

Livestock Breeding Pointers

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Breeding characteristics within species of livestock follow definite patterns, but vary considerably between individuals. Diseased conditions and level of nutrition affect breeding efficiency and contribute to variation from expected breeding patterns. Some general breeding patterns appear regularly in most healthy farm animals (see Table 1).

Some national purebred cattle associations require minimum breeding age limits on bulls and heifers for the registration of their calves. They are:

Breed	Minimum Calving Age (mo.)	
	Heifers	Bulls
American Angus Association	18	9
American Hereford Association	24	12
American Polled Hereford Assn.	24	12
American Shorthorn Association	18	9

When to Breed

Duration of estrus (heat) varies considerably between individuals. Its detection in some cows and mares poses a major problem for artificial breeders. When artificial insemination or hand-mating is used, some cows may not be observed in heat and the time of calving may be delayed. For this reason,

natural breeding under pasture conditions usually results in a higher conception rate than artificial insemination or hand-mating.

Pasture-mating sows and gilts or breeding more than once in a heat period tends to increase litter size by having viable spermatozoa available in the reproductive tract when eggs are released by the ovaries.

Sows nursing litters seldom come in heat until 21 days after farrowing, but usually do three to five days after pigs are weaned.

Mares and jennets on an adequate level of nutrition may be bred successfully at "foal heat" (nine days after delivery).

Cows nursing calves may show estrus 6 to 10 weeks after delivery. Sheep are seasonal breeders, showing estrus during the cooler seasons of year when days are growing shorter. Although differences between breeds exist, large numbers of ewes in a flock under Missouri conditions seldom show estrus until after midsummer. Hot weather decreases fertility in some rams and may cause sterility in others.

Managing Females

The female herds or flocks should be maintained in average, thrifty condition at all times. It is recommended that the female gain enough weight during the last one-third of gestation to compensate for fetal and fluid losses at parturition.

TABLE 1. GENERAL BREEDING INFORMATION

Animal	Range in age when heat periods begin (months)	Recommended minimum age to breed (months)	Duration of estrus (heat)	Best time to breed	If not bred, estrus recurs in: (days)
Cow*	4-14	12-15	4-30 Hrs.	Late Standing Heat	14-24
Sow	4- 7	6- 9	1- 5 Days	2nd day of heat or 24 to 36 hrs. after onset of heat**	
Ewe	7-10	7- 9	1- 3 Days	Middle of estrus	13-21
Mare	15-24	24-36	3- 7 Days	Every other day, beginning 2nd day of heat	10-35
Jennet	17-24	24-36	3- 7 Days	Same as mare	10-35

*Well-grown heifers may be bred at 15 months of age to calve at 2 years. This system requires excellent feeding and management practices for success.

**Breed again 24 hours later if still in heat.

The nutritional requirement for the female following parturition should be increased from 50 to 100 percent for mineral, vitamins, energy, and protein at least until rebred or progeny is weaned.

"Flushing," or feeding increased amounts of the ration just prior to breeding, is recommended except in cases of breeding animals which are already fat. Flushing increases the conception rate and tends to increase litter size in swine and twinning in sheep.

TABLE 2. MATING CAPACITY OF SIRES

Animal	Number of Females to Mate in a Breeding Season	
	Hand-mating	Pasture-mating
Cattle:		
Yearling bull	20	10-12
2-year-old or over	30-50	25-30
Hogs:		
Boar pig	5-20	5- 8
Yearling boar	20-30	10-15
Mature boar	35-40	15-20
Sheep:		
Ram lamb	10-20	10-12
Ram 18 months or over	30-50	20-25
Horses:		
2-year-old stallion	10	5
3-year-old stallion	30	15
4-year-old stallion	35-40	20
5-year-old stallion	40-75	20-25

Mating Capacity of Sires

One characteristic showing the most variation between individuals is mating capacity of sires. Excessive use of sires, especially young ones, may render them partially or completely sterile. Approximate mating capacity of sires is shown in Table 2.

More females may be mated to each sire where artificial insemination is used and where hand-mating is practiced throughout. If the breeder wants sows to farrow in a short period of time, this puts a heavy drain on the boar and reduces the number of sows that can be bred to each boar, especially with a pasture-mating system. On the other hand, multiple farrowing distributes the period of breeding over the whole year and tends to make maximum use of each boar.

Yearling bulls, boar pigs, ram lambs, and two-year-old stallions should not be depended upon to pasture-breed females except when numbers are greatly restricted.

Where more than one sire is used to pasture-breed, a rotation of sires is recommended to avoid loss of time that might result if one sire is infertile. Where feasible, it is recommended that the semen of a sire be evaluated by a competent veterinarian before the male is used for breeding. (See *UMC Guide 2006, Increase Your Beef Calf Crop by Pregnancy Testing, Semen Sampling, and Good Management.*)

TABLE 3. AVERAGE GESTATION PERIODS

Animal	Days	Months
Cow	283	9 1/2
Sow	114	3 4/5
Ewe	150	5
Mare	340	11
Jennet	365	12
Goat	150	5
Dog	63	2
Cat	50	1 3/5
Rabbit	30	1
Fox	53	1 3/4
Mink	48	1 3/5

Note: Where large size differences between breeds occur, such as with sheep, the large breeds tend to have longer-than-average and the small breeds shorter-than-average gestation periods. Some mares consistently carry their foals 11 3/4 to 12 months.

Managing Sires

Two or more sires can run with the same females where a system of pasture-mating is used.

Where rams are accustomed to each other, several may run with the same flock. When new rams are added to the group, all rams should be confined together in close quarters for one or two days to eliminate losses from fighting.

A maximum number of four boars may be kept together for pasture-breeding throughout their useful life if they are brought together to settle their differences prior to the first breeding season. Young boars should not be added to this group after the first breeding season.

Bulls may run together with little danger if they are hornless, except in the case of aged bulls. Grouping strange, aged bulls may result in injury from fighting.

Stallions should be kept separate from each other at all times to avoid serious injury from fighting. It is seldom safe to allow a mature stallion to run with geldings.

After the breeding season, many sires like company. A pregnant mare often makes a good companion for a stallion, and a newly-purchased young boar may adapt more quickly to his surroundings when allowed the company of a barrow.

For maximum use, sires should not be overfat. Adequate exercise and proper energy intake are essential to maintain a thrifty breeding condition throughout the year. It's especially important to supply adequate minerals and vitamins. Many successful owners of confined stallions allow them to graze 15 to 30 minutes from a lunge line twice weekly.

