In 2009 the Dairy Cattle Reproduction Council (DCRC) was approached with a new idea to extend their reach and presence within the dairy industry: a reproduction awards program. Since then, the Board of Directors created a program that honors dairy operations throughout the United States for their outstanding performance in herd reproduction.

To further promote the program and validate the selection process, James Ferguson, University of Pennsylvania veterinarian and Andy Skidmore, Merck Animal Health livestock technical services veterinarian, took a deeper look at the success of these reproductive programs and published their findings in the February Journal of Dairy Science.

The winning herds featured in the DCRC Reproduction Awards program over the past four years hardly fit a cookie-cutter mold. Each dairy is managed differently, the operations are of various sizes and are located in divergent regions of the country. However, these herds do have one big thing in common. The herd owners and their management teams control inseminations within these herds—even if they do so in different ways.

STUDY OVERVIEW
This study included the 16 dairies that received award-winning honors in 2011. This included five herds in Wisconsin, five in New York, two herds in California and one herd from Iowa, Washington, Oregon and South Dakota. Holstein was the dominate breed on these farms, but one herd was a Jersey-only operation and five herds reported mixed breeds.

Ferguson and Skidmore determined that insemination was controlled through:
• A combination of timed-artificial insemination (A.I.) protocols
• Insemination following estrous detection using visual observation and secondary aids
• Weekly or biweekly veterinary diagnosis of pregnancy status combined with resynchronization programs

BY THE NUMBERS
Here’s a look at the stunning stats for the winning herds that ranged in size from 262 to 6,126 lactating and dry cows.
• Average days to first insemination: 71.2
• Insemination rate for first service: 86.9%
• Average days between inseminations: 33.4; 15.4% of insemination intervals were greater than 48 days
• First service conception rate: 44.4%
• Average pregnancy rate: 32%
• Lactation cull rate: 32.2%
Compared to data averages and standard deviation for herds in the Raleigh Dairy Herd Improvement Association system, average indices for the award-winning herds ranked them in the 99th percentile for insemination rate, the 99th percentile for pregnancy rate, the bottom 18.6 percentile for days to first service and around the 50th percentile for conception rate.

In other words, these herds get cows inseminated on time, and they consistently get cows pregnant.

PRACTICES USED
The winning farms don’t have any magic formula to follow for success. But they do pay attention to the details.

Farm records show that most of these farms feature freestall facilities. Voluntary waiting periods ranged from 50 to 71 days in milk. All but one herd uses timed-A.I. for first insemination and all but two herds use timed-A.I. for repeat inseminations. Four herds use clean-up bulls.

Estrous detection plays a significant role on most of these dairies, even those that use timed-A.I. protocols. For instance:
• The proportion of inseminations performed on observed estrus ranged from 21% to 100%
• Eleven farms reported using heat detection aids—most commonly tail chalk or paint
• Two herds used pedometers
• Three farms only used visual observation for heat detection with no secondary aids

The farms used from one to five inseminators to breed cows. Seven farms used inseminator services from nonfarm employees; meanwhile, six farms only used farm employees as inseminators. The number of semen straws thawed at one time was typically fewer than five, with one farm thawing eight straws at a time.

The majority of farms (10) use transrectal ultrasound for pregnancy diagnosis. Re-exams on all farms were performed two or three times on pregnant cows—from 53 to 200 days postbreeding and again at dry-off.

All herds that used timed-A.I. for first inseminations used a Presynch-Ovsynch program, initiating an Ovsynch timed-A.I. following two doses of prostaglandin 14 days apart.

Most importantly, these herds concentrated on getting cows into the breeding program and staying on top of repeat breeders.

First insemination intensity, as measured as the proportion of cows inseminated with 21-day periods from the end of the voluntary waiting period ranged from 74.5% to 99.8%.
• Seven herds were greater than 90%
• The average for all farms was 85.9%

The insemination rate for repeat inseminations ranged from 49.7% to 79.9% and the average across all herds was 63.2%. 
DRAWING CONCLUSIONS

The excellent pregnancy rate observed in all of these herds was due to an average conception rate combined with excellent insemination management, note Ferguson and Skidmore. First service insemination is an extremely important control point in reproductive management. In fact, they note that farms looking to increase reproductive efficiency should focus on managing first service insemination rate.

Lastly, Ferguson and Skidmore concluded that picking a reproductive program and sticking to it was an essential component of success.