# The Ins and Outs of Pasture Lambing

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To many, pasture lambing is a novel idea, however, unassisted, unsupervised lambing is the method used by the majority of sheep operations in the western United States. Many farm flock operations are moving towards pasture lambing because of lower production costs and reduced labor. Additionally, environmental conditions are generally more suitable for newborn lamb survival in May than January through March. Additionally, depressed lamb prices in recent years have also forced producers to consider pasture lambing to reduce costs.

The objective of forage based sheep production is to convert standing forage into value added lamb. The major emphasis is on forage production, lactating ewes and nursing lambs are the chosen harvesting equipment rather than dry ewes, stockers, beef cows or round balers. Grass and legume growth will only be optimized in some form of rotational grazing program. Just like humans, forage plants do not perform well without adequate rest. Figure one shows the relationship between paddock numbers and rest. Above six paddocks there are only minuscule increases in rest time. Forage quality and quantity and therefore, ewe and lamb intake continue to improve up to paddock numbers that provide for half day grazing intervals. In reality, most forage based sheep operations will rotate the flock every 2 to 7 days.

Some rules of thumb on intensive grazing are that we want optimum rest to insure adequate plant health and maximum yield. Additionally, forage plants should be harvested rapidly so animals do not graze regrowth. This equates to grazing intervals of 3 days or less. The guideline on how close to graze is during each grazing interval

one should take half and leave half each time thriough the paddock. The last rule of thumb is that under periods of rapid growth one shold practice radid rotation and under periods of slow growth slow rotation.

The total number of paddocks needed can be calculated by (days grazed + days rested) divided by days grazed. Figure two contains example calculations. It is generally recommended for Iowa that intensive grazing systems plan on a 30 days rest period. This value does change drastically through the growing season. In early spring, when rapid growth occurs, paddocks may only require 18 to 21 days rest before they are ready for regrazing. Obviously, during summer months when forage growth is slower, rest periods may need to be 35 days or longer. As the Missouri grazing guru states "Hang loose is the way to manage grass", to paraphrase one must stay flexible. If one sets up a controlled system of 3 on and 30 off, it is doomed to fail. At the very least this inflexible system will not generate maximum harvest efficiency and forage growth.

The absolute lowest input system is to lamb the ewes on pasture. This system requires that ewes be bred later to insure grass is ready for turnout. At the McNay Research farm, the past two years fall lambing ewes have been rebred to lamb beginning May 10. Ewes are overwintered outdoors on average quality hay. In early April, ewes are moved indoors, sheared and fed 4.5 pounds of above average quality grass/alfalfa hay. Ewes are moved to an 18 acre six paddock pasture system in early May. Ewes are rotated rapidly (1 day grazing) through all the paddocks for the first cycle. Ewes receive no grain during late gestation or on pasture and lambs are not creep fed. Magnesium oxide blocks were used to reduce grass tetany in 1993, but not 1994.

Once lambing commences, ewes are managed in a modified drift lambing system. As the main group is rotated from paddock to paddock, ewes which have lanbed in that paddock are left behind. Ewes with newborn lambs tend to isolate themselves from the main group and are not difficult to leave behind. They rejoin the main group when

they rotate back around the system into that specific paddock. Ewes are checked twice daily for new lambs with lambs processed (ear tagged, paint branded, docked and castrated) before they are 12 hours old. During processing, all lambs from a ewe are confined in a box to insure she does not wonder off with one of her lambs. Pyrethrin (insecticide) is mixed with iodine to reduce fly strike problems. The mixture is 2 ounces of permectin (10% active ingredient) and 16 ounces of iodine. Tails are docked with a burrdizzo and scrotums are banded. Lambs are not difficult to catch if they are less than 24 hours old. No night checks are made on the pasture lambing ewes. Ewes are extremely quiet and content under this production system primarily because they are not being fed and are acclimated to frequent rotations.

The productivity and performance from this production system is listed in Table 1. The genetic base of the McNay flock is Dorset Polypay crosses. Drop rates were adequate for pasture lambing ewes especially since they had previously weaned lambs in November. A flock health problem occurred in 1993 with several lambs born in thickened amniotic sacs. This had also occurred in the February lambing group. Fly strike problems occurred in 1994 when pyrethrin was initially left out of the iodine mixture. Four lambs were confirmed killed by coyotes in 1994. Several lambs could not be accounted for in both years and may have also been coyote kills. USDA-APHIS Animal Damage Control personnel (515) 233-9130 have since removed two coyotes from the area.

The perimeter pasture at the McNay Farm is an 11 wire electrified high tensile fencing. Predator control from this fence is very good when adequately maintained. In the fall of 1992, torrential rains wiped out a dam on the north fence line allowing full access to the pasture. This immense water gap was not repaired until the fall of 1993. Once coyote problems were confirmed in 1994, close inspection of the perimeter fence revealed that in many low places. Line posts had pulled up with the lowest wire 6 to 10 inches above the ground. Obviously this did not provide much in the way of predator control.

Lambs were treated for internal parasites in mid June and July in 1994. Water is available in each paddock and is recommended to reduce problems from internal parasites and coccidiosis. Lambs were weaned in late July in 1993 and late August in 1994. Pasture conditions were adequate in both years for later weaning, but ewes were rebred in September for February lambing since this flock is on an eight month accelerated lambing system.

Production levels shown in Table 1 identify a problem with lamb survival. Lamb losses were much above the desired goal of 10% from birth to weaning. Under forage based production the objective is to minimize both labor and costs. Shed lambing ewes and turning out families after adequate bonding is another possible production system. This method could possibly increase lamb survival, however it does have similar disadvantages as winter lambing in that it is labor intensive and requires more harvested feed. Many operators practice this system by lambing in April and turning ewes and lambs out to grass in May. Another advantage of this earlier lambing date is that lambs will start eating forage earlier when it has maximum nutrient quality. When lambing should occur depends on the operations targeted marketing date.

Potential sources of failure in this system of production include drought, inability to control ewes with electric fences, predator problems and failure to control internal parasites. Several alternatives exist to handle drought conditions, the easiest being conservative stocking rates. This solution does result in less pounds of lamb weaned per acre, however. Other solutions to drought include grazing hay ground, dryloting the ewe flock and lastly planting some acres to drought tolerant forage crops like pearl millet or forage sorghums. Set aside acres could possibly be used for this acreage since under drought conditions, much of it is opened up for haying and grazing. Counting on set aside acres does create an unknown and with major changes in Washington, D.C. may not be a part of the farm program in future years. Advantages of summer annuals are the ability to rest cool season pastures during the mid summer

slump and the ability to break the internal parasite cycle. When weather conditions exist that summer annuals are not needed, they can be harvested for hay with regrowth used to background weaned lambs or allowed to stock pile for late fall, winter grazing.

Many concerns have been expressed by our frequent treatment of lambs for internal parasites. One must remember that we are treating very small lambs and therefore the cost is negligible. The major consequence of the 30-day worming interval is the labor associated with it. If adequate working facilities exist for processing ewes and lambs, time commitment need not be excessive.

Predator control is a must to prevent excessive losses of lambs. In most areas of the state, coyote populations are adequate to cause concern. Non lethal techniques such as guard animals may be an effective solution. Under a drift lambing scenario, with ewe and lambs in several paddocks at one time, guard animals may be limited in their effectiveness unless they will cross subdivision fences between paddocks. Proper disposal of fallen animals is a management input that reduces the interest of coyotes in that area. If predation starts, the coyote doing the killing must be eliminated. This situation is difficult since most producers do not possess skills to remove the "problem" coyote. Professional expertise is available through USDA-APHIS-ADC and should be consulted at the first signs of predation. This is a relatively new program for Iowa agricultural producers and does provide valuable expertise that may be needed for pasture lambing systems.

The majority of sheep breeds should work well in a forage based sheep system. Ewes do need to possess some specific characteristics for pasture lambing, primarily possessing high maternal behavior. Obviously, ewes with poor mothering instincts that abandon their lambs are not what is needed. Ewes also need to have sound udders and teats so newborns can nurse unassisted. Lamb vigor and desire to suckle are additional traits desired by sheep in pasture lambing systems. Research indicates that crossbred lambs have improved survival and therefore, a crossbred ewe and offspring

are warranted to increase fitness. Breed combinations in the crossbred ewes should provide moderate prolificacy. Grafting is generally not an option therefore, lots of triplets may not be beneficial. Our procedure for triplets is to automatically pull one lamb for artificial rearing. Drop rates of 1.6 to 2.0 are probably close to ideal under pasture lambing. Flocks which have higher drop rates may want to use fetal scanning in mid pregnancy to identify ewes carry triplets and quads. These ewes could be shed lambed to increase lamb survival. Ewes which are too large and cannot maintain body condition on pasture alone are not good candidates for pasture lambing. Big ewes also have higher maintenance requirements that increase the cost of production. Very small ewes (<140 pounds) should also be avoided since their offspring will have a difficult time fitting the current weight window for market ready lambs.

Successful management of a forage based sheep production system requires one to alter their mind set in several areas. Most important being that pasture management and forage growth should be the primary focus of management efforts. Secondly, not every lamb will survive and extreme efforts to save them are unwarranted. Lastly maximum drop rates and weaning weights are not the primary measure of success, but pounds weaned per acre is the true test of the forage based production system.

**Table 1. McNay sheep farm production levels under a forage based lambing system.**

| | 1993 | 1994 |
|---|---|---|
| Ewes lambing (EL) | 92 | 78 |
| Lambs born/EL | 1.72 | 1.86 |
| Lambs weaned/EL | 1.26 | 1.23 |
| Survival % | 73 | 66 |
| Pounds weaned/EL | 57.7* | 68.1* |
| Pounds weaned/acre | 295 | 296 |

*Lamb were a month older at weaning in 1994.

**Figure 1. Relationship between paddock number in the grazing system and rest period.**

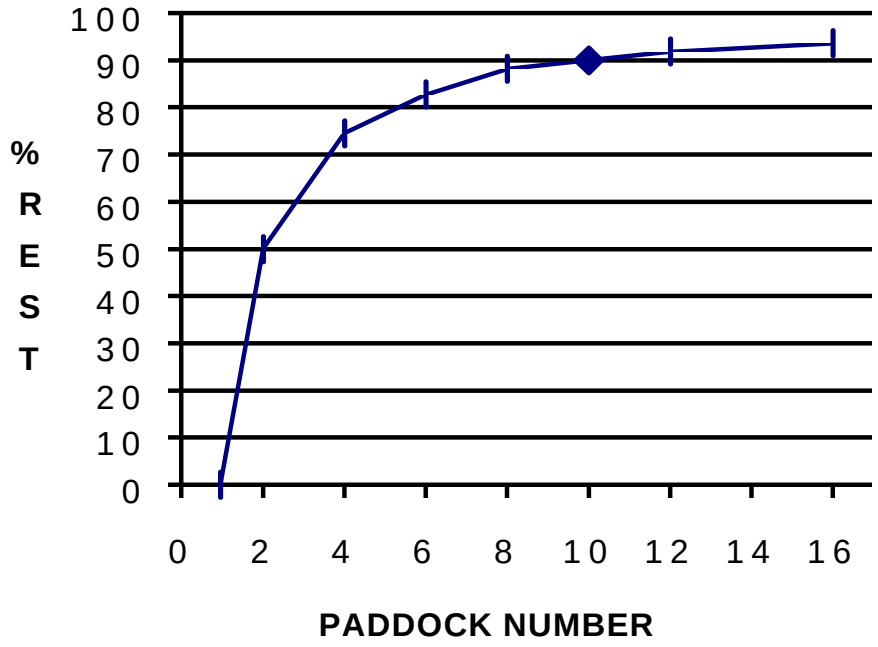

**Figure 2. Example calculations of determining paddock numbers.**

Ex. 1 3-day grazing interval
30-day rest interval
Paddocks required = 11 $\frac{(3 + 30)}{3}$

Ex. 2 6-day grazing interval
30-day rest interval
Paddocks needed = 6 $\frac{(6 + 30)}{6}$

Ex. 3 Rapid growth
3-day grazing
18-day rest
Paddocks needed = 7 $\frac{(3 + 18)}{3}$