

# Estimated Costs of Synchronization

Comparing costs of synchronized breeding programs is somewhat like comparing conception rates. Every operation varies so greatly that the picture is often distorted.

However, the following tables should give breeders a ball park figure of expected synchronization costs. Table 1 and Table 2 were prepared by North Carolina State University. Table 3 figures were suggested by American Breeders Service.

Tables 1 and 2 represent one way breeders can calculate costs of one-injection and two-injection synchronization programs. The costs of semen on the NCSU tables would most likely be higher, especially for a purebred operation. Technician fees are going to vary with the size of the herd.

In comparing Tables 1 and 2, the two-injection programs are generally more expensive in terms of costs per synchronized pregnancy than the one-injection programs where breeding is at estrus. However, no labor costs for handling and heat detection have been included in these tables.

The NCSU report recommends use of the two-injection program with insemination at 80 hours only where at least 80 percent of the females are cycling and labor for heat detection is not available. Single-injection programs where breeding is at estrus are more economical than the two-injection programs where breeding is either at estrus or at 80 hours. However, a two-injection program where A.I. is initially at estrus following the first injection and the remaining unbred females are given the second injection and bred at 80 hours appears to be economical, according to Table 1. The 10 to 15 percent additional pregnancies obtainable with this program as compared with single injection programs in Table 2 could make it a popular choice.

ABS took a different approach to calculating costs (Table 3). They assumed that, theoretically, in a well-managed herd the pregnancy rates of each synchronization program would be the same. With this assumption the one-injection program appears to be the most economical. In the one-injection program there is more labor involved for heat detection, so available labor must be considered. Total semen costs are cheaper for the one-injection program because only those females coming in heat were bred. Figures are based on 90 percent of the females coming in heat during the one-injection program. A.I. technician fees are cheaper with the Syncro-Mate-B program and the two-injection timed insemination program because breeding occurs on one day only.

While figures in Table 3 give some idea of synchronization costs, they are far from bottom line figures, says Keith Vander Velde, director of beef programs at ABS. He suggests there is an age advantage to the Syncro-Mate-B calves over those coming from a prostaglandin program. This could also translate into more money at weaning from those calves.

Vander Velde says, "Producers need to look not only at the costs of synchronization programs, but also at the cost advantages of synchronized A.I. calves." He cites extra weights from superior sires, more live calves as a result of group calving plus selection of calving ease sires, genetic maternal value of replacement heifers and a bull reduction advantage as some considerations.

Table 1. Two-Injection Prostaglandin Programs<sup>1</sup> (NCSU Figures)

Item	Costs	Per Pregnancy
<b>A.I. at estrus after 2nd injection</b>	(6 days activity)	
Prostaglandin cost @ \$5/injection	\$ 500	
Semen cost @ \$8/unit (40)	320	
A.I. technician fee @ \$6/service	240	
(24 pregnancies)	\$1,060	\$44.17
<b>A.I. at 80 hours after 2nd injection</b>	(3 days activity)	
Prostaglandin cost @ \$5/injection	\$ 500	
Semen cost @ \$8/unit (50)	400	
A.I. technician fee @ \$4/service	200	
(24 pregnancies)	\$1,100	\$45.83
<b>A.I. at estrus after the 1st injection for 5 days—depending on cyclic activity—the 2nd injection is then given to unbred females and inseminated at 80 hours</b>	(7 days activity)	
Cost @ \$5/injection	\$ 335	
Semen cost @ \$8/unit (50)	400	
A.I. technician fee @ \$5/service	250	
(23 pregnancies)	\$ 985	\$42.83

Table 2. One-Injection Prostaglandin Programs<sup>1</sup> (NCSU Figures)

Item	Costs	Per Pregnancy
<b>A.I. at estrus after injection</b>	(5 days activity)	
Prostaglandin cost @ \$5/injection	\$ 250	
Semen cost @ \$8/unit (26)	208	
A.I. technician fee @ \$6/service	156	
(16 pregnancies)	\$ 614	\$38.37
<b>A.I. at 80 hours after injection</b>	(2 days activity)	
Prostaglandin cost @ \$5/injection	\$ 250	
Semen cost @ \$8/unit (50)	400	
A.I. technician fee @ \$4/service	200	
(16 pregnancies)	\$ 850	\$53.12
<b>Estrus detection and A.I. for 4 days—depending on cyclic activity—injection is given the morning of the 5th day—and A.I. continues for a total of 9 days</b>	(9 days activity)	
Prostaglandin cost @ \$5/injection (42)	\$ 210	
Semen cost @ \$8/unit (40)	320	
A.I. technician fee @ \$6/service	240	
(23 pregnancies)	\$ 770	\$33.48

<sup>1</sup>Assumptions for Tables 1 and 2: 50 "eligible" cows selected for synchronization from herd; 80% of these females are cycling and detected in estrus; two-thirds of cycling females respond to Prostaglandin (one-injection programs); A.I. conception rate—60% to estrus, 48% to 80 hours; injection(s) beginning at start of breeding period for herd.

Table 3. Prostaglandin and Syncro-Mate-B Programs<sup>2</sup> (ABS Figures)

	One-injection Prostaglandin	Two-injection Prostaglandin	Syncro-Mate-B
<b>No Females Entering Program</b>	158	158	158
<b>Labor &amp; Misc. Costs</b>			
(a) ranch & labor	\$350	\$300	\$300
(b) A.I. technician	\$900	\$800	\$800
(c) misc. (equipment, supplies, facilities wear & tear)	\$100	\$100	\$100
Total Labor & Misc.	\$1,350	\$1,200	\$1,200
Total Cost/Female in Herd	\$8.50	\$7.59	\$7.59
<b>Drug Costs</b>			
Per Synchronization	\$3.50	\$7.00	\$9.00
Total Drugs Used	\$434	\$1,106	\$1,422
Total Cost/Female in Herd	\$2.75	\$7.00	\$9.00
<b>Semen Costs</b>			
Per Insemination	\$12.00	\$12.00	\$12.00
Total Semen Used	\$1,704	\$1,896	\$1,896
Semen Cost/Female in Herd	\$10.78	\$12.00	\$12.00
<b>Pregnancy Rates</b>	50%	50%	50%
<b>Estimated No. A.I. Calves</b>	79	79	79
<b>Estimated Cost/A.I. Calf</b>	\$44.14	\$53.18	\$57.18
(Total cost/female in herd of labor & misc., drugs and semen ÷ pregnancy rate)			

<sup>2</sup>Assumptions for Table 3: One-injection program involves breeding for five days prior to injection, then breeding only at detected estrus following injection; two-injection program involves timed breeding only following second injection; all females in herd are cycling; well-managed herd.