

Using Reproductive Tract Scoring in the Replacement Heifer Selection Process

Timothy W. Wilson
Extension Animal Scientist – Beef Cattle

There are many management practices used to prepare for the breeding season. As the fall calving season begins, final preparations are being made in heifer development programs. Many replacement heifers that have reached this point in the production process have been chosen based on size and visual appearance. Colorado State University has developed an additional method of selection that allows producers to choose heifers based on their physiological status.

Reproductive Tract Scoring (RTS) is a method of assigning a numerical score from 1 to 5 based on the maturity of the ovaries and uterine horns in developing heifers. Heifers that lack palpable structures on the ovaries and have immature uterine horns are assigned a RTS of 1 (Table 1). As the uterine horns develop and follicles become prominent on the ovary, the RTS increases. An RTS of 5 would be assigned to a heifer that has been in heat, and has a palpable corpus luteum (Table 1).

This system should be performed approximately four weeks prior to the breeding season, and can serve as a last minute culling tool to eliminate heifers that may fail to breed. If selection pressure is needed prior to this point, heifers should be scored after half have begun having estrous cycles (Andersen et al., 1991). Scoring during this time frame will identify heifers in different stages of pubertal development. Feeding programs can be adjusted to help these heifers grow appropriately to reach developmental goals prior to the onset of the breeding season. Reproductive tract scoring can be used as a predictor of maturity in growing heifers.

Research from Andersen et al. (1991) reports that RTS should respond favorably to selection and is moderately heritable at 0.32 ± 0.17 . Using reproductive tract scoring may serve as a useful tool when developing replacement heifers.

This technology offers an exciting alternative for the innovative producer. Using this system in conjunction with other selection practices may prove to be beneficial in the long-term success of many operations. If you have any questions regarding this topic, feel free to contact your local County Extension Agent or call me at (912) 681 – 5639.

Table 1. Description of Reproductive Tract Score*

Reproductive Tract Score	Ovaries				
	Uterine Horns	Length (mm)	Height (mm)	Width (mm)	Ovarian Structures
1	Immature < 20 mm diameter	15	10	8	No palpable follicles
2	20 - 25 mm diameter	18	12	10	8 mm follicles
3	25 - 30 mm diameter	22	15	10	8 - 10 mm follicles
4	30 mm diameter	30	16	12	> 10 mm follicles CL possible
5	> 30 mm diameter	>32	20	15	> 10 mm follicles CL present

*(Adapted from Andersen, et al., 1991)

Source:

Andersen, K.J., D.G. LeFever, J.S. Brinks, K.G Odde. 1991. The use of reproductive tract scoring in beef heifers. *Agri-Practice* (Vol. 12)4:106-111