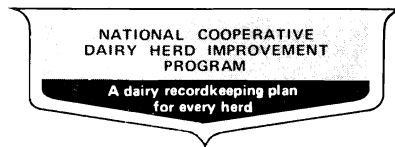


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PROJECTION FACTORS FOR MILK AND FAT LACTATION RECORDS

By George R. Wiggans and Rex L. Powell ^{1/}

Factors to estimate 305-day production have been derived. The production on the last sample day is the primary information to estimate the production from the end of the partial record until 305 days. For records of 155 or fewer days, the mature equivalent herd average is also required. This average is computed from records of cows in the same herd that freshened 1 to 2 years prior to the last sample day of the record. The herd average increases the accuracy of the projection by providing information on the normal production level of the herd.

For both milk and fat, a separate set of factors is provided for each of the four month-of-freshening periods, two parity groups, three regions (for Holstein, Jersey, and Guernsey as shown in fig. 1), and five breeds. For Ayrshire and Brown Swiss there is only one region. Jersey factors are used for Milking Shorthorn and Holstein factors are used for all other breeds.

Data

Sample-day milk and fat production records from the New York, North Carolina, Iowa, Wisconsin, and Utah Dairy Records Processing Centers for cows freshening in 1973 and 1974 were used to calculate the factors. Records were eliminated for the following reasons: Fewer than 180 days in milk, more than 55 days before the first sample day, no dry date (if less than 305 days in milk), more than 40 days from last sample day until the end of the record, more than 60 days between sample days, a sample-day milk production less than 1 pound or greater than 150 pounds, a sample-day fat percent less than 1.5 or greater than 9.0, any sample day reported as abnormal, or less than 18 months or greater than 96 months of age at freshening. These edits removed unusual records and records with important information missing.

Cumulative production through each sample day and for 305 days was computed for each record using adjustments to the early and last test intervals.

Because of the large number of Holstein records, only every 10th record was considered. The numbers of lactation records used to compute the regional factors for milk and fat for the five breeds follow:

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	<u>North</u>	<u>South</u>	<u>West</u>	<u>Total</u>
Ayrshire <u>1/</u> -----	-----	-----	-----	20,192
Guernsey-----	23,255	14,738	12,132	50,125
Holstein-----	81,014	27,536	38,568	147,118
Jersey-----	27,926	22,085	9,113	59,124
Brown Swiss <u>1/</u> -----	-----	-----	-----	12,425

1/ No regions were defined for these breeds.

Records of other breeds were not used to compute the factors but were used to assess suitability.

Application of Factors

The factors in tables 1-11 are applied as illustrated in this example of an Ayrshire cow in first lactation that freshened in December with a record in progress of 44 days in milk (DIM), and with production to date of 1,800 pounds of milk and 40 pounds on day 44. The herd average is 13,000 pounds. This average should be divided by 1,000 for use with the factors in the tables. The computations (* = multiply) are as follows:

$$\begin{aligned} \text{Projected 305-day record } (\hat{Y}_{305}) &= \text{Partial record } (Y_{\text{DIM}}) + \\ &\quad [\text{estimated average daily production}] * (\text{days remaining}) \\ \hat{Y}_{305} &= Y_{\text{DIM}} + [(\text{intercept} + \text{slope} * \text{DIM}) * \text{sample-day production} + \\ &\quad (\text{intercept} + \text{slope} * \text{DIM}) * \text{herd average}] * (305 - \text{DIM}) \\ \hat{Y}_{305} &= 1,800 + [(0.443 + 0.00315 * 44) * 40 + (1.419 + (-0.01666) * 44) * 13] \\ &\quad * (305 - 44) \\ \hat{Y}_{305} &= 1,800 + [0.5816 * 40 + 0.686 * 13] * 261 \\ \hat{Y}_{305} &= 1,800 + [23.26 + 8.92] * 261 = 10,199 \end{aligned}$$

For records of more than 155 days, the herd average is not used. The following example illustrates the same cow with 8,000 pounds of milk at 200 days and 35 pounds on the 200th day.

$$\begin{aligned} \hat{Y}_{305} &= Y_{\text{DIM}} + [(\text{intercept} + \text{slope} * \text{DIM}) * \text{sample-day production} + \\ &\quad \text{intercept} + \text{slope} * \text{DIM}] * (305 - \text{DIM}) \\ \hat{Y}_{305} &= 8,000 + [(0.355 + 0.0026 * 200) * 35 + 10.853 + (-0.06785) * 200] \\ &\quad * (305 - 200) \\ \hat{Y}_{305} &= 8,000 + [30.62 - 2.72] * 105 = 10,930 \end{aligned}$$

Special Handling Procedures

Last sample day not at end of record.--Terminated records usually do not end on a sample day, therefore an adjustment is made to the last sample-day production to estimate production at the end of the record. This adjustment uses the Shook factors for the interval from the last sample to the end of lactation. The adjusted sample-day production = $(2 * \text{factor} - 1) * \text{last sample-day production}$. This method accounts for the additional days milked after the last sample day.

Abnormal sample day.--A sample day reported abnormal is not used. The most recent normal sample day is used to project the record after adjustment as described previously.

Low milk production on last sample day.--A floor (minimum value) is provided so that last sample-day production below the floor is set equal to the floor value before being used in the equation. The floor value is 10 pounds through 100 days in milk and $(13.6 - 0.035 * \text{DIM})$ pounds thereafter.

High milk production on last sample day.--Last sample-day production exceeding twice the average daily production of the partial record and greater than 75 pounds is considered abnormal and is not used.

Abnormal percent fat on last sample day.--Restrictions were imposed to improve the projected fat records by constraining unusual values. The last sample-day percent fat is set equal to the percent fat of the partial record (PF) - 1.5 if it is less than PF - 1.5 or set equal to PF + 2.5 if it is greater than PF + 2.5.

Floor for projected record.--The estimated average daily production for the remainder of the lactation is set equal to $0.6 * \text{last sample-day production}$ if it falls below this value. Without this restriction, a negative prediction of remaining production would be possible when last sample-day production is low. This can occur because of the negative values of some of the coefficients.

Conclusions

These factors provide improved estimates of 305-day production because additional information is used to project records. This system accounts for season of freshening, region, production level of the herd, and production on the last sample day of the record. The sample-day production information is restricted so that the projected record is within reasonable bounds. Except for the change in the equation at 155 days in milk, there is a smooth change in the factors by days in milk so that factors for a given day are similar to those for adjoining days.

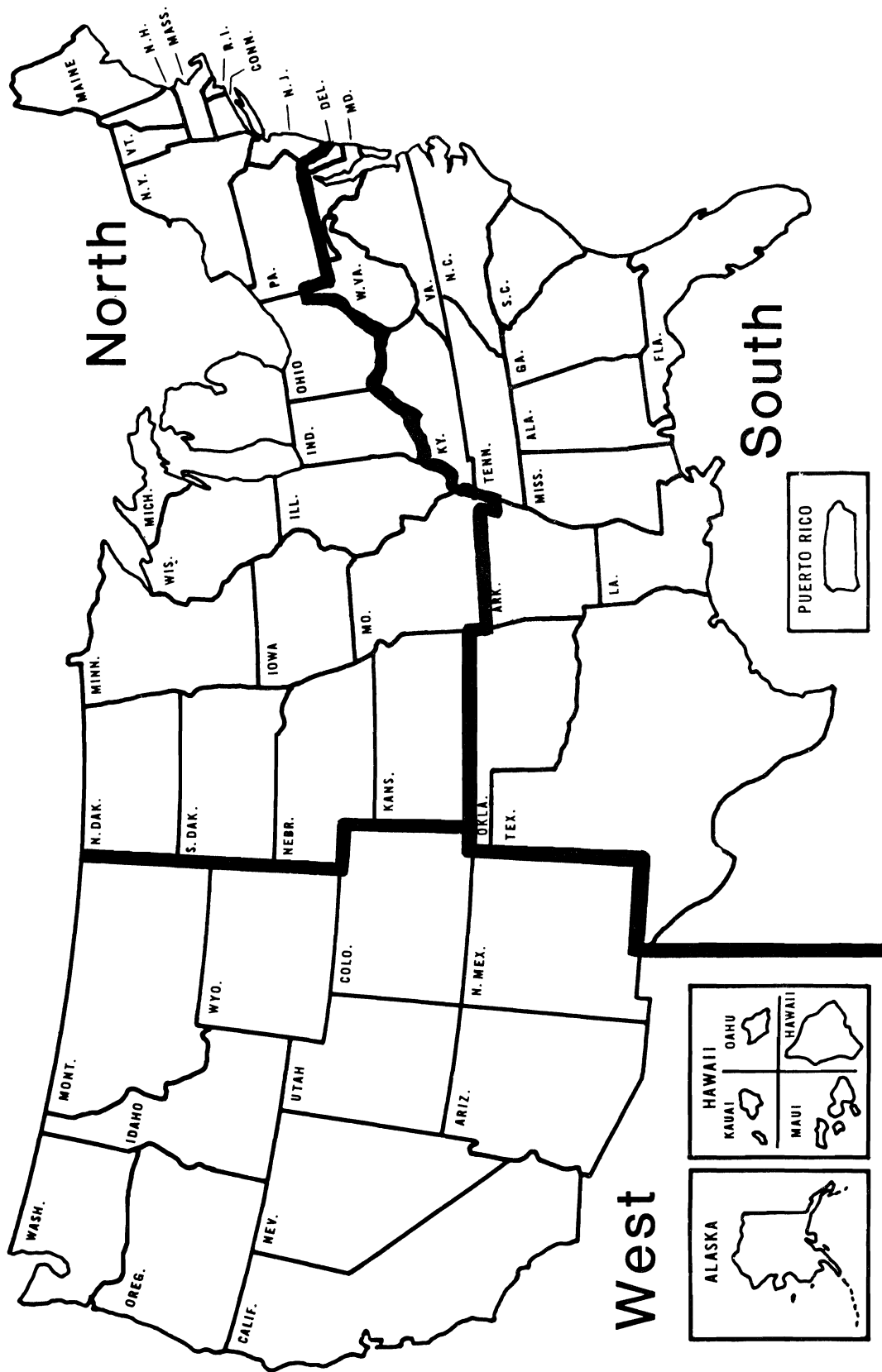


Figure 1.--Regions for projection factors.

TABLE 1.--FACTORS FOR THE AYRSHIRE BREED

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.443	0.00315	1.419	-0.01666	0.339	0.00303	1.633	-0.01200
	56-105	0.607	0.00016	0.544	-0.00075	0.443	0.00112	1.196	-0.00405
	106-155	0.350	0.00261	1.385	-0.00876	0.385	0.00168	1.318	-0.00521
	156-205	0.355	0.00260	10.853	-0.06785	0.161	0.00352	0.746	-0.00382
	206-255	0.556	0.00162	-0.086	-0.01449	0.644	0.00117	0.258	-0.00143
	256-305	0.967	0.00001	-15.643	0.04652	0.887	0.00021	-0.352	0.00096
MAR-MAY	7- 55	0.482	0.00142	1.251	-0.01352	0.369	0.00118	1.541	-0.00723
	56-105	0.456	0.00188	0.734	-0.00412	0.302	0.00240	1.457	-0.00570
	106-155	0.365	0.00275	0.930	-0.00599	0.125	0.00409	1.986	-0.01073
	156-205	0.505	0.00183	5.869	-0.03536	0.545	0.00154	0.455	-0.00215
	206-255	0.366	0.00251	8.688	-0.04911	0.308	0.00269	0.654	-0.00313
	256-305	0.890	0.00046	-9.340	0.02159	0.788	0.00081	-0.160	0.00007
JUN-AUG	7- 55	0.452	0.00252	1.239	-0.01280	0.363	0.00253	1.570	-0.00930
	56-105	0.456	0.00244	0.756	-0.00401	0.366	0.00249	1.412	-0.00643
	106-155	0.454	0.00246	0.884	-0.00523	0.264	0.00346	1.738	-0.00953
	156-205	0.624	0.00143	5.851	-0.03405	0.542	0.00176	0.450	-0.00219
	206-255	0.566	0.00172	8.351	-0.04624	0.780	0.00060	0.210	-0.00102
	256-305	0.745	0.00101	0.817	-0.01669	0.294	0.00250	0.740	-0.00310
SEP-NOV	7- 55	0.484	0.00335	1.274	-0.01607	0.359	0.00331	1.648	-0.01328
	56-105	0.580	0.00161	0.546	-0.00282	0.418	0.00224	1.242	-0.00590
	106-155	0.649	0.00094	0.459	-0.00200	0.468	0.00176	1.135	-0.00488
	156-205	0.919	-0.00050	1.110	-0.00174	0.832	-0.00030	0.216	-0.00050
	206-255	0.328	0.00238	17.968	-0.08397	0.357	0.00202	0.765	-0.00318
	256-305	0.427	0.00199	-2.669	-0.00305	-0.100	0.00381	0.751	-0.00312
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.350	0.00212	1.766	-0.01733	0.266	0.00189	1.880	-0.01117
	56-105	0.366	0.00182	1.285	-0.00859	0.250	0.00218	1.812	-0.00995
	106-155	0.345	0.00203	1.312	-0.00884	0.211	0.00255	1.854	-0.01034
	156-205	0.216	0.00294	13.373	-0.09291	0.081	0.00349	0.867	-0.00492
	206-255	0.302	0.00252	-5.016	-0.00321	0.252	0.00265	0.149	-0.00141
	256-305	0.441	0.00197	-24.668	0.07386	0.323	0.00238	-0.712	0.00196
MAR-MAY	7- 55	0.297	0.00253	1.891	-0.02098	0.225	0.00157	2.014	-0.01085
	56-105	0.349	0.00158	1.124	-0.00704	0.188	0.00223	1.947	-0.00964
	106-155	0.262	0.00241	1.181	-0.00759	0.030	0.00374	2.381	-0.01377
	156-205	0.245	0.00269	7.773	-0.05632	0.226	0.00275	0.593	-0.00350
	206-255	-0.078	0.00427	4.149	-0.03864	-0.073	0.00421	0.282	-0.00199
	256-305	1.229	-0.00086	-29.593	0.09368	1.274	-0.00108	-1.170	0.00371
JUN-AUG	7- 55	0.349	0.00159	1.561	-0.01420	0.246	0.00182	1.905	-0.01021
	56-105	0.307	0.00235	1.181	-0.00730	0.193	0.00279	1.979	-0.01154
	106-155	0.057	0.00473	1.750	-0.01272	-0.129	0.00586	2.654	-0.01798
	156-205	0.443	0.00215	5.021	-0.04395	0.475	0.00189	0.243	-0.00176
	206-255	0.400	0.00235	2.349	-0.03091	0.397	0.00227	0.206	-0.00158
	256-305	1.091	-0.00035	-27.118	0.08465	1.083	-0.00041	-0.972	0.00304
SEP-NOV	7- 55	0.410	0.00140	1.446	-0.01304	0.257	0.00221	1.948	-0.01270
	56-105	0.323	0.00299	1.236	-0.00923	0.188	0.00347	1.946	-0.01266
	106-155	0.430	0.00197	0.841	-0.00546	0.242	0.00295	1.560	-0.00899
	156-205	0.583	0.00103	7.156	-0.04710	0.613	0.00060	0.297	-0.00143
	206-255	0.176	0.00301	12.308	-0.07223	0.019	0.00350	0.810	-0.00393
	256-305	0.591	0.00139	-29.062	0.09001	0.497	0.00163	-0.808	0.00241

TABLE 2.--FACTORS FOR THE BROWN SWISS BREED

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.439	0.00414	1.341	-0.01626	0.294	0.00440	1.646	-0.01378
	56-105	0.589	0.00142	0.634	-0.00339	0.398	0.00252	1.253	-0.00664
	106-155	0.675	0.00059	0.587	-0.00295	0.642	0.00019	0.701	-0.00138
	156-205	0.474	0.00213	10.619	-0.06371	0.180	0.00347	0.845	-0.00407
	206-255	0.850	0.00030	-3.416	0.00475	0.553	0.00165	0.518	-0.00247
	256-305	0.322	0.00237	10.004	-0.04787	0.972	0.00001	0.044	-0.00061
MAR-MAY	7- 55	0.474	0.00271	1.151	-0.01286	0.352	0.00246	1.473	-0.00851
	56-105	0.511	0.00205	0.713	-0.00490	0.250	0.00431	1.575	-0.01036
	106-155	0.558	0.00159	0.450	-0.00240	0.435	0.00254	1.043	-0.00530
	156-205	0.671	0.00125	1.615	-0.01581	0.587	0.00173	0.480	-0.00257
	206-255	0.711	0.00105	-0.912	-0.00348	1.065	-0.00061	-0.294	0.00120
	256-305	1.466	-0.00191	-12.570	0.04224	1.055	-0.00056	0.053	-0.00016
JUN-AUG	7- 55	0.505	0.00267	1.011	-0.01019	0.395	0.00393	1.412	-0.01103
	56-105	0.557	0.00173	0.560	-0.00201	0.533	0.00142	1.005	-0.00362
	106-155	0.532	0.00197	0.768	-0.00398	0.494	0.00179	1.142	-0.00493
	156-205	0.931	-0.00009	0.015	0.00018	1.075	-0.00112	-0.106	0.00101
	206-255	0.865	0.00023	2.241	-0.01068	0.610	0.00115	0.440	-0.00166
	256-305	0.543	0.00149	11.564	-0.04724	0.671	0.00091	0.480	-0.00181
SEP-NOV	7- 55	0.422	0.00480	1.333	-0.01575	0.276	0.00511	1.742	-0.01517
	56-105	0.625	0.00110	0.566	-0.00181	0.467	0.00164	1.161	-0.00461
	106-155	0.617	0.00118	0.608	-0.00222	0.456	0.00174	1.127	-0.00428
	156-205	0.834	-0.00005	3.484	-0.00686	0.646	0.00069	0.384	-0.00116
	206-255	0.404	0.00205	18.955	-0.08232	0.524	0.00128	0.598	-0.00220
	256-305	0.890	0.00014	-2.668	0.00248	0.312	0.00211	0.872	-0.00327
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.424	0.00267	1.478	-0.01610	0.285	0.00251	1.843	-0.01112
	56-105	0.509	0.00112	0.761	-0.00306	0.288	0.00245	1.689	-0.00832
	106-155	0.507	0.00114	1.003	-0.00536	0.408	0.00131	1.376	-0.00534
	156-205	0.484	0.00176	8.172	-0.05979	0.493	0.00166	0.369	-0.00207
	206-255	0.446	0.00194	-1.285	-0.01366	0.384	0.00219	0.402	-0.00223
	256-305	0.650	0.00114	-16.628	0.04651	0.843	0.00039	-0.535	0.00144
MAR-MAY	7- 55	0.353	0.00294	1.707	-0.01930	0.251	0.00189	1.997	-0.00987
	56-105	0.424	0.00166	0.923	-0.00504	0.178	0.00323	2.048	-0.01080
	106-155	0.311	0.00273	1.297	-0.00861	0.195	0.00307	2.059	-0.01089
	156-205	0.304	0.00298	7.711	-0.06144	0.305	0.00291	0.707	-0.00422
	206-255	0.493	0.00206	-5.714	0.00404	0.591	0.00151	-0.208	0.00024
	256-305	1.148	-0.00051	-16.975	0.04820	0.932	0.00018	-0.351	0.00081
JUN-AUG	7- 55	0.402	0.00247	1.376	-0.01412	0.270	0.00279	1.901	-0.01164
	56-105	0.391	0.00267	0.929	-0.00598	0.253	0.00309	1.835	-0.01044
	106-155	0.223	0.00427	1.357	-0.01006	0.055	0.00498	2.308	-0.01494
	156-205	0.542	0.00192	6.107	-0.04651	0.485	0.00199	0.449	-0.00256
	206-255	0.653	0.00138	-0.080	-0.01633	0.701	0.00094	-0.002	-0.00036
	256-305	1.261	-0.00101	-19.342	0.05921	0.749	0.00075	-0.054	-0.00015
SEP-NOV	7- 55	0.400	0.00339	1.497	-0.01607	0.253	0.00388	2.001	-0.01585
	56-105	0.462	0.00226	0.926	-0.00568	0.338	0.00234	1.557	-0.00778
	106-155	0.463	0.00225	0.960	-0.00602	0.216	0.00350	1.873	-0.01080
	156-205	0.674	0.00098	7.119	-0.04725	0.628	0.00101	0.356	-0.00187
	206-255	0.635	0.00116	3.828	-0.03119	0.505	0.00161	0.370	-0.00193
	256-305	0.079	0.00335	2.337	-0.02535	0.178	0.00290	0.224	-0.00136

TABLE 3.--FACTORS FOR THE GUERNSEY BREED IN THE NORTH

CALVING SEASON	DAYS IN MILK	MILK				FAT				
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE		
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	
LACTATION 1										
DEC-FEB	7- 55	0.373	0.00404	1.644	-0.01843	0.328	0.00354	1.810	-0.01413	
	56-105	0.571	0.00044	0.670	-0.00072	0.461	0.00112	1.252	-0.00399	
	106-155	0.281	0.00320	1.675	-0.01029	0.345	0.00222	1.579	-0.00710	
	156-205	0.277	0.00311	12.353	-0.07225	0.346	0.00248	0.581	-0.00259	
	206-255	0.863	0.00025	-5.837	0.01648	0.656	0.00097	0.317	-0.00131	
256-305	0.410	0.00203	3.421	-0.01982	0.133	0.00302	0.791	-0.00316		
MAR-MAY	7- 55	0.325	0.00390	1.741	-0.01971	0.312	0.00196	1.837	-0.00973	
	56-105	0.431	0.00196	0.915	-0.00470	0.267	0.00277	1.687	-0.00700	
	106-155	0.456	0.00173	0.697	-0.00262	0.237	0.00306	1.763	-0.00772	
	156-205	0.538	0.00161	2.973	-0.01358	0.401	0.00228	0.656	-0.00289	
	206-255	0.523	0.00168	5.055	-0.02374	0.656	0.00103	0.302	-0.00116	
256-305	0.648	0.00119	5.289	-0.02465	0.776	0.00056	0.310	-0.00120		
JUN-AUG	7- 55	0.396	0.00267	1.358	-0.01170	0.345	0.00253	1.705	-0.00880	
	56-105	0.372	0.00311	1.030	-0.00572	0.301	0.00333	1.710	-0.00889	
	106-155	0.474	0.00214	0.775	-0.00330	0.430	0.00211	1.349	-0.00545	
	156-205	0.592	0.00150	6.714	-0.02938	0.523	0.00167	0.535	-0.00211	
	206-255	0.733	0.00082	6.131	-0.02654	0.837	0.00014	0.245	-0.00070	
256-305	-0.075	0.00398	28.304	-0.11349	-0.180	0.00413	1.770	-0.00668		
SEP-NOV	7- 55	0.368	0.00528	1.572	-0.01966	0.302	0.00461	1.915	-0.01647	
	56-105	0.623	0.00065	0.448	0.00077	0.481	0.00135	1.208	-0.00362	
	106-155	0.419	0.00258	1.226	-0.00663	0.335	0.00274	1.678	-0.00810	
	156-205	0.792	0.00015	5.024	-0.01732	0.696	0.00044	0.420	-0.00139	
	206-255	0.290	0.00260	19.208	-0.08652	0.442	0.00168	0.765	-0.00307	
256-305	0.302	0.00255	3.182	-0.02367	-0.141	0.00397	0.930	-0.00372		
LACTATION 2 OR GREATER										
DEC-FEB	7- 55	0.356	0.00270	1.720	-0.01707	0.258	0.00315	2.032	-0.01500	
	56-105	0.446	0.00108	1.011	-0.00417	0.333	0.00179	1.653	-0.00811	
	106-155	0.307	0.00239	1.608	-0.00986	0.283	0.00226	1.688	-0.00844	
	156-205	0.206	0.00317	12.439	-0.08142	0.145	0.00332	0.816	-0.00440	
	206-255	0.485	0.00181	-5.476	0.00597	0.336	0.00238	0.259	-0.00168	
256-305	0.503	0.00173	-15.263	0.04435	0.714	0.00090	-0.700	0.00208		
MAR-MAY	7- 55	0.274	0.00343	2.046	-0.02350	0.239	0.00273	2.090	-0.01492	
	56-105	0.356	0.00194	1.128	-0.00682	0.278	0.00202	1.636	-0.00665	
	106-155	0.270	0.00275	1.263	-0.00810	0.081	0.00389	2.338	-0.01334	
	156-205	0.338	0.00258	4.328	-0.03416	0.433	0.00208	0.432	-0.00255	
	206-255	0.325	0.00264	0.534	-0.01565	0.417	0.00216	0.094	-0.00090	
256-305	0.925	0.00029	-12.340	0.03484	0.890	0.00031	-0.501	0.00143		
JUN-AUG	7- 55	0.316	0.00223	1.630	-0.01485	0.251	0.00227	1.981	-0.01171	
	56-105	0.286	0.00278	1.185	-0.00676	0.181	0.00353	1.992	-0.01191	
	106-155	0.128	0.00428	1.453	-0.00931	0.082	0.00448	2.022	-0.01219	
	156-205	0.457	0.00234	4.951	-0.03640	0.520	0.00191	0.276	-0.00171	
	206-255	0.701	0.00115	0.619	-0.01527	0.707	0.00099	0.112	-0.00091	
256-305	1.022	-0.00011	-9.352	0.02383	0.993	-0.00013	-0.356	0.00092		
SEP-NOV	7- 55	0.327	0.00368	1.714	-0.01861	0.246	0.00373	2.097	-0.01722	
	56-105	0.390	0.00254	0.998	-0.00560	0.270	0.00330	1.724	-0.01044	
	106-155	0.440	0.00206	0.981	-0.00543	0.378	0.00227	1.355	-0.00692	
	156-205	0.643	0.00085	7.361	-0.04053	0.656	0.00064	0.363	-0.00168	
	206-255	0.242	0.00281	14.272	-0.07425	0.318	0.00229	0.657	-0.00312	
256-305	0.625	0.00131	-17.945	0.05210	0.298	0.00237	-0.221	0.00033		

TABLE 4.--FACTORS FOR THE GUERNSEY BREED IN THE SOUTH

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.339	0.00441	1.948	-0.02220	0.298	0.00346	2.101	-0.01621
	56-105	0.534	0.00087	0.851	-0.00225	0.376	0.00205	1.598	-0.00707
	106-155	0.427	0.00188	1.315	-0.00668	0.426	0.00157	1.347	-0.00468
	156-205	0.977	-0.00077	-5.591	0.02867	0.860	-0.00029	0.049	0.00041
	206-255	0.487	0.00162	4.466	-0.02039	0.473	0.00159	0.529	-0.00193
	256-305	0.074	0.00324	15.803	-0.06485	0.232	0.00254	1.160	-0.00441
MAR-MAY	7- 55	0.356	0.00300	1.619	-0.01539	0.292	0.00315	1.919	-0.01158
	56-105	0.385	0.00249	1.152	-0.00688	0.316	0.00271	1.687	-0.00736
	106-155	0.316	0.00314	1.197	-0.00732	0.307	0.00279	1.710	-0.00758
	156-205	0.493	0.00198	3.580	-0.01867	0.640	0.00111	0.356	-0.00136
	206-255	0.734	0.00081	2.536	-0.01358	0.776	0.00045	0.321	-0.00119
	256-305	0.372	0.00223	12.622	-0.05313	0.291	0.00235	0.887	-0.00341
JUN-AUG	7- 55	0.342	0.00400	1.632	-0.01663	0.304	0.00374	1.962	-0.01288
	56-105	0.462	0.00181	0.791	-0.00135	0.432	0.00142	1.466	-0.00386
	106-155	0.412	0.00229	1.117	-0.00445	0.403	0.00170	1.613	-0.00526
	156-205	0.655	0.00108	4.807	-0.01423	0.576	0.00126	0.467	-0.00155
	206-255	0.693	0.00090	9.415	-0.03671	0.819	0.00008	0.295	-0.00071
	256-305	0.320	0.00236	15.894	-0.06211	0.054	0.00308	1.262	-0.00450
SEP-NOV	7- 55	0.366	0.00429	1.645	-0.01711	0.357	0.00229	1.835	-0.01071
	56-105	0.480	0.00222	0.927	-0.00406	0.343	0.00256	1.659	-0.00753
	106-155	0.612	0.00096	0.765	-0.00251	0.507	0.00099	1.231	-0.00345
	156-205	0.458	0.00197	13.117	-0.06113	0.518	0.00125	0.582	-0.00209
	206-255	0.658	0.00100	8.616	-0.03918	0.550	0.00110	0.554	-0.00195
	256-305	-0.176	0.00427	20.608	-0.08621	-0.737	0.00615	1.833	-0.00697
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.290	0.00366	2.106	-0.02187	0.211	0.00346	2.324	-0.01738
	56-105	0.394	0.00177	1.293	-0.00710	0.255	0.00266	1.978	-0.01109
	106-155	0.383	0.00187	1.319	-0.00735	0.336	0.00189	1.472	-0.00628
	156-205	0.399	0.00218	7.761	-0.05404	0.140	0.00338	0.844	-0.00439
	206-255	0.581	0.00129	-5.523	0.01075	0.529	0.00148	0.117	-0.00085
	256-305	0.310	0.00236	-4.241	0.00573	0.586	0.00126	-0.118	0.00008
MAR-MAY	7- 55	0.309	0.00245	1.935	-0.01929	0.264	0.00223	2.042	-0.01257
	56-105	0.306	0.00250	1.404	-0.00963	0.259	0.00233	1.788	-0.00796
	106-155	0.393	0.00168	0.863	-0.00447	0.235	0.00255	1.926	-0.00927
	156-205	0.371	0.00238	1.892	-0.01986	0.342	0.00255	0.521	-0.00291
	206-255	0.327	0.00260	1.492	-0.01790	0.540	0.00159	0.039	-0.00056
	256-305	0.933	0.00022	-8.663	0.02192	0.736	0.00082	-0.080	-0.00009
JUN-AUG	7- 55	0.279	0.00293	1.821	-0.01714	0.222	0.00287	2.144	-0.01312
	56-105	0.297	0.00259	1.228	-0.00637	0.178	0.00367	2.148	-0.01319
	106-155	0.064	0.00481	1.715	-0.01101	0.107	0.00435	2.085	-0.01259
	156-205	0.402	0.00255	6.630	-0.03968	0.574	0.00145	0.241	-0.00123
	206-255	0.803	0.00060	0.709	-0.01080	0.753	0.00058	0.124	-0.00066
	256-305	0.507	0.00176	4.208	-0.02452	0.481	0.00165	0.279	-0.00126
SEP-NOV	7- 55	0.281	0.00427	1.956	-0.02131	0.223	0.00393	2.257	-0.01891
	56-105	0.338	0.00323	1.228	-0.00807	0.263	0.00319	1.819	-0.01095
	106-155	0.530	0.00140	0.747	-0.00349	0.396	0.00193	1.281	-0.00583
	156-205	0.560	0.00142	8.356	-0.04761	0.484	0.00156	0.492	-0.00235
	206-255	0.474	0.00184	5.983	-0.03604	0.426	0.00184	0.370	-0.00175
	256-305	0.369	0.00225	-0.623	-0.01013	0.075	0.00322	0.516	-0.00233

TABLE 5.--FACTORS FOR THE GUERNSEY BREED IN THE WEST

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.420	0.00185	1.673	-0.01309	0.401	0.00049	1.644	-0.00534
	56-105	0.427	0.00172	1.233	-0.00509	0.335	0.00168	1.629	-0.00506
	106-155	0.537	0.00067	1.008	-0.00294	0.359	0.00146	1.566	-0.00446
	156-205	0.014	0.00411	31.963	-0.16668	-0.074	0.00399	1.558	-0.00688
	206-255	0.573	0.00139	5.454	-0.03736	0.405	0.00166	0.788	-0.00312
	256-305	1.879	-0.00374	-26.409	0.08759	1.525	-0.00273	-0.326	0.00125
MAR-MAY	7- 55	0.405	0.00106	1.576	-0.00808	0.353	0.00106	1.780	-0.00577
	56-105	0.288	0.00318	1.775	-0.01171	0.313	0.00179	1.784	-0.00583
	106-155	0.429	0.00184	1.226	-0.00648	0.187	0.00299	2.259	-0.01036
	156-205	0.086	0.00385	21.687	-0.11345	-0.090	0.00421	1.637	-0.00742
	206-255	0.783	0.00045	-2.992	0.00693	0.890	-0.00057	-0.022	0.00067
	256-305	1.363	-0.00183	14.919	-0.06331	-0.377	0.00440	3.143	-0.01174
JUN-AUG	7- 55	0.285	0.00457	1.816	-0.01969	0.205	0.00428	2.104	-0.01442
	56-105	0.463	0.00134	0.889	-0.00283	0.445	-0.00009	1.374	-0.00115
	106-155	0.043	0.00533	2.005	-0.01345	0.061	0.00357	2.552	-0.01237
	156-205	0.486	0.00201	14.069	-0.08102	0.034	0.00345	1.371	-0.00626
	206-255	0.847	0.00024	1.192	-0.01820	0.467	0.00134	0.570	-0.00235
	256-305	2.161	-0.00491	-25.749	0.08745	2.205	-0.00548	-1.239	0.00474
SEP-NOV	7- 55	0.352	0.00511	1.718	-0.02023	0.358	0.00149	1.745	-0.00770
	56-105	0.587	0.00082	0.689	-0.00152	0.274	0.00301	1.899	-0.01048
	106-155	0.438	0.00225	1.369	-0.00800	0.501	0.00086	1.198	-0.00381
	156-205	0.296	0.00271	20.561	-0.10548	-0.016	0.00384	1.397	-0.00645
	206-255	1.306	-0.00222	-10.888	0.04793	1.046	-0.00134	-0.133	0.00101
	256-305	-0.454	0.00469	51.912	-0.19835	0.199	0.00198	1.641	-0.00594
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.303	0.00317	2.001	-0.02137	0.277	0.00140	1.932	-0.00968
	56-105	0.415	0.00114	1.058	-0.00422	0.264	0.00165	1.803	-0.00733
	106-155	0.359	0.00167	1.415	-0.00762	0.227	0.00200	1.915	-0.00840
	156-205	-0.175	0.00484	35.280	-0.19951	-0.227	0.00479	1.734	-0.00892
	206-255	0.394	0.00207	-0.822	-0.02340	0.243	0.00249	0.444	-0.00263
	256-305	1.242	-0.00126	-24.683	0.07017	1.064	-0.00073	-0.516	0.00113
MAR-MAY	7- 55	0.334	0.00075	1.655	-0.00963	0.311	-0.00046	1.688	-0.00090
	56-105	0.240	0.00245	1.785	-0.01198	0.164	0.00221	2.216	-0.01049
	106-155	0.105	0.00374	2.138	-0.01535	-0.005	0.00383	2.799	-0.01605
	156-205	0.080	0.00380	12.312	-0.09141	0.170	0.00296	0.857	-0.00493
	206-255	0.269	0.00287	-3.658	-0.01351	0.296	0.00234	0.159	-0.00152
	256-305	1.751	-0.00294	-17.890	0.04231	1.238	-0.00135	-0.275	0.00018
JUN-AUG	7- 55	0.256	0.00272	1.907	-0.01833	0.216	0.00206	2.089	-0.01171
	56-105	0.267	0.00253	1.397	-0.00906	0.288	0.00074	1.722	-0.00504
	106-155	-0.020	0.00527	2.025	-0.01505	-0.114	0.00457	3.038	-0.01757
	156-205	0.137	0.00386	15.247	-0.10653	-0.079	0.00457	1.150	-0.00667
	206-255	0.970	-0.00020	-11.528	0.02408	0.788	0.00034	-0.301	0.00041
	256-305	1.230	-0.00122	-9.363	0.01559	1.673	-0.00313	-0.869	0.00264
SEP-NOV	7- 55	0.299	0.00378	1.905	-0.02132	0.250	0.00161	2.108	-0.01083
	56-105	0.401	0.00191	1.038	-0.00555	0.196	0.00260	2.132	-0.01128
	106-155	0.347	0.00243	1.389	-0.00889	0.204	0.00252	1.983	-0.00986
	156-205	0.339	0.00238	14.526	-0.08838	0.347	0.00190	0.690	-0.00344
	206-255	0.378	0.00219	7.670	-0.05494	0.229	0.00247	0.628	-0.00314
	256-305	1.846	-0.00357	-25.507	0.07516	1.660	-0.00314	-0.700	0.00207

TABLE 6.--FACTORS FOR THE HOLSTEIN BREED IN THE NORTH

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.453	0.00296	1.314	-0.01538	0.316	0.00340	1.536	-0.01149
	56-105	0.570	0.00085	0.599	-0.00238	0.412	0.00166	1.170	-0.00483
	106-155	0.536	0.00117	0.787	-0.00416	0.453	0.00126	1.064	-0.00383
	156-205	0.547	0.00148	4.866	-0.03418	0.399	0.00209	0.495	-0.00226
	206-255	0.376	0.00232	9.545	-0.05700	0.361	0.00228	0.665	-0.00309
256-305	0.502	0.00182	-8.621	0.01424	0.485	0.00179	0.165	-0.00113	
MAR-MAY	7- 55	0.367	0.00364	1.487	-0.01787	0.272	0.00334	1.623	-0.01157
	56-105	0.511	0.00101	0.578	-0.00134	0.361	0.00174	1.146	-0.00291
	106-155	0.355	0.00250	0.981	-0.00518	0.138	0.00386	1.783	-0.00897
	156-205	0.420	0.00219	12.811	-0.06840	0.444	0.00208	0.701	-0.00337
	206-255	0.314	0.00271	14.562	-0.07694	0.470	0.00195	0.599	-0.00288
256-305	0.797	0.00082	-10.551	0.02154	0.656	0.00122	-0.033	-0.00040	
JUN-AUG	7- 55	0.437	0.00312	1.268	-0.01269	0.328	0.00308	1.529	-0.00817
	56-105	0.466	0.00260	0.844	-0.00499	0.323	0.00316	1.511	-0.00784
	106-155	0.583	0.00149	0.699	-0.00360	0.455	0.00190	1.241	-0.00527
	156-205	0.734	0.00088	5.054	-0.03293	0.726	0.00070	0.320	-0.00135
	206-255	0.508	0.00198	12.628	-0.06988	0.477	0.00192	0.698	-0.00320
256-305	0.755	0.00101	-3.981	-0.00475	0.728	0.00094	0.181	-0.00117	
SEP-NOV	7- 55	0.494	0.00286	1.234	-0.01355	0.336	0.00350	1.577	-0.01143
	56-105	0.578	0.00134	0.661	-0.00314	0.391	0.00250	1.321	-0.00677
	106-155	0.620	0.00094	0.619	-0.00274	0.530	0.00117	0.979	-0.00352
	156-205	0.737	0.00039	7.600	-0.03672	0.690	0.00039	0.408	-0.00145
	206-255	0.278	0.00263	24.020	-0.11682	0.245	0.00256	1.071	-0.00469
256-305	0.403	0.00214	-12.652	0.02699	0.220	0.00266	0.113	-0.00093	
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.379	0.00197	1.615	-0.01498	0.250	0.00297	1.849	-0.01328
	56-105	0.418	0.00124	1.075	-0.00517	0.317	0.00175	1.487	-0.00670
	106-155	0.380	0.00161	1.273	-0.00705	0.335	0.00158	1.452	-0.00636
	156-205	0.175	0.00314	20.017	-0.12387	0.120	0.00328	0.939	-0.00498
	206-255	0.223	0.00291	3.584	-0.04371	0.154	0.00311	0.592	-0.00329
256-305	0.599	0.00143	-37.383	0.11694	0.565	0.00150	-1.103	0.00336	
MAR-MAY	7- 55	0.346	0.00149	1.693	-0.01406	0.253	0.00172	1.832	-0.00857
	56-105	0.332	0.00175	1.269	-0.00636	0.242	0.00193	1.714	-0.00642
	106-155	0.269	0.00235	1.360	-0.00722	0.071	0.00356	2.271	-0.01172
	156-205	0.199	0.00306	16.995	-0.09916	0.226	0.00285	0.878	-0.00458
	206-255	0.016	0.00395	12.222	-0.07588	0.039	0.00376	0.663	-0.00353
256-305	0.973	0.00020	-35.230	0.11021	0.878	0.00047	-1.099	0.00338	
JUN-AUG	7- 55	0.362	0.00161	1.520	-0.01202	0.238	0.00240	1.893	-0.01015
	56-105	0.314	0.00247	1.248	-0.00706	0.221	0.00270	1.851	-0.00939
	106-155	0.233	0.00325	1.436	-0.00886	0.062	0.00421	2.231	-0.01301
	156-205	0.360	0.00254	14.446	-0.09237	0.428	0.00214	0.543	-0.00322
	206-255	0.339	0.00264	7.166	-0.05686	0.435	0.00211	0.316	-0.00211
256-305	0.977	0.00014	-31.780	0.09587	0.758	0.00084	-0.787	0.00221	
SEP-NOV	7- 55	0.416	0.00194	1.430	-0.01329	0.260	0.00291	1.856	-0.01247
	56-105	0.409	0.00208	1.042	-0.00622	0.253	0.00304	1.751	-0.01056
	106-155	0.455	0.00164	0.957	-0.00541	0.314	0.00246	1.492	-0.00810
	156-205	0.459	0.00165	15.972	-0.09260	0.522	0.00122	0.556	-0.00288
	206-255	0.196	0.00293	15.710	-0.09132	0.240	0.00259	0.663	-0.00340
256-305	0.305	0.00251	-30.126	0.08843	0.007	0.00350	-0.452	0.00097	

TABLE 7.--FACTORS FOR THE HOLSTEIN BREED IN THE SOUTH

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.405	0.00361	1.605	-0.01770	0.293	0.00310	1.786	-0.01192
	56-105	0.593	0.00019	0.695	-0.00114	0.403	0.00110	1.335	-0.00372
	106-155	0.398	0.00204	1.230	-0.00623	0.263	0.00244	1.603	-0.00627
	156-205	0.565	0.00131	7.571	-0.03813	0.527	0.00113	0.432	-0.00124
	206-255	0.245	0.00287	19.753	-0.09755	0.103	0.00319	1.240	-0.00518
	256-305	0.997	-0.00008	-15.515	0.04075	1.001	-0.00033	-0.124	0.00017
MAR-MAY	7- 55	0.373	0.00393	1.615	-0.01883	0.320	0.00150	1.685	-0.00623
	56-105	0.525	0.00117	0.684	-0.00191	0.192	0.00382	1.849	-0.00922
	106-155	0.504	0.00136	0.745	-0.00249	0.524	0.00065	0.982	-0.00097
	156-205	0.607	0.00134	6.959	-0.03459	0.603	0.00110	0.601	-0.00233
	206-255	0.476	0.00198	14.548	-0.07161	0.578	0.00122	0.653	-0.00258
	256-305	0.478	0.00197	8.745	-0.04885	-0.211	0.00431	1.530	-0.00602
JUN-AUG	7- 55	0.448	0.00230	1.296	-0.01040	0.332	0.00304	1.623	-0.00826
	56-105	0.457	0.00213	0.924	-0.00363	0.417	0.00148	1.383	-0.00389
	106-155	0.469	0.00202	1.065	-0.00497	0.283	0.00276	1.819	-0.00805
	156-205	0.831	0.00004	1.993	0.00188	0.728	0.00024	0.351	-0.00078
	206-255	0.330	0.00248	23.142	-0.10129	0.489	0.00141	0.733	-0.00265
	256-305	0.474	0.00192	11.439	-0.05539	-0.268	0.00438	1.570	-0.00593
SEP-NOV	7- 55	0.424	0.00364	1.477	-0.01539	0.349	0.00280	1.655	-0.01058
	56-105	0.549	0.00138	0.793	-0.00297	0.403	0.00181	1.368	-0.00537
	106-155	0.598	0.00091	0.804	-0.00307	0.639	-0.00044	0.750	0.00052
	156-205	0.617	0.00098	14.031	-0.06467	0.536	0.00101	0.632	-0.00229
	206-255	0.273	0.00265	22.396	-0.10547	0.261	0.00235	0.920	-0.00369
	256-305	0.123	0.00324	10.156	-0.05747	0.018	0.00330	0.947	-0.00380
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.388	0.00227	1.713	-0.01674	0.249	0.00279	2.014	-0.01346
	56-105	0.443	0.00127	1.085	-0.00532	0.308	0.00171	1.640	-0.00667
	106-155	0.341	0.00224	1.440	-0.00870	0.216	0.00258	1.902	-0.00917
	156-205	0.280	0.00268	18.387	-0.11107	0.242	0.00264	0.855	-0.00422
	206-255	0.271	0.00272	6.839	-0.05474	0.176	0.00296	0.764	-0.00377
	256-305	0.441	0.00206	-23.105	0.06269	0.311	0.00244	-0.299	0.00039
MAR-MAY	7- 55	0.363	0.00191	1.720	-0.01592	0.241	0.00228	2.033	-0.01087
	56-105	0.371	0.00177	1.157	-0.00569	0.235	0.00239	1.865	-0.00781
	106-155	0.434	0.00117	0.908	-0.00333	0.272	0.00204	1.773	-0.00694
	156-205	0.219	0.00306	17.342	-0.09927	0.250	0.00273	0.925	-0.00456
	206-255	0.216	0.00308	9.931	-0.06312	0.268	0.00264	0.611	-0.00303
	256-305	0.740	0.00102	-17.567	0.04472	0.616	0.00128	-0.395	0.00092
JUN-AUG	7- 55	0.355	0.00169	1.603	-0.01202	0.234	0.00269	2.017	-0.01135
	56-105	0.295	0.00277	1.388	-0.00810	0.232	0.00273	1.925	-0.00967
	106-155	0.279	0.00292	1.324	-0.00749	0.186	0.00317	1.991	-0.01030
	156-205	0.311	0.00285	15.888	-0.09276	0.326	0.00251	0.694	-0.00352
	206-255	0.485	0.00201	8.369	-0.05608	0.525	0.00154	0.375	-0.00196
	256-305	0.849	0.00058	-18.408	0.04892	0.394	0.00205	-0.053	-0.00029
SEP-NOV	7- 55	0.401	0.00270	1.570	-0.01638	0.250	0.00326	2.041	-0.01533
	56-105	0.415	0.00244	1.034	-0.00664	0.301	0.00234	1.653	-0.00827
	106-155	0.569	0.00097	0.664	-0.00312	0.327	0.00210	1.544	-0.00723
	156-205	0.412	0.00205	18.450	-0.10497	0.490	0.00132	0.555	-0.00258
	206-255	0.306	0.00256	12.101	-0.07400	0.162	0.00292	0.798	-0.00376
	256-305	0.661	0.00117	-24.497	0.06953	0.444	0.00182	-0.333	0.00068

TABLE 8.--FACTORS FOR THE HOLSTEIN BREED IN THE WEST

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.441	0.00313	1.521	-0.01641	0.318	0.00278	1.676	-0.01039
	56-105	0.562	0.00093	0.757	-0.00251	0.351	0.00219	1.430	-0.00592
	106-155	0.496	0.00156	1.022	-0.00504	0.368	0.00203	1.386	-0.00550
	156-205	0.487	0.00179	16.125	-0.08397	0.550	0.00117	0.561	-0.00204
	206-255	0.505	0.00170	11.703	-0.06239	0.313	0.00233	1.026	-0.00431
	256-305	0.430	0.00199	18.998	-0.09100	0.641	0.00104	0.949	-0.00400
MAR-MAY	7- 55	0.410	0.00331	1.530	-0.01677	0.305	0.00318	1.721	-0.01071
	56-105	0.554	0.00071	0.692	-0.00153	0.412	0.00123	1.282	-0.00273
	106-155	0.331	0.00283	1.267	-0.00701	0.238	0.00289	1.782	-0.00750
	156-205	0.524	0.00155	12.301	-0.05643	0.374	0.00210	0.972	-0.00402
	206-255	0.403	0.00214	15.300	-0.07106	0.441	0.00177	0.818	-0.00327
	256-305	0.329	0.00243	29.447	-0.12654	0.017	0.00343	1.839	-0.00727
JUN-AUG	7- 55	0.427	0.00328	1.426	-0.01511	0.330	0.00265	1.653	-0.00854
	56-105	0.505	0.00186	0.763	-0.00305	0.355	0.00220	1.502	-0.00578
	106-155	0.533	0.00159	0.801	-0.00342	0.342	0.00232	1.627	-0.00698
	156-205	0.727	0.00065	7.110	-0.02834	0.616	0.00085	0.487	-0.00158
	206-255	0.588	0.00132	15.835	-0.07090	0.573	0.00106	0.673	-0.00248
	256-305	0.111	0.00320	39.850	-0.16508	-0.029	0.00342	1.862	-0.00714
SEP-NOV	7- 55	0.455	0.00345	1.419	-0.01521	0.296	0.00348	1.778	-0.01215
	56-105	0.576	0.00125	0.720	-0.00249	0.375	0.00203	1.445	-0.00610
	106-155	0.572	0.00129	0.841	-0.00365	0.445	0.00137	1.206	-0.00382
	156-205	0.599	0.00126	14.663	-0.07033	0.585	0.00093	0.535	-0.00184
	206-255	0.514	0.00167	16.956	-0.08152	0.416	0.00175	0.786	-0.00306
	256-305	0.172	0.00301	31.013	-0.13665	0.144	0.00282	1.580	-0.00618
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.366	0.00259	1.803	-0.01862	0.229	0.00302	2.050	-0.01393
	56-105	0.421	0.00158	1.092	-0.00570	0.256	0.00252	1.801	-0.00940
	106-155	0.404	0.00174	1.210	-0.00682	0.273	0.00236	1.658	-0.00804
	156-205	0.347	0.00232	17.570	-0.10934	0.361	0.00211	0.725	-0.00373
	206-255	0.229	0.00290	9.629	-0.07060	0.123	0.00327	0.884	-0.00451
	256-305	0.997	-0.00011	-27.810	0.07622	1.079	-0.00048	-0.722	0.00179
MAR-MAY	7- 55	0.346	0.00240	1.833	-0.01868	0.237	0.00249	2.053	-0.01185
	56-105	0.398	0.00144	1.105	-0.00543	0.263	0.00203	1.826	-0.00771
	106-155	0.278	0.00259	1.414	-0.00838	0.116	0.00342	2.244	-0.01170
	156-205	0.224	0.00305	16.517	-0.10221	0.133	0.00348	1.078	-0.00573
	206-255	0.238	0.00298	6.081	-0.05131	0.401	0.00217	0.341	-0.00214
	256-305	0.940	0.00023	-13.831	0.02678	0.819	0.00053	-0.179	-0.00009
JUN-AUG	7- 55	0.311	0.00321	1.843	-0.01995	0.199	0.00368	2.183	-0.01626
	56-105	0.361	0.00229	1.113	-0.00667	0.259	0.00260	1.820	-0.00966
	106-155	0.247	0.00337	1.268	-0.00815	0.148	0.00365	2.028	-0.01164
	156-205	0.396	0.00242	12.658	-0.08105	0.336	0.00251	0.698	-0.00377
	206-255	0.452	0.00215	9.349	-0.06491	0.418	0.00211	0.459	-0.00261
	256-305	1.063	-0.00025	-14.677	0.02931	0.962	-0.00003	-0.284	0.00031
SEP-NOV	7- 55	0.355	0.00326	1.740	-0.01917	0.224	0.00351	2.109	-0.01621
	56-105	0.404	0.00238	1.025	-0.00618	0.282	0.00245	1.711	-0.00898
	106-155	0.427	0.00215	1.073	-0.00664	0.169	0.00353	1.935	-0.01110
	156-205	0.365	0.00242	19.568	-0.11424	0.264	0.00275	0.864	-0.00447
	206-255	0.504	0.00174	7.079	-0.05332	0.466	0.00177	0.394	-0.00217
	256-305	0.564	0.00151	-1.819	-0.01842	0.450	0.00183	0.466	-0.00245

TABLE 9.--FACTORS FOR THE JERSEY BREED IN THE NORTH

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.484	0.00246	1.166	-0.01310	0.383	0.00243	1.470	-0.01047
	56-105	0.552	0.00123	0.573	-0.00233	0.403	0.00208	1.235	-0.00620
	106-155	0.560	0.00115	0.786	-0.00435	0.490	0.00125	1.023	-0.00418
	156-205	0.518	0.00181	4.986	-0.03551	0.294	0.00282	0.603	-0.00307
	206-255	0.644	0.00120	-0.329	-0.00958	0.576	0.00144	0.313	-0.00165
256-305	0.737	0.00083	-1.614	-0.00454	1.017	-0.00029	-0.006	-0.00040	
MAR-MAY	7- 55	0.410	0.00265	1.356	-0.01584	0.308	0.00308	1.704	-0.01375
	56-105	0.466	0.00164	0.658	-0.00315	0.392	0.00155	1.097	-0.00272
	106-155	0.503	0.00129	0.481	-0.00146	0.195	0.00342	1.674	-0.00822
	156-205	0.257	0.00303	8.150	-0.04233	0.274	0.00302	0.702	-0.00351
	206-255	0.343	0.00261	8.265	-0.04289	0.484	0.00199	0.422	-0.00215
256-305	1.427	-0.00164	-10.417	0.03038	1.305	-0.00123	-0.375	0.00098	
JUN-AUG	7- 55	0.451	0.00223	1.108	-0.01026	0.344	0.00305	1.595	-0.01136
	56-105	0.364	0.00381	0.901	-0.00651	0.331	0.00329	1.399	-0.00781
	106-155	0.522	0.00230	0.642	-0.00404	0.341	0.00319	1.403	-0.00785
	156-205	0.646	0.00155	3.853	-0.02568	0.606	0.00161	0.359	-0.00189
	206-255	1.146	-0.00089	-6.188	0.02330	1.175	-0.00117	-0.319	-0.00141
256-305	0.591	0.00129	13.404	-0.05353	0.428	0.00176	1.001	-0.00376	
SEP-NOV	7- 55	0.469	0.00383	1.170	-0.01514	0.356	0.00392	1.592	-0.01452
	56-105	0.577	0.00186	0.466	-0.00235	0.453	0.00216	1.074	-0.00510
	106-155	0.624	0.00141	0.492	-0.00259	0.487	0.00184	1.043	-0.00481
	156-205	0.913	-0.00038	0.339	0.00237	0.851	-0.00031	0.124	-0.00008
	206-255	0.483	0.00172	13.014	-0.05946	0.445	0.00167	0.718	-0.00298
256-305	0.256	0.00260	9.925	-0.04735	0.146	0.00285	0.807	-0.00333	
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.415	0.00213	1.506	-0.01484	0.309	0.00220	1.810	-0.01124
	56-105	0.476	0.00101	0.841	-0.00275	0.328	0.00186	1.586	-0.00716
	106-155	0.417	0.00158	1.354	-0.00763	0.331	0.00183	1.628	-0.00755
	156-205	0.490	0.00167	5.775	-0.04523	0.350	0.00222	0.591	-0.00315
	206-255	0.367	0.00227	0.233	-0.01819	0.208	0.00291	0.608	-0.00323
256-305	0.887	0.00023	-21.615	0.06749	1.022	-0.00029	-1.040	0.00323	
MAR-MAY	7- 55	0.370	0.00176	1.641	-0.01638	0.292	0.00153	1.871	-0.01035
	56-105	0.384	0.00150	1.031	-0.00530	0.273	0.00186	1.645	-0.00624
	106-155	0.273	0.00256	1.249	-0.00737	0.102	0.00350	2.237	-0.01188
	156-205	0.438	0.00197	0.794	-0.01435	0.483	0.00177	0.290	-0.00187
	206-255	0.202	0.00313	3.891	-0.02945	0.352	0.00241	0.170	-0.00129
256-305	1.141	-0.00056	-13.519	0.03882	0.806	0.00063	-0.288	0.00051	
JUN-AUG	7- 55	0.346	0.00212	1.527	-0.01446	0.271	0.00241	1.893	-0.01259
	56-105	0.302	0.00292	1.095	-0.00661	0.238	0.00300	1.737	-0.00975
	106-155	0.162	0.00426	1.399	-0.00951	0.044	0.00485	2.133	-0.01352
	156-205	0.641	0.00138	1.027	-0.01667	0.606	0.00142	0.183	-0.00131
	206-255	0.637	0.00139	0.750	-0.01532	0.626	0.00132	0.117	-0.00099
256-305	1.313	-0.00126	-11.293	0.03191	1.236	-0.00107	-0.495	0.00141	
SEP-NOV	7- 55	0.399	0.00388	1.434	-0.01970	0.279	0.00383	1.906	-0.01787
	56-105	0.485	0.00233	0.536	-0.00338	0.316	0.00317	1.418	-0.00900
	106-155	0.556	0.00164	0.531	-0.00333	0.429	0.00209	1.048	-0.00548
	156-205	0.886	-0.00036	-0.536	0.00122	0.831	-0.00028	0.034	-0.00008
	206-255	0.413	0.00194	12.463	-0.06219	0.401	0.00182	0.690	-0.00312
256-305	0.267	0.00252	-1.675	-0.00675	0.008	0.00336	0.356	-0.00181	

TABLE 10.--FACTORS FOR THE JERSEY BREED IN THE SOUTH

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.414	0.00307	1.606	-0.01607	0.308	0.00298	1.853	-0.01255
	56-105	0.534	0.00090	0.879	-0.00287	0.411	0.00110	1.373	-0.00382
	106-155	0.405	0.00212	1.313	-0.00699	0.321	0.00196	1.570	-0.00570
	156-205	0.657	0.00106	0.976	-0.00920	0.487	0.00149	0.335	-0.00097
	206-255	0.794	0.00040	1.631	-0.01239	0.369	0.00206	0.898	-0.00371
256-305	0.955	-0.00024	-15.967	0.05662	0.941	-0.00018	-0.559	0.00200	
MAR-MAY	7- 55	0.386	0.00271	1.516	-0.01497	0.342	0.00164	1.704	-0.00806
	56-105	0.425	0.00199	0.997	-0.00553	0.313	0.00216	1.589	-0.00596
	106-155	0.446	0.00180	0.845	-0.00409	0.401	0.00133	1.393	-0.00409
	156-205	0.459	0.00205	5.216	-0.02859	0.667	0.00076	0.339	-0.00134
	206-255	0.641	0.00117	0.905	-0.00756	0.494	0.00161	0.374	-0.00152
256-305	1.004	-0.00026	-5.194	0.01636	1.089	-0.00073	-0.313	0.00118	
JUN-AUG	7- 55	0.400	0.00308	1.312	-0.01293	0.336	0.00291	1.670	-0.01090
	56-105	0.404	0.00300	0.916	-0.00574	0.375	0.00220	1.438	-0.00669
	106-155	0.444	0.00262	0.736	-0.00403	0.309	0.00283	1.486	-0.00714
	156-205	0.572	0.00177	4.883	-0.02555	0.434	0.00214	0.467	-0.00205
	206-255	1.232	-0.00145	-5.820	0.02667	0.973	-0.00049	-0.037	0.00041
256-305	-0.027	0.00349	18.569	-0.06898	0.074	0.00303	0.855	-0.00309	
SEP-NOV	7- 55	0.405	0.00431	1.401	-0.01649	0.370	0.00178	1.583	-0.00917
	56-105	0.543	0.00180	0.615	-0.00221	0.313	0.00281	1.491	-0.00750
	106-155	0.535	0.00188	0.919	-0.00510	0.440	0.00161	1.173	-0.00447
	156-205	0.749	0.00066	4.554	-0.02483	0.683	0.00058	0.246	-0.00083
	206-255	0.854	0.00015	2.080	-0.01276	0.733	0.00034	0.220	-0.00070
256-305	0.770	0.00048	-3.490	0.00908	0.467	0.00138	0.266	-0.00088	
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.398	0.00234	1.720	-0.01593	0.283	0.00256	2.040	-0.01307
	56-105	0.450	0.00139	1.127	-0.00515	0.353	0.00129	1.593	-0.00494
	106-155	0.406	0.00180	1.346	-0.00724	0.255	0.00223	1.938	-0.00823
	156-205	0.466	0.00193	7.894	-0.05387	0.387	0.00202	0.627	-0.00300
	206-255	0.582	0.00136	-1.541	-0.00785	0.357	0.00216	0.604	-0.00289
256-305	0.969	-0.00016	-20.942	0.06824	0.969	-0.00024	-0.807	0.00264	
MAR-MAY	7- 55	0.400	0.00116	1.597	-0.01374	0.327	0.00084	1.857	-0.00706
	56-105	0.362	0.00186	1.203	-0.00657	0.267	0.00192	1.848	-0.00688
	106-155	0.330	0.00216	1.178	-0.00633	0.171	0.00284	2.182	-0.01007
	156-205	0.578	0.00125	-2.398	0.00437	0.516	0.00144	0.357	-0.00184
	206-255	0.358	0.00232	2.063	-0.01739	0.408	0.00197	0.247	-0.00130
256-305	1.007	-0.00022	-13.031	0.04180	0.691	0.00086	-0.360	0.00107	
JUN-AUG	7- 55	0.374	0.00146	1.454	-0.01111	0.317	0.00116	1.807	-0.00786
	56-105	0.251	0.00369	1.408	-0.01026	0.211	0.00307	2.005	-0.01147
	106-155	0.297	0.00326	0.923	-0.00565	0.133	0.00382	1.928	-0.01073
	156-205	0.534	0.00196	3.734	-0.02771	0.595	0.00128	0.201	-0.00107
	206-255	0.849	0.00043	-0.823	-0.00548	0.598	0.00126	0.198	-0.00106
256-305	1.036	-0.00031	-8.535	0.02476	0.885	0.00013	-0.273	0.00679	
SEP-NOV	7- 55	0.392	0.00340	1.503	-0.01672	0.321	0.00250	1.835	-0.01352
	56-105	0.436	0.00260	0.838	-0.00463	0.293	0.00301	1.575	-0.00880
	106-155	0.603	0.00101	0.621	-0.00256	0.481	0.00122	1.001	-0.00332
	156-205	0.529	0.00173	8.603	-0.05021	0.461	0.00179	0.460	-0.00222
	206-255	0.779	0.00052	1.501	-0.01557	0.727	0.00049	0.174	-0.00082
256-305	0.674	0.00093	-7.929	0.02142	0.367	0.00190	0.118	-0.00060	

TABLE 11.--FACTORS FOR THE JERSEY BREED IN THE WEST

CALVING SEASON	DAYS IN MILK	MILK				FAT			
		SAMPLE-DAY YIELD		HERD AVERAGE		SAMPLE-DAY YIELD		HERD AVERAGE	
		INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE	INTERCEPT	SLOPE
LACTATION 1									
DEC-FEB	7- 55	0.453	0.00183	1.332	-0.01259	0.330	0.00263	1.721	-0.01241
	56-105	0.436	0.00214	0.872	-0.00423	0.359	0.00212	1.305	-0.00486
	106-155	0.515	0.00138	1.001	-0.00546	0.330	0.00239	1.629	-0.00793
	156-205	0.537	0.00138	6.395	-0.03432	0.546	0.00113	0.413	-0.00153
	206-255	0.380	0.00215	8.121	-0.04274	0.435	0.00167	0.663	-0.00275
	256-305	2.300	-0.00538	-24.232	0.08413	2.249	-0.00544	-0.850	0.00318
MAR-MAY	7- 55	0.356	0.00277	1.531	-0.01495	0.305	0.00173	1.775	-0.00825
	56-105	0.416	0.00167	0.941	-0.00424	0.277	0.00224	1.651	-0.00599
	106-155	0.154	0.00417	1.585	-0.01037	0.102	0.00391	2.207	-0.01128
	156-205	0.524	0.00157	4.630	-0.02352	0.666	0.00066	0.353	-0.00133
	206-255	0.454	0.00191	4.447	-0.02263	0.405	0.00193	0.533	-0.00221
	256-305	0.970	-0.00011	6.689	-0.03142	0.726	0.00068	0.585	-0.00241
JUN-AUG	7- 55	0.450	0.00185	1.074	-0.01058	0.370	0.00169	1.550	-0.00856
	56-105	0.354	0.00359	0.854	-0.00659	0.228	0.00426	1.767	-0.01250
	106-155	0.453	0.00265	0.470	-0.00293	0.548	0.00122	0.736	-0.00269
	156-205	0.973	-0.00026	-4.823	0.02132	0.769	0.00041	0.035	0.00000
	206-255	0.825	0.00046	3.370	-0.01865	0.755	0.00047	0.187	-0.00074
	256-305	1.067	-0.00049	9.075	-0.04102	1.648	-0.00303	-0.125	0.00049
SEP-NOV	7- 55	0.446	0.00285	1.180	-0.01247	0.332	0.00243	1.659	-0.01148
	56-105	0.386	0.00394	0.933	-0.00798	0.258	0.00378	1.604	-0.01047
	106-155	0.622	0.00170	0.395	-0.00285	0.327	0.00312	1.281	-0.00740
	156-205	0.421	0.00241	11.684	-0.06428	-0.026	0.00425	1.192	-0.00579
	206-255	1.076	-0.00079	-4.100	0.01272	0.834	0.00005	0.012	-0.00004
	256-305	0.160	0.00280	24.513	-0.09949	0.322	0.00206	1.117	-0.00437
LACTATION 2 OR GREATER									
DEC-FEB	7- 55	0.398	0.00220	1.563	-0.01570	0.287	0.00216	1.886	-0.01089
	56-105	0.413	0.00192	0.948	-0.00454	0.251	0.00281	1.806	-0.00945
	106-155	0.484	0.00125	1.048	-0.00549	0.375	0.00164	1.442	-0.00598
	156-205	0.512	0.00162	6.519	-0.04842	0.336	0.00221	0.723	-0.00363
	206-255	0.699	0.00070	-4.371	0.00470	0.343	0.00218	0.531	-0.00270
	256-305	1.439	-0.00220	-14.183	0.04318	1.520	-0.00244	-0.508	0.00138
MAR-MAY	7- 55	0.312	0.00224	1.924	-0.01937	0.286	0.00085	1.952	-0.00743
	56-105	0.340	0.00173	1.228	-0.00671	0.251	0.00150	1.894	-0.00637
	106-155	0.218	0.00289	1.531	-0.00960	-0.056	0.00442	2.995	-0.01686
	156-205	0.228	0.00284	8.330	-0.04994	0.134	0.00337	0.901	-0.00483
	206-255	0.214	0.00290	0.667	-0.01255	0.478	0.00169	-0.061	-0.00014
	256-305	0.973	-0.00007	-2.783	0.00097	0.699	0.00083	0.158	-0.00100
JUN-AUG	7- 55	0.264	0.00308	1.907	-0.02047	0.196	0.00253	2.256	-0.01385
	56-105	0.271	0.00295	1.201	-0.00764	0.138	0.00358	2.271	-0.01412
	106-155	0.025	0.00529	1.562	-0.01108	0.051	0.00441	2.172	-0.01318
	156-205	0.455	0.00240	4.066	-0.03275	0.368	0.00255	0.355	-0.00215
	206-255	0.705	0.00118	0.212	-0.01395	0.622	0.00131	0.095	-0.00088
	256-305	1.548	-0.00213	-8.613	0.02066	1.147	-0.00074	-0.105	-0.00010
SEP-NOV	7- 55	0.382	0.00262	1.449	-0.01483	0.250	0.00343	2.022	-0.01692
	56-105	0.281	0.00444	1.147	-0.00934	0.272	0.00302	1.549	-0.00831
	106-155	0.589	0.00151	0.483	-0.00301	0.226	0.00347	1.719	-0.00994
	156-205	0.559	0.00164	8.350	-0.04953	0.328	0.00263	0.713	-0.00370
	206-255	0.902	-0.00004	-1.543	-0.00127	0.948	-0.00039	-0.159	0.00055
	256-305	1.347	-0.00178	-5.370	0.01374	0.948	-0.00039	0.364	-0.00150