

When selecting females to use as replacements in a cow-calf operation, producers typically look at outward qualities of the female. He might assess her skeletal structure, body size, or age. He may even take into consideration her sire and dam, and their EPDs. Although each of these traits are helpful in selecting a potentially productive female for your operation, we urge you to consider one more trait in addition to these mentioned. Reproductive tract scoring of replacement heifers is arguably one of the most accurate methods used to determine the physiological readiness of the heifers for breeding. In conjunction with pelvic area (refer to last week's article), these two areas can provide a producer a great wealth of information and insight regarding management and possible culling decisions for his replacement heifers.

Because reproductive tract scoring, or RTS, is predominantly used to gauge the sexual maturity of a female, it is best done about one month before the breeding season is to begin, at the same time the pelvic areas of the females are measured. This technique is done by palpating the reproductive tract to determine its size and assess ovarian follicular development. Heifers are scored on a scale of 1-5, with RTS 1 indicating an immature or infertile female, and RTS 5 indicative of a cycling female. The RTS values are based on the size of the antral follicles, and the size, length, height, and width of the uterine horns. Table 1 below provides a detailed chart depicting the specifications for each RTS score.

Score	Uterine Horns	Ovaries
1	Immature, < 20 mm diameter, no tone	15 mm x 10 mm x 8 mm, no structures
2	20 - 25 mm diameter, no tone	18 mm x 12 mm x 10 mm, 8 mm follicles
3	20 - 25 mm diameter, slight tone	22 mm x 15 mm x 10 mm, 8 - 10 mm follicles
4	30 mm diameter, good tone	30 mm x 16 mm x 12 mm, > 10 mm follicles, possible corpus luteum
5	> 30 mm diameter, good tone	> 32 mm x 20 mm x 15 mm, corpus luteum present

Table 1. Adapted from Hall. 1998

Once you have determined the RTS of each female you may then use that information to aide in deciding which females should be culled. As with culling procedures based on pelvic size, we recommend culling the females that have the lowest 10% RTS. We believe that doing this will help create better genetics in your herd, providing a solid foundation of productive females for years to come. A recent article published in the Journal of Animal Science validates the claim that females with higher RTS are more productive (see Table 2 below).

RTS	Pregnancy rate (%) to AI period	Final pregnancy rate, %	Mean calf weaning weight, kg	Pregnancy rate (%) to subsequent AI period
1	31	56	194	63
2	40	76	186	61
3	53	81	213	72
4	70	92	207	85
5	80	93	213	90

Table 2. Adapted from Holm et al. 2009

As you can see from the table above, Holm et al., 2009 found that females with RTS 5 had higher pregnancy rates to their AI breeding and natural service breeding compared to females in lower RTS. This signifies that the higher scoring heifers were more easily bred compared to lower scoring females. Further, because the RTS 5 females typically bred sooner, their calves were larger at weaning than calves out of RTS 1-4 females. Their productivity did not stop there. Because they calved sooner in the calving season, they had more time to recover from the previous breeding season and prepare for the next breeding season. In that subsequent breeding period RTS 5 females continued to outperform RTS 1-4 females. This study shows the importance of selecting productive females and how failure to do so may negatively affect the profitability of your operation. Because we recommend culling the bottom 10% of your females based on RTS, and the bottom 10% based on pelvic area, it is wise to initially retain approximately 20% more heifers than you plan to keep. For example, if you know that you have enough capacity to add 20 replacement heifers to your operation, it is best to have ~24 heifers prior to breeding when the RTS and pelvic measurements take place.

Because reproductive tract scoring plays such a huge role in determining the productivity of a heifer, we believe there is no reason that a producer should not implement this practice in their operation. If you have any questions about having this done in your operation, or would like more information on management and culling procedures of replacement heifers, please contact us. Visit <http://www.journalofanimalscience.org/content/87/6/1934.full.pdf+html> to view the full article published by the Journal of Animal Science. For John Hall's complete article visit [http://www.sites.ext.vt.edu/newsletter-archive/livestock/aps-98\\_07/aps-935.html](http://www.sites.ext.vt.edu/newsletter-archive/livestock/aps-98_07/aps-935.html).

Prices for feeder steers medium 1 and 2 sold through the Oklahoma National Stockyards on Monday, October 27, 2014 are as follows: 477lb- \$298.29, 563lb- \$281.13, 662lb- \$246.19, 767lb- \$236.04. The price for November 2014 750lb feeder steers on the Chicago Mercantile Exchange was \$234.25 on closing Monday, October 27, 2014.

Thanks,

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