

Selection Criteria for Replacement Ewes

—Ulf Kintzel

For those who have or had lambing season this winter or spring, the time will come to select the ewe lambs to be retained for breeding purposes, those that will replace the ewes that will be culled and perhaps those that are meant to increase the size of your flock. What criteria should be used when making that choice and when should one start selecting? It is easy but is a common mistake to just look at a group of ewe lambs and select the ones that look the “nicest.” The selection process should and must start even prior to lambing season and continues when the lambs are young because the process starts with the mothers.

Before lambing season, you want to be very aware of the quality of your ewes. Most of my readers have a smaller flock like I do, with numbers at the most in the low hundreds; often far fewer. You want to be and should be aware of the performance of any of your ewes, a task that is much harder to master when you have a flock counting many hundreds or even thousands of ewes. If you have a grass-fed flock, you want to be aware of how well each ewe does on grass, how voluminous the belly is to fit in as much forage as possible, how resistant they are to parasites, particularly the barber pole worm, and how quickly they regain good body condition on pasture when the lambs get older and less milk is required to raise their offspring. And yes, you read correctly, the recovery should already take place while still raising lambs to avoid the need of weaning.

Furthermore, if you have shedding sheep, you want to be aware of the shedding ability of each ewe. While I have finally managed to cull all ewes that did not shed as much as I wanted, I also did not retain offspring of ewes that did not shed satisfactorily in past years. And then there can be ewes that you wish to cull eventually because of a fault or flaw you

are trying to eliminate.

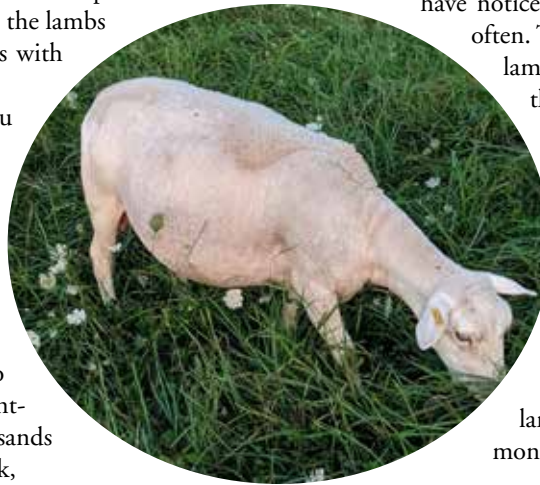
During lambing season you want to take notes which ewes lamb with ease, take good care of their newborn lamb(s), and have good milk production. While it is always possible for a ewe that lambs for the first time to briefly walk away from her lamb in pain after delivery, adult ewes with poor mothering skills will likely pass it on. Adult ewes that have lambing issues despite of the lamb being in a proper position are likely to pass on those genes as well. Adult ewes with poor milking ability are likely genetically deficient also. You may

have noticed that I used the term “adult” quite often. That is because I cut young ewes, who lamb at the age of 13 or 14 months for the first time, some slack. That means the same deficiencies that would put an adult ewe on the cull list may for a first-time lamber mean she still gets another chance.

After the selection criteria of the mother’s performance comes the evaluation of the individual ewe lambs themselves. While I tend to observe the growth of the ewe lambs throughout the first two to three months, the final decision comes at the age of about three months. I look for a harmonious build. The sum of all traits should be in balance. Small imperfections are acceptable; major dis-

qualifying flaws are not. What exactly does that mean? If any trait deviates from perfection but does not affect the harmonious build of a ewe lamb because it is still good, such a ewe lamb is still in the running. Likewise, if a ewe lamb has many good traits but one single trait is very bad, I will not retain her. What could be such very flawed traits? Weak pastern, the back not being firm and having a dip, sensitive to worms, not staying well with the flock, not respecting fences, wild disposition, very incorrect hoof growth—these are some examples to exclude animals from being kept as replacement ewes.

The growth rate is a very important trait to select for. It is



This young ewe fits all my selection criteria. Whether or not each trait is perfect is irrelevant, just as long as it is good.

Photos by Author

Deep and voluminous bodies allow for high intake of forage.



highly heritable, which means if a lamb's mother and sire grew rapidly, it is highly likely that their lambs will too. Be careful though to always assess if the lamb is being raised as a single or twin during the first couple of months. A lamb raised as a single compared to a twin will always grow faster if all other factors are being equal. Why? Because the twin has to share the milk of its mother with another lamb. That means it is likely that the single lambs will look better in a group of twins. Don't let that deceive you during your selection process!

Furthermore, I would like to advise against choosing extremes. For instance, an extremely meaty ewe lamb may mean that its future milk production may not be the best. Why is that? Because the ability for meat production versus milk production versus wool production (if you are also selecting for wool yield) are located on what is called antagonistic genes. That means they go against each other, are in opposition to each other. Have you ever seen a very meaty dairy cow, meaty like a Hereford? I bet you haven't. Or have you heard of a beef cow with milk production like a Holstein? I am sure you haven't. That is because of the aforementioned antagonistic genes. Can you have a ewe lamb that is quite meaty and will still produce enough milk to raise twin lambs as an adult? Yes, you can, but it has to be a good compromise between the two; both cannot be had to the extreme.

A trait closely related to growth rate is size. Bigger is better. This is America, after all. Right? We brag about having the largest shopping mall, the largest beef cows, even the largest ball of yarn. At least that was the parody in the movie "Michael." But no, bigger is not necessarily better. The huge sheep that can be seen in America's show rings are only good for the show ring and will only make a profit when traded among other show breeders. When it comes to real-world production on forage or with minimal grain feeding, they will struggle. Large sheep have high maintenance. Yet, they will not give you more than two lambs each year, no matter how large. Large sheep produce large lambs. Large lambs need high input. In addition, many of them are not suitable for the freezer or ethnic market because they will not have a finished carcass at weights desired by these markets unless you opt for very heavy grain feeding. And then it is a numbers game. All of us have limited resources. Would you rather raise a certain number of medium-sized ewes of 170 or 180 pounds, perhaps up to just under 200 pounds on your available land, or far fewer sheep because they are so much larger, weighing well over 200 pounds each?

If you wish to be successful raising your sheep on forage without any or with limited grain feeding, you will also need to pay attention to a body structure specifically suitable for a forage-based management system. The ewe lambs need to have deep and voluminous bodies to be able to fit in as much forage as possible. Tubular stomachs have limited space for grass and more concentrated feed like grain needs to be fed. Here again, if the parents have deep bodies, they are highly likely to pass that trait on to the lambs.

Twinning. I want to make an extra effort to address the selection of twin-born (and likewise triplet-born) lambs and the selection of them for the purpose of increasing the twinning rate of a flock. Why? Because it is in my view the most misunderstood trait on several different levels. Twinning is a very desirable trait since a higher twinning rate almost always means a higher income. A very common belief is that a twin-born ewe lamb will eventually have twins herself. That is unfortunately not at all the case. Twinning is lowly heritable, which means the chance that a twin-born ewe will twin herself because of her genetics is very low. (In comparison, other genetic traits like meatiness or growth rate are highly heritable.) While I select many twin-born ewe lambs myself, I want to caution about the danger of doing so. Selecting for one particular trait almost necessarily means you are selecting (most times unknowingly) against many other traits. I counter that by purposefully selecting for other traits as well, and if my benchmark is not met when it comes to other traits, I do not select a ewe lamb just because she was twin-born. So how can you go about a higher twinning rate? Fortunately, both environment and management have a tremendous influence on the twinning rate.



Good hoof structure makes the life of the shepherd easier but is perhaps not necessarily highest on the list of selection criteria when starting out.

Healthy sheep in good body condition, free of hoof disease and high parasite burden, not stressed during breeding season by unnecessary work or harassed by a poorly working herding or guardian dog, and free of any mineral and vitamin deficiency are more likely to twin. In addition, increasing nutrition a few weeks prior to breeding season and throughout breeding increases ovulation rate as well. That is called

"flushing effect."

While I most certainly don't advise against selecting twins, I want to make the reader aware of its strong limitations and want to point to how to achieve a high twinning rate. Being born a twin is by no means the be all and end all selection criteria.

How many ewe lambs should be selected to be retained? If you wish to retain the size of your current and established flock, you want to select a number that is one-sixth of your flock. Why? Because the average productive life of a ewe is about six years. Surely, in any given flock there are (or should be) ewes older than that, perhaps seven or eight or even nine years of age and are still productive. However, there are losses, too. Some sheep will just die. And then there are young ewes that need to be culled because they had mastitis or didn't reproduce. Or there are reasons of choice to cull a younger ewe such as wild behavior or continuously getting out of fencing or being susceptible to worms. All these factors bring the average productive lifespan of a ewe in any given flock to about six years of age. If you calculate with a longer lifespan and retain fewer ewe lambs, you may soon find out that you are retaining

too many ewes you should have culled or you retain too many old ewes that will become seemingly unproductive overnight. Of course, if you wish to increase the size of your flock, the math is different.

Now let's talk about the actual selection of the ewe lambs. Select a slightly larger group than you want to eventually keep. Put them in a pen. Then you can narrow down your larger than needed group by removing individual ewe lambs one by one and eventually marking the remaining ewe lambs you wish to keep. The harder this process is, the more likely it is that these lambs are quite uniform. That's good. That is a sign of progress. If the opposite is true and flawed lambs are still easy to find in this group, you likely have a good amount of room for improvement left.

Don't look for perfection. Use a "good compromise" approach. It is likely that you will find a trait that is not perfect in many of the ewes, whose ewe lamb(s) you would like to keep. That is okay. If one or even several traits aren't perfect but are still good, that is a ewe whose offspring I would consider retaining. On the other hand, if many traits are seemingly perfect or close to being perfect, but there is one completely undesirable trait popping up in the mother during lambing season and shortly thereafter, I would not retain her ewe lamb(s). The more traits you still have to select for, because you are just starting out or because you are still trying to increase the size of the flock, the more compromising you will have to be. The longer you are in the business, the more you will be able to select for "choice" traits and the more selective you can be.

Generally speaking, no matter how much progress I may have made over the years, I still don't look for perfection when selecting my replacement ewe lambs. I still look for a broad spectrum of very good traits. French philosopher Voltaire once wrote "Perfect is the enemy of good." It means that chasing down the perfect may mean that you may miss out on the good. It also means that you will spend too much time chasing down the perfect, not spending enough time with what is good. You may remain dissatisfied over the years, not noticing the good in front of your eyes. And I might add, perfect may never come. That is actually a life mantra for me. A simpler, less poetic version of Voltaire's statement would be that compromise is everything: in business, in your marriage, with your



Good mothering instincts, easy lambing, and good milk production of the mother are important when selecting replacement ewe lambs

children, especially when they leave home, with your neighbors, with your farm, and lastly in the selection process when raising sheep. To compromise does not mean you give up on goals. To compromise should mean you accept what's good and don't sweat the small stuff that is not there to make it perfect. Perfect never comes. Very, very good is an achievable goal. I know it is because I feel I attained it.

A word of caution regarding how rigorous you select. I read often about some absolutist selection criteria with apparently no moderation at all. Here are some of these examples: Never deworm, cull all ewes that show signs of worms (or let them die). Cull all sheep that don't have perfect hooves. Cull all sheep that don't shed entirely. Cull all ewes who you had to assist in lambing. You can do that. You may just have such tremendous turnover because you have to cull so many ewes that your bottom line will suffer. Fewer adult ewes and many young ewes also means fewer lambs because higher twinning rates and more triplets comes with higher age. In fact, extreme selection criteria, adopted overnight, have put some people out of business because they culled too many or too many ewes died. This is not to say you have to give up principles in your selection criteria. I am not suggesting that you should give up selecting for parasite resistance, shedding ability (if you have hair sheep), good hoof structure, and so forth. However, it is a gradual process, not a

goal to be achieved by forcing the issue. If you follow those who preach absolutism (but mostly don't earn their living raising livestock and earn it with speaker fees instead), you may be driven out of business.

In summary, look at the big picture. Compromise. Don't look for a single extreme. Don't just look for a single trait. Look at all the traits you wish to have in your sheep. Improvement comes in increments. Improvement comes with time. Have a goal. Have a principled approach. However, don't confuse absolutism with principle.



Meatiness is one of the easier traits to select for.

Ulf owns and operates White Clover Sheep Farm and breeds and raises grass-fed White Dorper sheep without any grain feeding and offers breeding stock suitable for grazing. He is a native of Germany and lives in the US since 1995. He farms in the Finger Lakes area in upstate New York. His website address is www.whitecloversheepfarm.com. He can be reached by e-mail at ulf@whitecloversheepfarm.com or by phone during "calling hour" indicated on the answering machine at 585-554-3313.