What Is The Ideal Voluntary Waiting Period For Dairy Farms?

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Voluntary Waiting Period (VWP) can be defined as the interval from calving to the start of breeding activities. The correct decision about the VWP is a critical step when setting up a standard operating procedures for reproduction management on a dairy farm. The question many producers ask is 'What is the ideal VWP for my dairy farm?' Well, as many things in life, the answer is not straightforward. For instance, the ideal VWP for a given dairy will depend on several factors, see Table 1.

Table 1. Factors that affect VWP on dairy farms.

FACTOR:	REASON:
Transition cow management and uterine problems postpartum (RP and infections)	Farms with poor transition cow management normally need to delay Voluntary Waiting Period in order to achieve acceptable fertility following first A.I.
Percent of cows receiving timed A.I. at first postpartum A.I.	The more you rely on timed A.I. at first breeding, the more you can afford delaying the first postpartum A.I.
Conception rate at first and later breedings	The greater the conception rates are, the more you can delay Voluntary Waiting Period
Average interval between breedings	This parameter is highly correlated with overall service rate in a herd. The shorter the average interval between breedings, the longer you can afford delaying Voluntary Waiting Period
Percent of primiparous cows in herd (or average lactation persistency)	Primiparous cows have greater milk production persistency and, normally, better fertility than older cows. The more primiparous cows, the more you can delay Voluntary Waiting Period
Intensity of summer heat stress	Several farms change their Voluntary Waiting Period in to avoid the effects of summer heat stress on fertility, achieving greater conception rates at first postpartum A.I.

Interestingly, after studying several dairy herd backups during our reproductive data analysis routine at Accelerated Genetics, we have noticed three basic patterns with VWP strategies. They include:

1) 100% HEAT DETECTION

Farms relying on 100% heat detection that work with relatively short VWP – 45-50 Days In Milk (DIM).

2) BACK DOOR APPROACH

Farms using shorter VWP, 45-50 DIM, breed most of the cows based on heat detection, and use timed A.I. in cows not detected in heat by 75-80 DIM.

3) GREATER THAN 80% TIMED A.I.

Farms rely on timed A.I. at first A.I., generally using sophisticated pre-synchronization protocols (such as G6G, Double-Ovsynch, etc), and delay first postpartum A.I. until 80-90 DIM in order to achieve greater conception rates at first postpartum A.I.

Regardless of the strategy used, the ultimate goal is to achieve average days open as close as possible to 110 to 120 DIM. Also, producers generally desire to have the least standard deviation as possible around 110 days open. In other words, in an imaginary perfect dairy farm, all cows ought to conceive at 110 DIM, which in most of the economical analysis, provides a good balance between average calving interval, milk production, and heifer replacement throughout time. To achieve this goal, producers would have to work with 100% timed A.I. with 100% conception rate at 110 DIM – as you all know, this is just not possible.

For high producing dairy herds, I'd like to highlight that the minimum VWP should be no lower than 45-50 DIM. This is because we need to respect the time for the complete uterine involution in order to get acceptable fertility results following A.I.

SO WHAT SHOULD YOU DO?

Depending on the dairy, all three of the cited strategies to manage VWP can be successful. For instance, we have been visiting several large high producing dairy farms in the Middle East with greater than 3,000 cows in milk, that breed most of their cows based on heat detection. In general, some of these dairies use timed A.I. in no more than 5-10% of their cows. They all have highly skilled technicians performing 24-hour surveillance for heat detection. Obviously, due to labor issues, etc. this model may not be applied in many dairies in the U.S. or other countries; but I can tell you that it works just fine in the Middle East. Their pregnancy rates are kept above 20% throughout the year.

There are some herds in California that can keep service rates above 60% year round. Most of these herds have experienced technicians performing tail chalking.

In contrast, several dairy farms in the Midwest U.S. rely 100% on timed A.I., performing very few breedings out of visually detected heats (even less than 5% of the breedings). Some of these herds are reaching impressive conception rates up to 45-50% in first postpartum A.I.

These are successful stories, but sometimes things can go terribly wrong. For instance, these are the main weaknesses that can occur in each on the VWP approaches mentioned earlier:

1) 100% HEAT DETECTION

It is common to find a large percentage of the cows receiving first postpartum A.I. too early (less than 45 DIM) and too late (more than 100 DIM). Also, lower conception results due to poor heat detection accuracy