

Production Enhancement – Pregnancy Diagnosis
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The purpose of pregnancy diagnosis is to increase the income of the cattle producer by identifying reproductively inefficient females and removing them from the breeding herd. Positive pregnancy diagnosis is the determination of a live fetus in the uterus of a cow. It is accomplished by entering the rectum of a cow or heifer and feeling or palpating the uterus and its' contents directly below the rectum. The size of the fetus is palpated to determine the stage of pregnancy and early pregnancy diagnosis can determine the age of the fetus more accurately than pregnancy determination after 90 days. Early pregnancy diagnosis plays a major role in maintaining reproductive efficiency and the economic health of cattle producers.

The economic value of early pregnancy determination can be considerable. For examples, let us compare the value of a cow that raises a live calf each twelve months or less to one that averages one live calf each 13 months. Over a twelve-year period, this annual difference adds up to 360 days. So every twelve years your cows that produce a calf once each 13 months cost you a year's production or a calf. Assuming the cost to keep each cow is equal and the value of a calf averaged \$400.00, it cost you \$34.00 per year to keep a cow that was 30 days late. Similarly, a cow that produces a calf every 14 months would have cost you \$68.00 per year to keep her versus a cow that raises a live calf each 12 months. These figures are consistent if you have a defined calving period or leave the bull in all year; you still profit more from cows that raise a calf once each twelve months or less and early pregnancy diagnosis can be used to identify poor producing females.

About 15 to 25 percent of cows assumed pregnant because they do not show signs of heat are actually open. Therefore, if you rely on visual observation of heat alone to decide whether or not cows are pregnant, you end up with more cows being open than your observations suggest. These cows simply did not return to heat. You can leave the bull in over ninety days to get a larger percent settled but you end up with a long calving interval. The extra heat cycles needed to get these cows settled takes money out of your wallet. Chaps data show that **for every 21 days (one heat cycle) a cow is late the calf will weigh 39 pounds less at weaning time.** In today's market, that translates to about \$40.00 for each 21 days late. The ideal situation would be to have all of our calves born in 21 days. Benchmark data from Chaps and Cow/Calf programs indicate the most profitable 1/3 of producers calve out about 70% of their cows in 21 days and 90% of their cows calve by 42 days into the calving season the calving season begins when the first two mature cows had calved). **We feel these are reasonable goals to shoot for: 90% of your mature cows calve in 42 days.**

There are substantial economic returns associated with identifying and marketing open and late cows. In the short run, you eliminate the cost of feeding an open cow or a poor producer. The average yearly cost to keep a cow in Georgia is over \$300.00 if you figure land value, machinery depreciation, return on investment, feed cost, health costs and labor cost. It takes about the same amount of feed, land, machinery, labor, and health cost to keep a cow that will be producing a calf as it does to keep a cow that will not be producing a calf. The long-term effect of identifying and removing open or late cows is

that **reproductive efficiency is heritable**. If we remove the genetics that result in poor reproductive efficiency, we eliminate the possibility that we will retain heifers from that genetic line.

If you had 100 cows and have a 75-day breeding season, you might expect to have 10% of your cows open. If your veterinarian diagnosed that 10% open and you marketed them, you would save \$3000.00 in annual cow costs in the short term. You may also eliminate a genetic cow base that was not able to acclimated to your feed resources and management. **Pregnancy diagnosis occasionally identifies a sever breeding problem with an infertile bull or a disease problem and early determination can reduce to cost of these problems.**