

Texas Dairy Matters

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SHOULD WE BE “CHERRY PICKING” DURING SYNCHRONIZATION?

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Although new timed AI protocols are developed and evaluated constantly, the importance of inseminating cows based on signs of estrus continues to be significant. In some situations the dairy may have facility limitations, not enough personnel, poor estrous expression, poor conception rates for cows bred at detected estrus or a simple preference to not observe for estrus daily; so 100% timed AI protocols may be necessary. In herds with adequate estrous detection accuracy, the number of pregnancies per artificial insemination (P/AI) of cows inseminated at estrus similar to or greater than that of cows inseminated at fixed time.



In a recent study by Chebel et al. (2010) 3,248 lactating dairy cows in 7 large dairy herds across the US were presynchronized with two injections of $\text{PGF}_{2\alpha}$. Those observed in estrus were inseminated. Cows not observed in estrus were submitted to a timed AI protocol (i.e. Ovsynch or Cosynch72). These herds were a mix of dry-lot and free-stall dairies. The average days in milk at first AI were 58.3 ± 0.2 and 73.3 ± 0.2 for cows inseminated in estrus and those inseminated at fixed timed AI, respectively. Herds inseminated in estrus after the second injection of $\text{PGF}_{2\alpha}$ of the Presynch protocol had P/AI that ranged from

25.3 to 41.2%. In only 2 of the 7 herds were the P/AI of cows inseminated in estrus smaller than that of cows inseminated at fixed time (range – 22.4 to 46.9%).

Chebel and Santos (2010) also evaluated the reproductive and economic performances of cows submitted to the Presynch-Ovsynch with or without ‘cherry-picking’ (insemination of cows

that displayed estrus between the second PGF_{2α} of Presynch and beginning of Ovsynch). In this study, P/AI after first AI was not different between cows in the ‘cherry-picking’ and ‘100% timed AI’ protocols (Table 1). Furthermore, when the rate at which cows became pregnant was evaluated, inseminating 100% of cows at fixed time did not improve reproductive efficiency sufficiently to offset the additional cost of first AI synchronization protocols.

Table 1. Effect of inseminating cows in estrus following a presynchronization protocol on reproductive and economic performance of lactating Holstein cows.

Items	Treatments		P – value
	Cherry-picking	100% timed AI	
Number	321	318	
Percentage inseminated on estrus at first AI, %	58.9	0.0	< 0.01
Days in milk at first AI (± SEM)	64.7 ± 0.4	74.2 ± 0.5	< 0.01
P/AI at 32 d after first AI, %	33.0	39.6	0.14
P/AI at 60 d after first AI, %	25.3	31.1	0.20
Pregnancy loss from 32 to 60 d after first AI, %	22.9	21.4	0.97
Cost of synchronization for first AI, \$	19.1 ± 0.02	21.0 ± 0.02	< 0.01
Balance ¹ after 305 DIM, \$	447.6 ± 28.7	400.0 ± 28.7	0.21

¹Balance was calculated based on cost of synchronization for first AI, reproductive status at the end of 305 DIM, cost of replacement and salvage value, and income over feed cost.

Ultimately, dairies that can achieve acceptable estrus detection rates and conception rates should not be utilizing 100% TAI as this only increases synchronization costs without improving fertility. A robust synchronization program is still important as insurance that all cows are inseminated by a certain days in milk. However, focusing on improving estrus detection and accuracy is very important and decreases your synchronization costs.

Check out <https://www.drcouncil.org/resources/reproduction-protocols.aspx> and utilize the reproduction protocol sheet to choose the correct synchronization program for your dairy.

Reference

Chebel, R.C., M.J. Al-Hassan, P.M. Fricke, J.E.P. Santos, J.R. Lima, C.A. Martel, J.S. Stevenson, R. Garcia, and R.L. Ax. 2010. Supplementation of progesterone via controlled internal drug release inserts during ovulation synchronization protocols in lactating dairy cows. *J. Dairy Sci.* 93:922-931.

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<http://texasdairymatters.org>

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