



# Score! Or Not.

Reproductive tract scores can be a valuable tool, but a Florida extension specialist says there may be a better way to select for fertility.

Story & photos by **Becky Mills**, field editor



►Turning in a bull, rather than collecting reproductive tract scores, may be a better way to select for age of puberty and fertility.

**R**eproductive tract scoring (RTS), or palpating yearling heifers 30-60 days prebreeding and assigning their reproductive tracts a score, is a sound way to decide which heifers are ready for synchronization and artificial insemination (AI). However, Todd Thrift, University of Florida extension beef specialist, says there may be an economically better way to select for age of puberty and fertility, especially in operations with a long breeding season, or in a commercial operation.

### RTS 101

First, take a look at the chart. A heifer with a score of 1 or 2 has an immature reproductive tract and either no or tiny follicles.

“RTS does a fair job of sorting out late-maturing heifers,” says Thrift. “Heifers with an RTS of 1 and 2 usually get pregnant later than 4s and 5s. With 4s and 5s, all pistons are firing. With 3s, they are 30 days before breeding.”

### The exceptions

The key word in the last paragraph is “usually.” In a 1994 study done on 618 heifers, four out of 13 with an RTS of 1 became pregnant by Day 35 of the 60-day breeding season. Out of the heifers that scored 2, 42 became pregnant by an average of Day 25. On the other hand, 248 out of 293 heifers

that scored a 5 became pregnant, although the ones that did become pregnant did it in short order, on the average by Day 13.

In a 1995 Kentucky study on 2,664 head of synchronized heifers, 34% of 61 head of RTS 1 heifers got pregnant with synchronization and AI breeding. However, by the end of the breeding season, 65% of those heifers were pregnant. With 278 head of RTS 2 heifers, 58% got pregnant with synchronization and AI, but 91% were pregnant by the end of the breeding season. The RTS 3, 4 and 5 heifers had an overall pregnancy rate of 93%.

### Do the math

Thrift gets out the calculator for that same 2,664-heifer study. He says if all RTS 1 and 2 heifers were culled, or 339 head, that is 13% of the total number kept at weaning. When he multiplies 339 head times 75¢ per day (the estimated cost of feeding the heifers), times 120 days (days from the start of the breeding season until preg check), that is \$30,510.

“Of the 339 heifers, 293 got pregnant. The value of cull heifers as yearlings is \$900 a head. The value of pregnant heifers at preg-check time is \$1,200. That’s a difference in value of \$300 times 293 heifers or \$87,900. That’s lost revenue of \$57,390,” says Thrift.

What if you just cull the RTS 1 heifers? In this case, 40 head of those got pregnant.





At the same cost, that is 61 head times 75¢ per day times 120 days or \$5,490 until pregnancy check day. Using the same difference in value between open and bred heifers, that is lost revenue of \$6,510.

Thrift adds, “Most of the cost of developing the heifers has already been incurred by the time you do the RTS.” He also says, “We still had 7% of the RTS 3, 4 and 5 heifers that did not breed, and RTS was not a predictor of their infertility.”

## Reproductive tract scores for purebred breeders

University of Florida Extension Beef Specialist Todd Thrift makes a good case for foregoing reproductive tract scores (RTS) in commercial operations, or purebred herds with a long, spread-out breeding season. However, he says: “RTS may have some merit in a purebred operation because of the negative correlation between growth and age of puberty.”

“In the beef cattle industry, we have done a really good job of managing the antagonism between birth weight and yearling weight, especially in the Angus breed, because they have such good data,” he adds.

However, he says in selecting for those higher growth rates, breeders may have also selected for later age of puberty.

“This is where RTS may have merit,” Thrift notes.

To be useful, though, he says those heifers have to be born within a 45-day window, and the RTS has to be done when they are yearlings. Then, he says, breeders can place a small amount of selection pressure on fertility.

He emphasizes, though, RTS isn’t nearly as effective if the heifers are born over a longer period.

“If their birth dates are scattered over 120 days, the RTS 1s and 2s may be 100 days younger, not later-maturing.”

He also says RTS can be useful when using expensive semen.

“You can save the better semen for the RTS 3s, 4s and 5s, and use cheaper semen on the 1s and 2s,” he suggests. “Or you can turn them in with the clean-up bulls.”



► University of Florida Extension Beef Specialist Todd Thrift says reproductive tract scores may not be the best way to choose the most fertile replacement heifers.

## Let the bull decide

“RTS [tests] are difficult to do,” says Thrift. Plus, he says it usually costs around \$5 per head for a trained reproductive physiologist or veterinarian to do the scores, and on most operations, they won’t find many non-breeders.

“The frequency of RTS 1 heifers is very low — 2%-3% of the population,” says Thrift, “and many of them will get pregnant later.”

“Age and weight are more valuable predictors,” he maintains. “They are lighter and younger. You could have probably picked most of them out by looking at their age and weight, without doing RTS. You’ll be right the biggest percentage of the time.”

“Put a bull with them and let him decide,”

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## Reproductive tract scores at work

While reproductive tract scores (RTS) may not be necessary for all operations, they are part of the data-gathering process at the University of Florida Heifer Development Program.

“The program is geared for producers who want to keep their own heifers as replacements,” says Kalyn Waters, Holmes County Extension director and agricultural agent. “That’s why we give participating producers as much data as we do. You can use RTS as a gauge on age of puberty, or which ones are maturing early. We want to help them develop heifers with increased productivity and longevity.”

Waters agrees with University of Florida Extension Beef Specialist Todd Thrift on the economics of using RTS as a prebreeding culling tool.

“Most of the time I don’t recommend culling the ones with low RTS scores. You’ve already incurred most of your development costs at that point,” she says.

She adds: “Typically, the heifers with a lower RTS get bred later in the season. If you have a 75-day synchronization and breeding season, that is 75 days more of development.” Waters also comments, “The heifers that have a higher RTS score may not get bred at first, either.”

RTS are just one of the many management practices demonstrated at the Marianna, Fla., based development program, which begins its second season this fall. Heifers are brought to the North Florida Research and Education Center in October. They are evaluated, including being assessed by RTS; synchronized; bred via artificial insemination (AI); resynchronized and bred again if necessary; then turned in with calving-ease Angus bulls for a total breeding season of 68 days. Later they are preg-checked. Owners pick them up in April.

Last year, 79 heifers from Florida, Georgia and Alabama consignors went through the program. Applications for this year’s program are due Aug. 1, along with a \$50 deposit. If you don’t see this until after Aug. 1, but are interested in entering heifers, Waters says to contact her. “If we have room, we’ll take applications later.”

The cost for the whole period ranges from \$550 to \$650, depending on feed costs.

For more information, contact Kalyn Waters at the Holmes County Extension Office, 850-547-1108, or email her at [kalyn.waters@ufl.edu](mailto:kalyn.waters@ufl.edu).

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Thrift says. He advises making the culling decisions at preg-check time, keeping the heifers that became pregnant in the early part of the breeding season and selling the ones that were bred late or still open.

Thrift says keeping those early-bred heifers makes long-term sense. In a Texas study, three groups of heifers (early-maturing, intermediate-maturing and late-maturing) were followed through four calving seasons. The early-maturing cattle were able to produce their fourth calf 178 days earlier than the intermediate-maturing heifers and 275 days earlier than the late-maturing group.

Also, heifers need to be bred to calve at 2, not 3, Thrift says. "Calving at two places pressure on fertility for their whole lives. Lifetime production is increased by about 0.7 calves by calving heifers as 2-year-olds rather than 3."

"Don't complicate this too much," he states. "Use the bull to tell you which ones will reproduce, but make him do it in short order and force the heifers to do it at an early age."



**Editor's Note:** *Becky Mills is a freelancer and cattlewoman from Cuthbert, Ga.*

## We're looking for a few good bulls

Last year, the University of Florida used its own Angus bulls in its inaugural Heifer Development Program. This year, they are allowing Angus breeders the opportunity to nominate bulls for lease.

"The bulls have to be registered virgin Angus bulls, and must have a calving ease direct EPD of 10 or more and a birth weight EPD of 0 or less," says Kalyn Waters, Holmes County Extension director and agricultural agent. "We will rank bulls based on their \$Beef index. It is a good way for purebred breeders to get exposure for their young bulls."

Waters says they'll accept three to five bulls, depending on the number of heifers in this year's program.

To nominate a bull, or for more information, contact Kalyn Waters at the Holmes County Extension Office, 850-547-1108, or email her at [Kalyn.waters@ufl.edu](mailto:Kalyn.waters@ufl.edu).

**Table 1: Reproductive tract scoring system**

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

**Source:** Adapted from Odde et al. 1994.