and workers.

It is advisable to equip the barn with small lambing boxes (1.5 × 1.5 m each) to isolate the mother ewe with her new born lamb for 2 – 3 days, in order to ensure their familiarization. It is also advisable to provide a corner or separate boxes for animals that need special care. Isolation and caring of these animals will accelerate their return to the flock.



Preparation of Lambing Kits

Lambing kits should be secured well ahead the onset of lambing season so they are ready when early lambing occurs



Lambing kits include detergents, disinfectants and other tools such as syringes. It also includes emergency drugs for emergency cases (consult a veterinarian to determine the necessary emergency drugs) as follows:

- A thermometer,
- Disposable medical gloves,
- Paper and clean cloth tissues to dry new-born lambs in cold weather,
- Suitable utensils for warm water,
- Syringes and feeding tube (to transfer colostrum directly to the stomach), for the weak new born lambs that are unable of nursing on their own,
- Milk nursing bottles and suitable plastic nipples to feed orphan lambs or lambs whose mothers are infected by mastitis,
- Warming box, which is a wooden box, equipped with a heating electrical lamp directed from a suitable distance, where the new born lamb is put to provide him with warmth. This box may be replaced by the provision of a suitable heated room.
- Iodine solution at 5% for navel disinfection,
- Lambing rope to withdraw the lamb in case of dystocia,
- Sterilized gel to facilitate hand sliding in the cervix when dealing with dystocia.

Lambing



Lambing is a critical period and to successfully bypass it, ewes should be checked every 3 – 4 hours day and night.



Three phases can be distinguished during the lambing process:

The first phase (preparatory phase) in which the ewe shows signs of concern, becomes isolated from the rest of the flock, issues faint voices, and hits the ground with one of her legs, it repeats sit stand process, and stop eating. In general vulva, during this stage will be dilated, the udder distended, the abdomen musculatures relaxed and a hollow will appear between ribs and hips and the ewe starts wriggling. At this time, the ewe should be transferred to the lambing box for lambing to occur in optimal conditions. This phase lasts for approximately 12 – 36 hours.

The second phase (lambing phase): in which a 'bubble' or water bag appears as a result of contraction of abdominal muscles followed by embryonic membranes. At this time, the tip of the nose and the lamb's front menus can appear from the vulva and the newborn is expelled. This phase may last for 15 – 60 minutes. If there is another lamb, it usually comes 15 minutes after the first.

The third phase (afterbirth phase): includes the expulsion of the fetal membranes or placenta, which may occur directly after lambing or lasts for many hours.

What is Needed after Lambing



Once the new born is expelled, the followings should be carried out:

- Immediately remove the membranes and fluids from the nose and mouth of the new born to assist him breathing. Assistance can be provided through bloating in its nose or by touching the inside of the nose by a piece of straw to stimulate breathing,
- Dry the new born with a clean towel, especially if the weather is cold,
- Dip the navel in the iodine solution while it is still wet. Iodine will dry and wither the navel, control microbes and prevent its inflammation (dipping navel in iodine is more effective than spraying it),
- Put the new born with its mother to clean and nurse him. Usually, the new born lamb stands on its legs within 15 minutes, and strong new born lambs start nursing half an hour after lambing, while weak ones need a longer time. It is preferable that the new born takes colostrum early, as colostrum provides the new born with energy, protein, vitamins and minerals, and enables him to resist diseases. Also, colostrum has a laxative effect which helps expel the wastes accumulated in the digestive tract,
- If the new born is unable to take the colostrum, it should be assisted by directing him to the udder, or by holding the ewe to enable the new born suckling,
- Clean the teats and make sure of milk supply. Each teat should be stripped because it may be blocked which makes it difficult to the new-born to extract the colostrum, especially if he is weak.
- The new-born lamb will be placed with his dam in a lambing box bedded with clean and dry straw and both are observed to

What is Needed after Lambing?



ensure their full adoption and the expulsion of fetal membranes. The placenta should not be withdrawn by hand and must be left to come down automatically, and must be disposed of immediately after coming out by burning, because it might be carrying diseases or being a source of infection.

- The ewe should be provided with abundant clean water and the best hay and straw for two days, then the concentrate ration is introduced gradually, and a week after, the nutritional needs necessary for milk production period should be provided.
- It is advisable to identify the new-born lambs or mark them, weigh them and keep records, if possible, since this information are very useful in case the breeder wants to carry out selection to improve the herd.
- The ewe may lose her new-born lamb, especially in twins birth (it may be lambing one in a place and the second in another place); or when the ewe was subjected to severe pains. Hence, it is preferable to place the ewe and her lamb in a box or restricted area for 2 – 3 days to get them familiarize to each other's. They can be then transferred to the pasture.

The ewe should be milked to maintain the udder's function in the following cases:

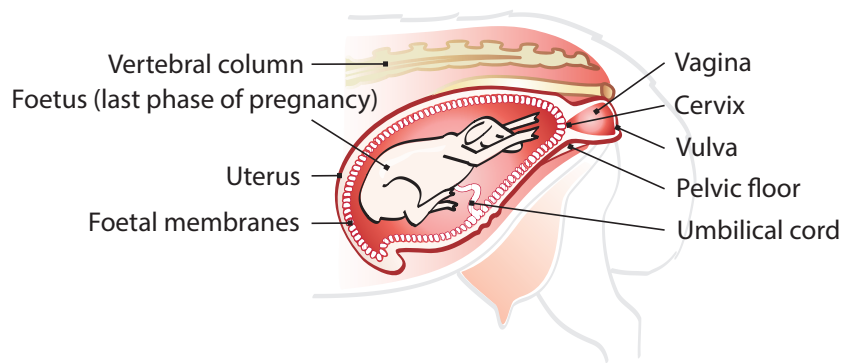
- If the mother ewe does not suckle her offspring or, if the new born lamb is unable to suckle from his dam,
- If the ewe's milk production is more than the need of the new born.

For more information, the reader is kindly referred to lambing period booklet and the feed reference guide in this series.

Dystocia

Difficult birth, typically caused by a large or awkwardly positioned fetus, by smallness of the maternal pelvis, or by failure of the uterus and cervix to contract and expand normally.

Often healthy ewes and strong new born lambs do not need assistance at lambing, and the intervention is not advisable



It is advisable to call upon a veterinarian in case of dystocia and, if this is not possible, assistance can be requested from experienced people; in general, the shepherd should be familiar with lambing process and should acquire the skills needed to determine the foetus position in the uterus by palpation.

The illustration above shows the normal position for the advent of a foetus in an optimal lambing case.



Reasons of dystocia

Cases of dystocia are attributable to the followings:

- Big sized foetus
- Ewe's fatigue and weakness due to scrawniness or sickness
- Nutritional defect (unbalanced ration during lambing period)
- Congenital malformation in the ewe's pelvic or its genital system
- Deformed lamb
- Foetus mal presentation.

Signs of dystocia

- The ewe has been in pain for over an hour after the appearance of embryonic fluids without appearance of the new-born head from vulva
- Appearance of a part of the new-born and the ewe attempts to push without success, or in case she stops contracting
- Appearance of a part of the new-born with an indication that the position is abnormal e.g. appearance of the head without the meninges or appearance of the tail first
- Ewe is agitated for a long period, or when placenta appears and blood is visible on the back of the ewe
- Assistance to the ewe having dystocia may be impossible and the veterinarian should perform an intervention (Caesarean operation) to extract the foetus.



Examining the advent of the foetus

To determine the advent of the foetus position (posterior or anterior), and the size of the litter, the foetus is examined by slipping a hand in the uterus (with the aid of sterilized gel or soapsuds) after ensuring that the uterus is dilated.



Assistance can be performed by withdrawing the foetus after adjusting its position, and returning the foetus to uterus may be needed to enable correcting its position, taking the followings into consideration:

- Wash the ewe's uro-genital area with water and soap and dry it
- Cut fingernails, take off rings and bracelets, wash hands and arms and disinfect them
- Use sterilized disposable gloves, necessary to prevent diseases' transmission
- Use lubricant material such as soapsuds, or sterile creams when inserting the hand to protect the ewe from injury
- Be sure that the cervix is dilated and wait, if it is not dilated yet
- Annexation fingers funnel shaped and insert the hand gradually and gently
- The hand is opened smoothly inside the uterus to feel the foetus to determine and correct its position and withdraw it without causing injury to the ewes and its litter
- It is imperative to call upon a specialist, if the one who is doing lambing is unable to determine the foetus position.

Let us remember

- If the ewe is assisted by inserting the hand, a veterinarian should be consulted to give her the appropriate remedy
- In twins birth, when the first new-born is assisted, often the second new-born needs assistance too.



Foetus Advent Positions in Dystocia

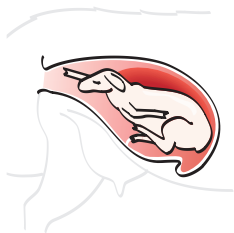
Determining the foetus position is a key to overcome dystocia



Dystocia in a normal position

Here the front menus of the foetus and its nose are prominent but the birth is difficult due to the foetus's size. Gently withdraw the foetus from its front feet toward the exterior with slight inclination downward, and you may fasten the front menus by a rope

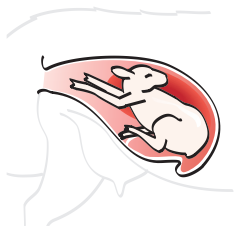
- Never withdraw the foetus from its head,
- Foetus withdrawal should be synchronized with the push of the ewe itself.



Front menus

One menu appears while the other is back

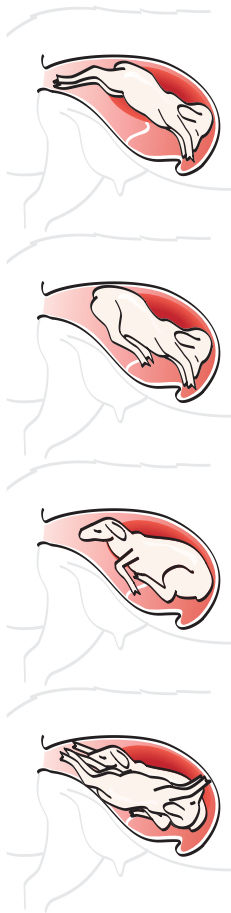
- Gently push the prominent foot back to inside the uterus, then slip your hand palm with the help of soap,
- Annex the lamb's hooves putting the head over them,
- Pull gently and do not forget to cover the hooves of the new-born in your hand while adjusting the backward menus in order not to hurt the uterus membrane.



Head back

The front menus are forward and the head is back

- Attach a lambing rope to each leg and push the foetus back into the inside of uterus,
- Enter your hand inside the uterus with the help of soap and reposition the head to its normal position by putting it over the legs and gently pull the rope.



Rear menus

The rear menus appear first. This position has undesirable consequences, as the nose is the last part of the foetus that comes out, which may lead to its suffocation.

- Make sure that the umbilical cord is not cut before the exit of the new-born.
- Quick assistance is very important in this position.

Inverted position

The foetus does not have any specific position and lambing does not occur after two hours of labour. Try to identify the position of the foetus inside the uterus and gently correct it. The lambing rope is often a good means to control the slippery legs.

The head without menus

If the head appears only, it should be returned back to the inside and reposition the two front menus and pull them with the head between them.

The position of four menus

If four menus appear, the ewe is trying to lamb twins birth simultaneously. In this case one of them should be returned to enable the exit of the other one without hindrances.

Post Dystocia procedures

Ewe's familiarization with her new born is essential for the survival of the new-born



Make sure the new-born has got sufficient amount of colostrum within 2 – 3 hours after lambing. If the new-born did not take the colostrum by suckling itself or with assistance, a feeding tube may be used (large syringe of 50 to 100 ml annexed to a special rubber tube of 35 cm long), by penetrating it directly to the stomach. Enter a rubber tube in the mouth of new-born slowly and gently through the higher end of the throat and then to the pharynx. You may feel the tube from the outside once it reaches the pharynx. The colostrum is injected slowly at a rate of 50 ml/kg of the new-born weight, e.g. 200 ml for a new-born of 4 kg in each meal. The new-born needs 3 -4 meals during the first day, and the colostrum should be at the body temperature. It is preferable to take the colostrum from the mother ewe itself, or from a new lambing ewe. Colostrum from cows and goats may be used if it is not available from sheep.

The reason of why the new-born is not getting the colostrum from its dam should be determined. It is futile to return the new-born to its dam if he is unable to suckling, or if the mother is unwilling of nursing him. Care should be concentrated on twins' birth, on those that were born prematurely, those who suffered from dystocia, and also those born from young ewes (first lambing season) and from aged, sick, emaciated ewes and infected with mastitis. Some ewes are aggressive and do not allow suckling their new born lambs. To protect the new-born, the ewe can be fastened so it is able to take feed and water and sit and stand. Usually, the familiarization between the mother and her new-born occurs after 2 -3 days



Hypothermia of new born lambs

Early detection of hypothermia of new-born lambs and caring of them may avoid their death



Lambs at birth may be exposed to a severe cold; their body temperature falls down and they die within a short period of time, if they are not provided with necessary assistance. The earlier these lambs are detected, the more likely they survive. These lambs can be recognized through their arched back and shivering body.

Care of these lambs can be done as follows:

- Dry the new-born with a clean towel and measure its body temperature. If it is between 37°C and 39°C and the animal is able to stand but unable to suckle, he can be fed by a syringe through a feeding tube and monitored until he is capable of suckling on his own
- If less than five hours elapsed after birth and he is still able to swallow, he can be placed in a warm place till its temperature becomes 37°C. He can then be fed using the feeding tube
- If its body temperature is less than 37°C five hours after its birth and he is able to swallow, he can be fed by the feeding tube. If he is unable to swallow, he can be then injected with glucose solution in the abdominal cavity (by a veterinarian) to provide him with the energy and can be placed in a warm place, and his body temperature monitored each half an hour. When its situation improves, he can be fed through the tube until he becomes able of suckling by himself.

Adoption of the New Born Lambs



A ewe may sometimes die and its new born lamb stays alive, or she may get sick and is no longer able to provide care. The new-born lamb can be made adopted by another ewe (adoptive mother), provided she is in a good health situation. You can also resort to artificial feeding. The adoption of new-born lamb by another ewe saves effort and money. To help in the adoption process, it should be carried out immediately after lambing, when the new born lamb is rubbed with the amniotic fluid of the adoptive ewe, and in case the orphan lamb is annexed to an ewe that has lost its newborn, the skin of the dead lamb is flayed and dressed to the orphan lamb. Care must focus on the new born lambs that have been joined to the adoptive ewes. Maintain them warm and feed them by the feeding tube, if needs arise, or tether the ewe (restricted) to enable lamb suckling until satiety. Artificial feeding can be resorted, using replacement milk. However, the newborn lamb should obtain its needs of colostrum fully to enable him resist diseases. The artificial feeding requires special care for milk provided, in terms of quality, temperature and cleanliness of utensils, and rubber nipples. Often the economic return is limited.



Let us Remember

To reduce the loss of newborn lambs and for the ewes to pass the lambing season successfully, you must:

- Feed the ewes well and ensure that they are in an ideal body condition (score 2.5 at mating and 3 score at birth),
- Implement health program, monitor the herd on a regular basis and provide timely assistance,
- Isolate sick animals that need special attention,
- Burn remnants of sick animals and permanently disinfect hands and tools used,
- You should always remember that prevention is better than cure.

Best Practices for Managing Awassi Sheep

- 1 Mating Period
- 2 Pregnancy
- 3 Lambing
- 4 Lactation Period
- 5 Milking and Milk Processing
- 6 Sheep Selection
- 7 Health Care Guide
- 8 Feed Reference Guide
- 9 Preparing Urea Treated Straw
- 10 Body Condition Scale
- 11 Lamb Fattening



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الزراعية في المناطق الجافة



الصندوق الدولي للتنمية الزراعية



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