COLLEGE OF AGRICULTURAL, CONSUMER AND ENVIRONMENTAL SCIENCES

The Julian Date Calendar:
A Helpful Tool for Livestock Management Decisions

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Black angus cattle. NMSU, 2009.

INTRODUCTION

The tables in this guide are designed to aid livestock owners in keeping more complete and useful date records for a herd. These tools can help predict birthing dates, the date to wean young animals, when to remove sires from a pasture of females for a "set" breeding season, and when to take routine measurements (e.g., weight) for collection of routine performance data. Note that it applies only to non-leap years; in leap years (2028, 2032, 2036, etc.), add one day for any date occurring after February 28.

EXAMPLES OF HOW TO USE THE JULIAN DATE CALENDAR (TABLE 3)

Expected Birth Date. Add 283 to the "day number" that the cow was bred. If date bred was June 5 (Day 156), the cow should calve about 283 days later, or March 15 (Day 439). For a mare, add 340 days to the "day number" for the last date bred. If the mare was last bred on April 16 (Day 106), then the mare should foal about 340 days later, or March 22 (Day 446).

Breeding Season. Assume bulls are turned out on May 1 (Day 121), and the breeding season is to extend for 75 days. Then, 121 + 75 = 196. So, the bulls should be removed from the breeding pasture on July 15 (Day 196).

Calving Interval. If the calving interval in the herd averages more than 12 months, or 365 days, the management program should be reviewed. If a cow calves on March 15 (Day 74) and again on March 9 (Day 433) of the next year, her calving interval is 359 days.

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Return to Estrus, Ovulation Interval, Pregnancy Determination. If you are using artificial insemination and ultrasound to manage breeding of your mare, you may wish to determine when the mare will next ovulate. If the mare last ovulated a follicle on April 5 (Day 95), then she should ovulate again 21 days later, on April 26 (Day 116). If the mare last ovulated on April 26 (Day 116) and you wanted to "check her in foal" at 45 days of pregnancy, then you would ultrasound for pregnancy on June 10 (Day 161).

Weaning date. If a goat doe has kids on March 5 (Day 64) and you want to wean kids at 10 weeks of age, then you would wean 70 days later, on May 16 (Day 134). If you want to wean a foal born on March 28 (Day 87) at 6 months, or 180 days of age, then you would wean the foal on September 24 (Day 267).

Drug Withdrawal Time. The withdrawal period is the time between the last dose of the pharmaceutical given and the time when the animal can be safely slaughtered for food. If the "pour-on" dewormer used on your beef animal was dosed on October 10 (Day 283) and has a 48-day withdrawal period, the animal should not be sent to slaughter prior to November 27 (Day 331).

205-Day Weight. Calves must be weighed between 160 and 250 days of age for correct adjustment to the 205-day weaning-age weight. Thus, the earliest date to weigh a calf born on March 15 (Day 74) is 160 days later, on August 22 (Day 234). November 20 (Day 324) is the last day that a March 15 calf can be weighed for a 205-day adjustment weight.

365-Day Weight. Yearling calves must be weighed between 330 and 450 days of age for this adjustment. So, an animal born on March 15 (Day 74) must be weighed between February 8 (Day 404) and June 8 (Day 524) of the following year to determine the adjusted weight.

Budgeting Feed Resources. On September 1 (day 244), a horse owner has 10 tons of hay for 5 horses (1100 lbs average body weight) consuming 2% BW/d (as fed) = 5500 x 0.02= 110 lbs/d; 10 tons x 2000 lbs/ton = 20,000 lbs.; 20,000 lbs divided by 110 lbs/d = 181.81 days, so 181 days later = 244 + 181= 425 = March 1 (from table). The 10 tons of hay would last the 5 horses until March 1.

Tables 1 and 2 provide reference information for livestock management that can aid calculations using Table 3.

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Table 1. **Average Length of Estrus, Estrous Cycle, and Gestation (in days) for Common Livestock Species**

Species	Estrus (heat)	Estrous cycle	Gestation (pregnancy)
Beef cow	0.25–1.0	21	283
Sheep	1–1.5	17	150
Goat	1–2	21	150
Swine	1.5–2.5	21	114
Horse	5–7	21	340

Source: Momont, H.W. (2016). The Reproductive System in Animals. In *Merck Veterinary Manual*, 11th ed. https://www.merckvetmanual.com/reproductive-system/reproductive-system-introduction/the-reproductive-system-in-animals

Table 2. **Age at Traditional Weaning (in days) for Common Livestock Species**

Species	Age at weaning
Beef cow[1]	180–240
Sheep[2]	60–90
Goat[3]	60–90
Swine[4]	21–42
Horse[5]	120–180

[1]Mathis, C.P., & M. Encinias. (2005). *Early weaning beef calves* [Guide B-126]. Las Cruces: New Mexico State University Cooperative Extension Service.

[2]Mathis, C.P., & T. Ross. (2005). *Sheep production and management* [Circular 604]. Las Cruces: New Mexico State University Cooperative Extension Service.

[3]Penn State University Extension. (n.d.). *Meat goat production*. Retrieved December 15, 2025, from https://extension.psu.edu/meat-goat-production

[4]Rea, J.C. (n.d.). *Care of pigs from farrowing to weaning*. Retrieved December 15, 2025, from https://extension2.missouri.edu/g2500

[5]Freeman, D.W. (2013). *Weaning and management of weanling horses*. https://horses.extension. org/wp-content/uploads/2019/07/ANSI-3978web.pdf

***Table 3*. The Julian Date Calender**

Day of month	Year #1												Day of month	Year #2											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	32	60	91	121	152	182	213	244	274	305	335	1	366	397	425	456	486	517	547	578	609	639	670	700
2	2	33	61	92	122	153	183	214	245	275	306	336	2	367	398	426	457	487	518	548	579	610	640	671	701
3	3	34	62	93	123	154	184	215	246	276	307	337	3	368	399	4274	58	488	519	549	580	611	641	672	702
4	4	35	63	94	124	155	185	216	247	277	308	338	4	369	400	428	459	489	520	550	581	612	642	673	703
5	5	36	64	95	125	156	186	217	248	278	309	339	5	370	401	429	460	490	521	551	582	613	643	674	704
6	6	37	65	96	126	157	187	218	249	279	310	340	6	371	402	430	461	491	522	552	583	614	644	675	705
7	7	38	66	97	127	158	188	219	250	280	311	341	7	373	403	431	462	492	523	553	584	615	645	676	706
8	8	39	67	98	128	159	189	220	251	281	312	342	8	373	404	432	463	493	524	554	585	616	646	677	707
9	9	40	68	99	129	160	190	221	252	282	313	343	9	374	405	433	464	494	525	555	586	617	647	678	708
10	10	41	69	100	130	161	191	222	253	283	314	344	10	375	406	434	465	495	526	556	587	618	648	679	709
11	11	42	70	101	131	162	192	223	254	284	315	345	11	376	407	435	466	496	557	557	588	619	649	680	710
12	12	43	71	102	132	163	193	224	255	285	316	346	12	377	408	436	467	497	528	558	589	620	650	681	711
13	13	44	72	103	133	164	194	225	256	286	317	347	13	378	409	437	468	498	529	559	590	621	651	682	712
14	14	45	73	104	134	165	195	226	257	287	318	348	14	379	410	438	469	499	530	560	591	622	652	683	713
15	15	46	74	105	135	166	196	227	258	288	319	349	15	380	411	439	470	500	531	561	592	623	653	684	714
16	16	47	75	106	136	167	197	228	259	289	320	350	16	381	412	440	471	501	532	562	593	624	654	685	715
17	17	48	76	107	137	168	198	229	260	290	321	351	17	382	413	441	472	502	533	563	594	625	655	686	716
18	18	49	77	108	138	169	199	230	261	291	322	352	18	383	414	442	473	503	534	564	595	626	656	687	717
19	19	50	78	109	139	170	200	231	262	292	323	353	19	384	415	443	474	504	535	565	596	627	657	688	718
20	20	51	79	110	140	171	201	232	263	293	324	354	20	385	416	444	475	505	536	566	597	628	658	689	719
21	21	52	80	111	141	172	202	233	264	294	325	355	21	386	417	445	476	506	537	567	598	629	659	690	720
22	22	53	81	112	142	173	203	234	265	295	326	356	22	387	418	446	477	507	538	568	599	630	660	691	721
23	23	54	82	113	143	174	204	235	266	296	327	357	23	388	419	447	478	508	539	569	600	631	661	692	722
24	24	55	83	114	144	175	205	236	267	297	328	358	24	389	420	448	479	509	540	570	601	632	662	693	723
25	25	56	84	115	145	176	206	237	268	298	329	359	25	390	421	449	480	510	541	571	602	633	663	694	724
26	26	57	85	116	146	177	207	238	269	299	330	360	26	391	422	450	481	511	541	572	603	634	664	695	725
27	27	58	86	117	147	178	208	239	270	300	331	361	27	392	423	451	482	512	543	573	604	635	665	696	726
28	28	59	87	118	148	179	209	240	271	301	332	362	28	393	424	452	483	513	544	574	605	636	666	697	727
29	29	—	88	119	149	180	210	241	272	302	333	363	29	394	—	453	484	514	545	575	606	637	667	698	728
30	30	—	89	120	150	181	211	242	273	303	334	364	30	395	—	454	485	515	546	576	607	638	668	699	729
31	31	—	90	—	151	—	212	243	—	304	—	365	31	396	—	455	—	516	—	577	608	—	669	—	730

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