

Pushing the Synchronization Envelope

The 7-11 program combines two types of synchronization to AI cows.

Story & photos by *Becky Mills*

With their 150-cow Angus herd divided into six or seven groups, checking heat was a time-eating monster at the Upper Piedmont Research Station.

"Before I started nine years ago, they were checking heat for 45 days and not synchronizing at all," says Joe French, superintendent of the Reidsville, N.C., facility. "Then we went to two shots of Lutalyse®"

Heat checks still took too much time. Then Roy Wallace at Select Sires Inc. told him about a synchronization program that was still in the research-and-development stage. French jumped on the opportunity to try it. The herd had already been participating in Select Sires' Young Sire program for 20 years.

"My goal was to get an 80% pregnancy rate [with] AI (artificial insemination) and decrease the heat-checking days as much as possible," French says. Wallace's suggested protocol, labeled the 7-11 program, more than filled the bill.

"The last three years with the 7-11 program, we've averaged 70% to 85% pregnancy rate AI, with 15 days of heat-checking," French reports.

The twist is the 7-11 program combines two types of synchronization. At the beginning of the synchronization period, progesterone stops the cows' heat cycles. Then, gonadotropin-releasing hormone (GnRH) and prostaglandin reset the follicular wave toward the end of the synchronization period.

The details

"On Day 1 we feed MGA (melengestrol acetate) for seven days at the rate of 0.5 milligrams (mg) per head per day," French says. This past year, they inserted a controlled

internal drug release (CIDR®) — an intravaginal insert that secretes progesterone — in half the cows rather than feeding MGA. The CIDR was also inserted on Day 1 and removed on Day 7.

"We did not lose a CIDR,"

French reports, "and you know the cow is getting the right amount of progesterone for seven days." He says they found no difference in conception rates with the CIDR or MGA.

"With MGA, the boss cows are going to get more no matter what you do," he comments. To try to ensure that all the cows get enough MGA, he even sends samples of the feed to a lab to check the concentration. Then he adjusts the amount of feed per cow accordingly.

On Day 7 French either pulls the CIDR or stops feeding MGA and gives an injection of prostaglandin (Lutalyse). On Day 11 he gives an injection of GnRH. "That resets a new follicular wave," he explains. "Then there is a week-old corpus luteum (CL)."

On Day 18 he gives another injection of Lutalyse.

"We wait 24 hours then heat-check. If you give Lutalyse on the morning of the 18th day, 80% of the cows will stand from noon of the 20th day until the next morning," French says.

"We do a mass breeding on the morning of the 21st day, or at 72 hours," he says. "We breed 80% of the cows. Over 50% are going to get pregnant on the first



► Joe French, superintendent of North Carolina's Upper Piedmont Research Station, is getting more than 50% of cows bred to calve in the first week of calving season.

Table 1: Synchronization results at the Upper Piedmont Research Station

Total number of adult cows synchronized	108
Total number caught in standing heat	84 (78%)
No. synchronized of 54 animals receiving CIDR®	44 (82%)
No. synchronized of 54 animals receiving MGA	40 (74%)

Table 2: Number and percentage of group caught in standing heat, by treatment

	CIDR®	MGA
Thirty head of 2-year-olds:	15 (80%)	15 (53%)
Thirty-four head of 3-year-olds:	17 (88%)	17 (100%)
Forty-four head of 4- to 9-nine-year-olds:	22 (77%)	22 (68%)

Table 3: Palpation and ultrasound results

	CIDR®	MGA*
No.	54	53
No. pregnant	46 (85%)	50 (94%)
No. of pregnancies conceived by AI	30 (65%)	34 (68%)

*Note: One animal out of study.

Table 4: Overall research station breeding season results, heifers plus cows

Total no.	149
No. pregnant	138 (93%)
No. pregnancies conceived by AI	99 (72%)

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service. That's over half the herd on the first day of breeding season."

French says the first year they used the 7-11 program, Select Sires technician Ken Hill bred 94 cows the morning of the 21st day.

"That amazed me," French says.

For the 20% of the cows that don't show heat, French injects them again with GnRH and breeds at the same time. "Forty percent of those will get pregnant," he reports. On the next heat cycle they check heat and breed by AI from Day 18 to Day 25, then one week later, the clean-up bulls go in.

Yes, it is a lot of trips through the chute, but, French says, "The synchronization allows us to breed the cows on our schedule, not theirs. Over 50% of the cows are due to calve the first week of the calving season. That gives them more time to recover from calving."

Yes, this is a research station, but French says the same program works in real-world herds. "The results are very repeatable," he



► Angus cows at the Upper Piedmont Research Station are tightly synchronized to make heat-checking chores lighter.

states. He should know. He and his wife, Lori, have been using the 7-11 program on their small Angus herd for three years.

Breeder's success

Wake Forest, N.C., Angus breeder Jim Wallace has also used the 7-11 program for three breeding seasons on his New Light Farm.

He is particularly impressed with the option to time-breed cows that don't show

standing heat at the same time he breeds the cows that stand. "We have 35 cows, but if most of them are in heat at one time, you can be as conscientious as you want and still miss some."

So far he hasn't seen a difference in conception rates between time-breeding and breeding cows that show standing heat. Like French, he gives GnRH injections to the cows he time-breeds.

This past season his AI conception rates were 50%.

"This year was the worst AI conception rates we've had," he notes. "We usually get three-quarters of them bred AI."

He says because of scheduling problems, they only had one chance to breed the cows AI before they turned in the cleanup bulls. Also, he says severe drought, followed by an unusually harsh winter, took its toll.

Still, he says, "I'm convinced this is the way to go on our farm."



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