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Accelerated Lambing Program

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If the sheep industry is to survive in the United States, it must compete economically with other farm enterprises. One way in which this can be done is to increase the productivity of the ewe flock through an accelerated lambing program. In such a program, the periods between lambings are shortened and the lamb crops are produced every 8 months instead of every 12 months.

Sheep are considered to be seasonal breeders. Ewes are normally bred during the fall months, producing a lamb crop during the spring. The gestation period varies from 140 to 150 days or roughly 5 months. Ewes are permitted to nurse their lambs to weaning for an additional 4 to 5 months. They are then given 2 to 3 months in which to rest. During this period, they usually become too fat thus reducing their reproductive efficiency for the next year either because they fail to breed or because they have difficulty at lambing time. Under such a system, the average flock produces from 125 to 150 lambs per 100 ewes bred.

Three Lamb Crops in Two Years

Recent research at many experiment stations indicates that this cycle of events can be altered to the point where a flock may produce a new lamb crop every 8 months, or three lamb crops in two years. Instead of 125 to 150 lambs per year, 100 ewes would be capable of raising from 375 to 450 lambs in two years or an average of 187 to 225 per year.

This would permit a much greater return on the same investment with very little

increase in feed costs, labor, or equipment. In addition, it would tend to even out the supply of lambs to the packer and the consumer and permit sales to be made in seasons when lambs are normally scarce and prices are more favorable.

Reasons for an Accelerated Lambing Program

There are three reasons why this increased productivity is both practical and beneficial. First, the productive life of the average ewe is six years, extending from approximately 18 months to 7 1/2 years of age. During that time, she would normally produce six crops of lambs. Under an accelerated program of three lamb crops every two years, she could produce nine crops of lambs in the same time, an increase of 50 percent in her productivity.

Secondly, research shows that the milk production of the ewe reaches its peak at about 4 weeks following lambing and steadily declines to approximately 50 percent by the 10th week and considerably less by the 15th week. After 15 weeks, the ewe is not much more than a companion to the lamb and she tends to contaminate the pastures with parasite eggs thus reducing his growth rate.

Under an accelerated program, the lambs should be weaned at 60-70 days of age. This will benefit the lamb, permit the ewe to be rested briefly, and her milk supply will be dried up before she is bred for another lamb crop.

Lambs weaned at 60-70 days of age will require better management and will need

more adequate nutrition than older lambs. With modern balanced rations, early weaning should not materially affect their growth rate however.

Thirdly, ewes that produce a lamb crop every 8 months will not become too fat. They will conceive more quickly and have less difficulty at lambing time. Like the lambs, they must receive proper nutrition especially during the last month of gestation and the first month of lactation.

Selecting Ewes for Accelerated Lambing

Certain breeds of sheep will mate and conceive naturally at other times than during the fall months. These include the Rambouillet, Merino, Dorset, and Tunis and usually the first-cross progeny of these breeds. The Columbia, Corriedale, Targhee, Panama, and Debouillet, which are related to the Rambouillet and Merino, show a tendency to have the same breeding habits but to a lesser degree.

Many of the other breeds have individuals which have produced out-of-season lambs. Recent research has shown that when selection is applied to this trait, considerable progress is made toward an accelerated lambing program in these other breeds.

The use of hormones and the alteration of environmental factors such as the reduction of temperature and of light have proven successful under controlled experimental conditions. A thorough knowledge of their effects and the conditions under which they can be used is necessary if they are to be successful.

Fertility of the Ram

The success of an accelerated lambing program depends to a great degree on the fertility and activity of the ram. Some breeds are superior to others in this respect. The

fertility of the ram is affected by the temperature to a greater degree than is the ewe. A hot day in which the temperature is above 90° F may cause a temporary sterility in the ram for as long as two to three weeks. This emphasizes the need for shearing the ram prior to breeding and for adequate shade or protection from the heat.

When the temperature is high during the breeding season, the conception rate is improved and the rams are more aggressive if they are permitted to breed the ewes only during the night and are removed to a cooled, shaded area, and rested during the day. The activity and aggressiveness of the ram will be increased if his feet are sound and free from foot rot. Proper foot care is essential during the breeding season.

One advantage of an accelerated lambing program from the standpoint of ram fertility is that he can be used for breeding every 4 months. This will keep him more active sexually and help maintain his fertility since he will not have 11 months of inactivity in which he may become overly fat. The cost of the ram per lamb sired will be reduced as well.

Length of Breeding Season

If an accelerated program is to be successful, the ewes must be bred during a limited time, usually two heat periods of 17 days each and not to exceed a total of 36 days. Otherwise, the late-lambing ewes will slow up the program by preventing the flock from being re-bred according to schedule. The late-breeding ewes can be culled from the flock or if they are young ewes, they may be permitted to miss one breeding season and placed with another group to be bred 4 months later.

It is possible to synchronize the heat periods of the ewe flock through the use of commercially prepared progesterone. This is usually administered orally for an 18 day

Calendar for accelerated lambing program

<u>Breed Between:</u> (36 day period)	<u>Lamb By:</u> (145 day gestation)	<u>Wean Lambs By:</u> (60 day minimum)
	- Flock A -	
Aug 1 - Sept 6, last year	Feb 1, this year	Apr 1, this year
Apr 1 - May 6, this year	Oct 1, this year	Dec 1, this year
Dec 1 - Jan 6, next year	June 1, next year	Aug 1, next year
	- Flock B -	
Dec 1, last - June 6, this year	June 1, this year	Aug 1, this year
Aug 1 - Sept 6, this year	Feb 1, next year	Apr 1, next year
Apr 1 - May 6, next year	Oct 1, next year	Dec 1, next year

period prior to the start of the breeding season. Upon its withdrawal, an injection of pregnant mare serum (PMS) is usually given to induce estrus and ovulation in the ewes. This method requires a greater number of fertile rams for breeding since its purpose is to induce a large number of ewes to come into heat in a short period of time, thus reducing the length of breeding season as well as the lambing season.

Avoid Legume Pastures During Breeding

Legume pastures such as ladino clover, alfalfa and birdsfoot trefoil have been shown to contain a high level of plant estrogens during certain stages of growth. These hormones have similar action to the estrogens produced within the ewe's body. When the natural level is supplemented by plant estrogens from an outside source, such as legumes, ewes may exhibit estrus without ovulation and therefore will not settle, thus prolonging the breeding season. In some cases, there may be an increase in embryonic mortality during early gestation thus increasing the number of barren ewes or reducing the lambing percentage. Prior to and during the breeding season, the ewe flock should be maintained on a non-legume pasture or one that is predominately grass. Legumes can be reserved for lamb pasture or for the making of hay or silage.

Calendar for Accelerated Lambing

The calendar shown above is suggested for an accelerated lambing program. This can be applied to one flock in which there will be a lamb crop every 8 months or the ewes can be divided into two flocks in which there will be a lamb crop every 4 months.

Management is the Key

A successful accelerated lambing program will require greater management skill than one in which only a single lamb crop is produced each year. Sheepmen should not attempt this program unless they are willing to do the following: (1) observe the flock more closely and regularly during the year, (2) provide adequate nutrition for early-weaned lambs, (3) provide balanced rations for the ewes during the critical part of the gestation and lactation periods, (4) produce high quality forages in the form of pasture, hays or silages, (5) take measures to insure the fertility and aggressiveness of the ram, (6) give necessary attention to the ewes at lambing time, and (7) give the sheep-enterprise a place of importance in the farm operations.

If sheepmen are willing to give the additional management necessary the sheep-enterprise will be able to complete economically with other farm enterprises.