PENNSTATE

College of Agricultural Sciences • Cooperative Extension

Checklist for reproductive management

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Topics Include:
Evaluate records
Evaluate estrous detection
Evaluate factors affecting conception
Evaluate nutrition program and feeding management

EVALUATE RECORDS

Use data obtained from DHIA, computer management systems or barn records to determine if there is a problem and how severe it might be. Are there adequate records to evaluate reproductive performance? _____

1. Compare herd data to goals listed in table below. No single statistic adequately summarizes reproductive performance; so several parameters must be evaluated.
2. Cull rate for reproductive reasons is a critical parameter of herd reproductive performance. Well-managed herds can achieve a cull rate for reproductive reasons of less than 8 to 10%. A high cull rate for reproduction suggests suboptimal reproductive performance, in spite of acceptable calving interval, conception rate, and average days in milk. Reproductive cull rate?_____
3. Has the reproductive problem(s) persisted for several years or is it a recent development. What is the duration of the problem? _____
4. Is it a general herd problem, or is the herd manager concerned about a few repeat breeding animals? _____
5. What group of animals appears to be affected the most (heifers, 1st, 2nd, or 3rd + lactating cows)? _____
6. Be careful of your interpretations:

A. Low number of observations in smaller herds can be misleading.

B. Averages can be good, but distribution of cows for a specific parameter can be poor.

C. How and when is pregnancy determined, and are all services recorded? _____

_____

_____

_____

D. Again, consider cull rate.

_____

_____

Goals for reproductive management

Parameter	*Herd average*
Age at first breeding	14-15 months
Age at first calving	22-24 months
Days to first service	75 days
21-day Pregnancy rate	>20%
Days open	115-125 days
Calving interval	13.3 months
First service conception rate	40% or greater
Services per conception (pregnant cows)	less than 2.5
Services per cow (all cow serviced)	less than 3.5
Percent heats observed (efficiency)	greater than 65%
Percent cows inseminated within 21 days of VWP	80% or greater
Interestrous interval	less than 35 days
Abortions of known pregnancies	less than 4%
Retained placenta	less than 10%
Cystic ovaries	less than 10%
Metritis (uterine infection)	less than 10%
Reproductive cull rate	less than 8% of the herd or less than 25% of the cows that were culled

EVALUATE ESTROUS DETECTION

1. Data (Fill in response on line provided):

   _____ Average days to first service (goal: 75 days)

   _____ Average interestrous interval (goal: <35 days)

   _____ Percent of cows inseminated within 20 days of Voluntary Waiting Period (goal: 80%)

   NOTE: *Long intervals between heats or breeding may indicate missed heats.*

2. If days to first service are greater than 85, or if few cows exhibit first heat before 50 days, then:

   _____ Does the manager intentionally delay first service?

   _____ Are the cows truly anestrus (noncycling)?

   _____ Evaluate body condition. Are more than 15% of the cows too thin or over–conditioned for stage of lactation?

   _____ Is there severe loss of body condition during dry period, between calving and 60 days, or both?

   NOTE: *Loss of ≥0.5 condition score between dry-off and calving or ≥1.0 point between calving and 60 days of lactation is considered severe.*

   _____ What percent of herd has feet and leg problems such as lameness and laminitis?

   _____ Is there evidence of severe uterine infection - purulent discharge?

   _____ Are debilitating diseases such as Johnes' or ketosis a problem?

   Heat detection program:

   _____ How many of the last 10 cows were bred on the basis of true standing heat?

   _____ How many of the last 10 cows were bred on the basis of secondary signs of heat?

   _____ When during the day are the cows observed for heat?

   _____

   _____

   _____ For how long are the cows observed for heat?

   _____ Where are the animals observed for estrous behavior?

   _____

   _____

   _____ Are specific individuals responsible for observing the herd for estrous behavior?

   _____ Is the footing surface slippery? This could reduce mounting activity.

   _____ Are cows being fed during the heat-observation period?

   _____ Are estrous-detection aids used properly and supported by visual observation?

   _____ Has an estrous synchronization program been used to induce groups of cows into heat?

   (describe): _____

   _____

   _____

   _____ Are reproductive events, specifically heats, recorded and displayed so that other employees know which cows to anticipate in heat?

   _____ Do all employees understand the appropriate signs of heat?

   _____ Overall, does heat detection receive high priority?

EVALUATE FACTORS AFFECTING CONCEPTION

1. Accuracy of heat detection

   _____ Are cows presented for insemination based on standing behavior?

   _____ ...or are most inseminations based on secondary signs of heat or solely on estrous detection aids?

2. Timing of insemination: cattle should be inseminated during the last half of standing heat period. Timing of insemination depends on accuracy of heat detection.

   _____ When are cattle inseminated?

   _____

   _____

   _____

3. Techniques associated with artificial insemination.

   _____ Are adequate levels of nitrogen maintained in farm semen tanks?

   _____ Are straws of semen kept in the lower neck region of the tank when transferring semen to thaw water?

   _____ Is the semen thawed according to recommendations of the organization supplying the semen? *(When in doubt use warm water thaw —95°F—for 40 seconds.)*

   _____ Is the prepared inseminating device kept warm and protected from cold shock temperatures?

   _____ Is a semen inventory and locator list available so specific straws of semen can be found quickly and removed from the tank for thawing?

   _____ Are cows inseminated in a clean and gentle manner?

   _____ Is the semen deposited beyond the cervix into the uterine body or uterine horn?

4. Reproductive health

   _____ What is the incidence of uterine infection?

   _____ What is the incidence of retained placenta?

   _____ Abortion rate?

   _____ Incidence of cystic ovaries?

   _____ How would you rank the overall cleanliness of cows on a scale of 1 to 5 (5 being exceptionally dirty)?

   _____ Is a herd bull used for heifers?

   _____ Is a herd bull used for cows?

      _____ Is he used for selected matings for repeat breeders?

      _____ Is he given free access to the entire herd?

      _____ Is he used for heifers only?

   NOTE: *Natural service provides an opportunity to spread disease throughout the herd.*

   _____ Check the frequency of use and cleanliness of the calving facilities. What type of bedding is used?

   _____ How do you rate ventilation, including air flow and air quality?

5. Vaccination program. Check below those reproductive diseases for which the herd is routinely vaccinated:

   _____ Are heifers immunized against lepto, IBR, BVD, and haemophilus prior to first breeding?

   _____ Leptospirosis, vaccinate at least once per year, preferably twice.

EVALUATE FACTORS AFFECTING CONCEPTION (continued)

_____ IBR (last administered? ____)

_____ Bovine virus diarrhea or BVD (last administered? _____)

_____ Haemophilus somnus (last administered? _____)

_____ Vibriosis (if natural service is used)

EVALUATE NUTRITION PROGRAM AND FEEDING MANAGEMENT

1. Body condition score a majority of the herd in various stages of lactation and dry period.
2. Obtain a copy of the ration programs for the lactating herd as well as dry cows.
3. Determine how closely ration programs are being followed for milk cows and dry cows. Make note of any discrepancies.
4. Investigate the use of injectable Vitamin E and selenium for the dry cows.
5. Examine feedstuffs for overall physical quality, presence of molds or other contaminants.
6. Determine dry matter intakes and availability of bunk space.
7. Obtain samples of forages, feeds, and TMRs for analysis, and other tests that may be warranted.
8. Try to determine how often feed is available to the lactating cows and dry cows.
9. Obtain recent information on water quality or intake if available.

REFERENCES

Trouble-shooting infertility problems in cattle

Nutritional evaluation of dairy rations and feeding management

Body-condition scoring as a tool for dairy herd management

Heat detection and timing of insemination for cattle