

LENGTH OF GESTATIONS IN JERSEY COWS*

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Duration of pregnancy is a problem ever confronting breeders of dairy cattle, for it is absolutely essential in the management of livestock for the owner or herdsman to have a definite knowledge as to when his pregnant cows are due to calve. The length of the gestation period is therefore of interest not only to the student of embryology but to every farmer who owns or cares for livestock. It is regrettable in view of the importance of the subject that the literature pertaining to the length of gestations is very meagre.

In recent years very few results of investigational work dealing with gestations in dairy cattle have appeared in print. Numerous gestation charts or tables have been published showing easy methods of figuring the "approximate" calving date. These tables do not all agree, some being based on gestations of 40 weeks, some on the basis of 282 days and others for shorter periods of time.

In 1817, M. Tessier (1) studied 575 cases and reported a variation from 241 to 321 days. The average was 282.2 days and 95 per cent of the calves were carried from 270 to 299 days. In a more extensive tabulation made by the Earl of Spencer (2) in 1840, the period varied between 220 and 313 days for calves born alive. The average was 283.3 days for 764 cases, including 23 twin births which averaged 277.2 days. About two-thirds (67 per cent) were from 280 to 289 days, 90 per cent were from 275 to 294 days and 95 per cent from 270 to 299 days. None born under 242 days were raised.

C. B. Bement (3), in 1845 found the variation to range between 276 and 299 days except for one short period of 213 days and a long one for 336 days. The average was 286 days (288 for 36 bull calves, and 283 for 26 heifers). Various breeds, Shorthorns,

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Devons, Herefords, Ayrshires, and grades were included. L. F. Allen (4) in 1868, reported a study of 50 cows of different breeds showing an average gestation of 284 days, with a range of 268 to 291 days.

H. H. Wing (5) tabulated 182, cases, mostly Holsteins and Jerseys. The range in the length of the gestation periods was from 264 to 296 days. The average found was lower than reported by the Earl of Spencer or Tessier being 280 days for 97 Holsteins and 279 days for 56 Jerseys. Five twin births averaged 275 days. Fitch, McGilliard and Drumm (6) in a study including four dairy breeds reported that the breeds varied in length of gestation as follows:

	<i>days</i>
Jersey —100 gestations.....	284.3
Guernsey—103 gestations.....	283.0
Ayrshire —113 gestations.....	284.6
Holstein —220 gestations.....	281.0

The average length of all the gestations studied was 282.4 days. The bull calves were carried 283.2 days and the heifers 281.9 days.

INVESTIGATIONAL

When a Register of Merit record is completed a calving affidavit is sent to the owner. It is retained by him and if the cow drops a living calf after finishing her test period, he fills in both the service and calving dates. The accuracy of these dates and the fact that the calf was alive at birth must be attested before a notary and then the affidavit is returned to the Breed Association office. If the cow does not calve within a certain length of time or if the calf is not alive at birth no affidavit is necessary.

This study concerns the records accepted by the American Jersey Cattle Club during 1927 for which calving affidavits were returned swearing that living calves were dropped. It included 1075 gestations, all of which were apparently normal, if a living calf can be assumed as evidence of normality. The length of each of these gestation periods was determined and also the sex of the calf in all cases where the progeny had been registered. In

computing the length of the gestation period the day on which the calf was born was included in the total number of days, but not the day of service. For example, if a cow was served on January 12 and calved on October 18 the length of the period of pregnancy would be considered as 279 days. These gestations were then grouped according to the age of the dam at the time of calving. In table 1, are presented the data covering this phase of the investigation.

The shortest gestation reported was for 228 days and the longest for 312 days. Approximately 62 per cent of all the periods

TABLE 1
Effect of age in length of gestation periods

AGE	NUMBER OF CASES	AVERAGE LENGTH OF GESTATIONS
Yearlings and Jr. 2.....	141	278.51
Sr. 2.....	46	277.96
Jr. 3.....	195	278.34
Sr. 3.....	124	278.63
Jr. 4.....	111	278.38
Sr. 4.....	100	278.80
5.....	142	278.73
6.....	89	277.45
7.....	58	279.26
8.....	27	277.56
9.....	17	280.35
10.....	12	280.58
11.....	6	277.67
12 years and over.....	7	281.43
Total.....	1,075	278.51

fall between limits of 275 and 283 days and 81 per cent come between 271 and 285 days. The average length of all the gestation periods was 278.51 days. However, only 68 of the 1075 calves were born on the 278th day of pregnancy, and the data indicate that there is almost an equal chance of the calf being born on any day after 271 days have elapsed and until the 285th day is reached. Table 2 illustrates how these gestations group themselves when arranged according to their length.

At the time this study was made, only 683 of the progeny had been registered in the Herd Books of the American Jersey Cattle Club. Of this number 297 were bull calves, 382 heifers and 4 sets of twins. On the basis of sex, the gestation periods of the 297 bull calves averaged 279.48 days and the 382 heifers averaged 278.64 days. The 4 sets of twins showed an average gestation of 275.50 days.

It was also of interest to find that while 63 per cent of the 1075 calves were registered, that of the 26 carried for 265 days or less only 11 or 42 per cent were registered while the 44 calves carried

TABLE 2
Frequency table grouping gestations according to length

CLASS	FREQUENCY
250 days and below	5
251 to 255	4
256 to 260	10
261 to 265	7
266 to 270	46
271 to 275	206
276 to 280	384
281 to 285	325
286 to 290	61
291 to 295	19
296 to 300	6
Over 300 days	2

288 days or longer, 30 or 68 per cent were registered. Of the 5 calves carried for less than 250 days only one was raised, and of the 8 carried for 296 days or more, 5 were raised. This would indicate that those calves resulting from abnormally long gestations have a better chance of living than do those born prematurely.

Another question is whether certain cows do not possibly have a habit of carrying their calves either for shorter or longer period of time than the average for the breed. That is, if a heifer drops her first calf at 270 days, should the owner expect her following gestations to be shorter than usual. Twelve of those cows showing gestation periods longer than 290 days had at least 2 additional

recorded progeny and the same was true of 13 of the cows with gestations of 265 days or less. The life time breeding records of

TABLE 3

NAME OF COW	LENGTH OF GESTATIONS	SEX OF CALF	NAME OF COW	LENGTH OF GESTATIONS	SEX OF CALF
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Progeny records of twelve cows carrying at least one calf for an abnormally long gestation period

Flying Chief's Golden Beauty 480952	275	F.	Queen Ladette of Bryan 628569	281	F.
	281	M.		284	M.
	276	M.		295	M.
	280	F.			
	282	M.			
Tom's Lady Capitan 345664	291	M.	Oxford's Royal Nora 595773	279	M.
				287	M.
				286	M.
	280	M.		290	F.
	280	F.			
Able Fox's Rainbow 566179	279	M.	Design's Dairylike Ildg 663202	273	M.
	280	F.		276	F.
	280	M.		299	F.
	280	F.			
	299	*			
Miss Dumont's May 566269	281	M.	Campanile's Pansy 585974	280	F.
	278	M.		281	F.
				285	F.
				291	F.
Fomasa's Irene 550669	273	F.	Belle's Huckleberry 521808	279	M.
	275	F.		274	F.
	280	M.		296	*
	293	M.			
Sir Owl's Jewel's Julia 640298	280	F.	Knight's Dolly Dimple 510442	289	F.
	279	F.		282	F.
	280	F.		282	M.
	289	M.		285	M.
	310	M.		297	F.
Flying Chief's Golden Beauty 480952	282	F.	Sir Owl's Jewel's Julia 640298	272	F.
	282	F.		292	F.
	290	*		279	M.

* Not registered.

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