

School of Animal Sciences
Volume 44, No. 1 • January/February 2023

How to Deal with Repeat Breeder Cows

Authored by Alan D. Ealy, Ph.D., Professor, School of Animal Sciences, Virginia Tech; ealy@vt.edu

We all recognize that reproductive efficiency is a key aspect to dairy profitability. We have many tools at our disposal to help us ensure that everything possible is being completed to maintain a good 21-day pregnancy rate. Before the turn of this century, pregnancy rates of 10-15% were common in dairy herds, but we have done a great job with improving this rate over the past two decades. In 2019, 21-day pregnancy rates averaged 21.6%. This jump is contributed in large part to the use of new reproductive tools and synchronization strategies. However, don't rest on your laurels if your herd has a 20-25% pregnancy rate; some herds are achieving >30% pregnancy rates. This rate is achievable in most situations.

One of the main problems with achieving a suitable level of herd fertility is the presence of cows that refuse to become pregnant. These cows are called **Repeat Breeders**. They are categorized as heifers and cows that have no clinically detectable reproductive disorders but fail to become pregnant after three inseminations. The incidence of repeater breeders varies, but based on a recent University of Minnesota study, it is not uncommon for 15 to 25% of the lactating cow herd to be repeat breeders. Herds with >25%

incidence of repeat breeders have a severe problem that requires immediate action.

There are several reasons for the presence of repeat breeders in your herd:

1. Health is an obvious contributing factor to infertility. Cows that experience an illness or lose a substantial amount of weight in early lactation are more likely to require multiple inseminations than healthy cows. Diseases that occur during the transition period, like metritis, retained placentae, and mastitis, can have lingering effects on fertility months after the illness has subsided.
2. Ovarian disorders are a problem for a subset of repeat breeder cattle. Top concerns are cysts, extended postpartum anestrus, and delayed ovulation.
3. Poor progesterone production in the estrous cycle before breeding and the cycle immediately after insemination contributes to infertility.
4. Genetics also contributes to repeat breeding. Inbreeding is concerning, but unfortunately, crossbreeding is not necessarily the answer. Repeat breeders are observed in cross-bred cattle at the same prevalence, and in some cases in greater prevalence than purebred cattle.
5. Age is a contributing factor, with older cattle having a greater incidence of requiring multiple breeding attempts.

6. Synchronization and artificial insemination problems contribute to repeat breeding. Strict compliance to estrous synchronization protocols and refinements in semen handling/thawing and insemination technique are the first set of factors producers should examine when developing a plan to overcome their repeat breeder problem.
7. Anatomical defects may contribute to this problem. Veterinarians cannot detect minor anatomical problems. This is usually only a concern in heifers. Cows that have already successfully calved usually do not display anatomical disorders unless they experienced a difficult birth.
8. Interestingly, milk production is not a strong risk factor for repeat breeding. The highest producing cows in your herd usually have normal or above normal fertility.

Playing close attention to health, age, and estrous cyclicity of cows before you begin breeding are key management strategies that will go a long way toward minimizing the incidence of repeat breeder cows.

An often-asked question is, “how do you get a repeat breeder cow pregnant?” Here is a list of things you could try:

1. Modify your estrous synchronization program for repeat breeders. Programs that include progesterone supplementation (e.g., CIDR insertion) or that promote progesterone production (e.g., Double Ovsynch Protocol) are especially attractive because they will help ensure that cows are not ovulating an aged follicle. Some studies also report conception rate improvements when using protocols where GnRH is administered at the time of insemination.

2. If you are culling cows, consider culling repeat breeders that do not show estrus. Cows that exhibit estrus have greater conception rates than those that do not show estrus.
3. Try administering hCG 7-days after insemination. This will increase progesterone concentrations, which aids in maintaining pregnancies.
4. Embryo transfer is a popular approach for getting repeat breeder cows pregnant since it allows us to bypass ovulation failures and early embryonic losses. Several companies offer affordable frozen dairy and beef embryos. This scheme is especially useful during the summer months.

The take-home message is to be proactive with finding ways to reduce the percentage of cows that fail to become pregnant within three services. Focus on good health and proper nutrition during the transition period, closely examine how compliant you are in your estrous synchronization protocol, and ensure that your artificial insemination technique is flawless. If these actions don’t work and you still end up with more repeat breeder cows than desired, try one or more of the approaches listed in the table below. Research suggests that each of these methods is effective at getting at least a subset of repeat breeder cows pregnant.

<i>Tips for Getting Repeat Breeders Pregnant</i>
<ul style="list-style-type: none"> • Use synchronization protocols that increase progesterone • Give GnRH at the time of insemination • Focus on inseminating repeat breeders observed in estrus • Administer hCG 7-days after insemination • Consider embryo transfer

Table 1. Dealing with Repeat Breeders

Pre-Engineered Building Pros and Cons

Authored by Andy Overbay, Ph.D., Senior Extension Agent, Ag & Natural Resources, Smyth County, Virginia Cooperative Extension; aoverbay@vt.edu

I recently dismantled two old wire corn cribs on the farm. They had not been used in over 20 years and were starting to show their age. I don't recall the exact year Dad erected them but it would have been close to 50 years ago. Once the cribs were down, I had this nice 20 foot by 40-foot concrete slab nestled between the machine shed and the farm's fuel pumps.

Utilizing that slab as storage seemed to be the thing to do, so I began to study on ways to utilize the cribs' footprint and gain protected storage space. In the past few years, I have noticed a growing use of prefab carport-like structures on farms, and frankly, when I first saw them I was skeptical of their longevity. Many are still exactly where they were first placed so they are standing the ultimate test...that of time.

Like anything else, pre-fab buildings fall into the "get what you pay for" category, so I have set out to do some tire (or metal) kicking to find out what my options are. Ordinarily, I would just set some posts and build a structure to suit me—and I may still do just that—but it seems such a waste to not utilize that concrete pad before it succumbs to full exposure to the elements. It is a fact of life that there are two types of concrete in this world: 1. Cracked concrete and 2. Concrete that hasn't cracked yet.

I could jack hammer holes in the pad and set posts around the pad. I thought about making steel collars that 6 X 6 posts would fit into that could be bolted to the floor. None of these would be cheap options and there would be no guarantee that the process would work as planned. A prefab building

with a full-length metal bottom rail might work to be bolted directly to the slab and with a LOT less time and effort.

An engineered or prefab metal structure design is less customized and typically, utilitarian. They're best for individuals looking to create a building quickly with minimal construction and effort. Like most metal buildings, engineered metal structures come in a variety of sizes, ranging from small storage sheds to full-size warehouses.

The "pros" of a pre-fab building include that they often cut down on costs, both in design and in construction. Because the design elements have already been constructed before the customer orders the building, there's not a lot of additional money that must go towards adding custom elements.

Construction is faster, saving both time and money. The buildings are easy to add onto because modifications are simple. With minimal customization going into the design, later expansion (using an additional engineered structure) when you need to increase your workspace is a straightforward matter.

While it is more affordable, it may not provide the most structural integrity for your property. Engineered buildings are designed based on what works for most properties. Since each site is different, you may find that your project is best suited to a customized design.

Added insulation will, of course, increase the cost. Engineered buildings are built with minimal insulation and may not be the most energy efficient option due to their simple design. Adding insulation can help save on utility bills, but it may not be the cheapest option.

Snow load and wind exposure are two issues of concern in our area. The wind may not be as big of a factor in my current application since the

existing machine shop and sheds offer a good deal of protection on the proposed site's western edge. That same location affords some snow load protection as well, but I will be looking into this aspect thoroughly before purchasing a building.

Like many of our past column topics, the best option for you is just that...“yours.” Do your research. Consider your new building's application, appropriateness, and yes, aesthetics on your farm. Then erect the building of your choice with confidence.



Figure 1. Repurposing a concrete slab from a corn crib into dry storage with a pre-engineered building.

Upcoming Events

Virginia Holstein Annual Meeting

January 7, 2023

Virginia Dairy Princess Pageant

January 9, 2023

Virginia Cooperative Extension

Dairy Health and FARM Updates

January 17, 2023 (Montezuma Hall)

Farmers Dinner Theatre

January 21, 2023 (Clover Hill)

Vantage No-Till Conference

February 21, 2023

Farmers Dinner Theatre

February 21, 2023

Managing Milk Price Using Futures Market

February 27, 2023 (Amelia)

Managing Milk Price Using Futures Market

February 28, 2023 (Dayton)

Science of Dairy Foods Workshop

March 18, 2023 (with Dr. Bob Horton)

4-H Dairy Bowl Contest

March 25, 2023

If you are a person with a disability and require any auxiliary aids, services or other accommodations for any Extension event, please discuss your accommodation needs with the Extension staff at your local Extension office at least 1 week prior to the event.



Visit Virginia Cooperative Extension: ext.vt.edu

Virginia Cooperative Extension is a partnership of Virginia Tech, Virginia State University, the U.S. Department of Agriculture, and local governments. Its programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, military status, or any other basis protected by law.

2022

DASC-155NP