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Production Test for More Dairy Profits

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Production Test for More Dairy Profits

To show a profit from the dairy herd today, a successful dairyman can not operate on short-term planning — he must be continually raising the production of his herd. This can be done through a long-range breeding, feeding, and management plan based on accurate production records. It is the high year-after-year production that pays the dairy expenses and gives the dairyman the profit he deserves.

Knowing the average production of the dairy herd from the milk check at the creamery is of little value. This information does not indicate which cows are "freeloaders" on the good cows in the herd.

The average cow is not a money maker if the dairyman values his labor. The average production of all dairy cows in South Dakota is 5,900 pounds of milk, while the average cow on DHIA produces 10,735 pounds of milk. The difference between these cows is 4,835 pounds, or with milk at \$3.30 per cwt., \$160 in gross profits. Yet the 10,735 pound producer eats only about \$37 more in feed than the one that produces 5,900 pounds.

Why do the herds on a testing program produce more milk per cow and make more money? Simply because these dairymen have good production records and they use them to do a better job of feeding, breed-

ing, culling, and management.

HOW PRODUCTION RECORDS CAN BE USED

It is impossible to feed effectively without some production record-keeping plan. A dairy cow can be fed grain in three ways: overfed, underfed, or fed correctly according to production. How can a cow be fed according to production if the production remains the big question? Butterfat percentages should be considered in feeding and this is impossible if individual tests are not taken. Overfeeding increases the feed bill unnecessarily and underfeeding cuts milk production. Dairy production records can be used at the very start in the feeding practices. Often feed savings alone will pay for the cost of record-keeping.

Cullina

There is no other way to find low producing cows than to keep production records. If a dairyman's labor is worth anything, it is easy to understand that many cows are being milked at a financial loss (note the graph). About 100 hours of labor are involved with each dairy cow during the year. This means that the cow producing only 6,000 pounds of milk a year returns 13c per hour, while the cow producing 16,000 pounds returns \$2.48 per hour.

Culling out low producers is probably the great-

FOR MORE DAIRY PROFIT

SOUTH DAKOTA STATE

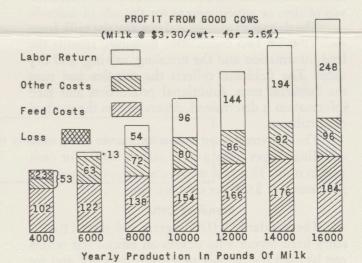
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est single use that can be made of production records. The average South Dakota milk cow, not on test, produces about 5,760 pounds of milk and returns about \$8 labor income, while the average South Dakota DHIA cow produces 10,735 pounds of milk and returns about \$114 labor income, or about 14 times as much.

Many dairymen who do not test their herds measure a cow's production by the amount she produces at the peak of her production. Production records indicate the total days in milk and the total production for this length of time. Records will reveal these "hot-shot, short-time" milkers. Two cows may produce the same amount of milk but test quite differently. There is a great difference in the value of 10,000 pounds of milk testing 2% and 10,000 pounds testing 4%. Individual butterfat tests can only be obtained from production records.



CULL THE LOW PRODUCER

Breeding

It is much quicker, less expensive, and a more sound practice to raise herd replacements than to buy them. It costs approximately \$155 to raise a dairy heifer from birth to 2 years of age. This is about \$100 cheaper than the cost of purchasing a springing heifer about which little or no production data may be known. Production records will aid in locating good brood cows upon which to build a good producing herd. Selecting or purchasing herd replacements without records is certainly a blind venture.

Production records will enable a dairyman to breed low testing cows to bulls with high test analyses, so as to develop a herd to fit his particular market situation.

Sale of Surplus Stock

After dairymen have been able to replace the low producers in their herds with heifers of high production potential, they may find that there are some surplus heifers for sale to other dairymen. Buyers who are interested in improving their herds look for replacements from cows with DHIA records. These animals command a premium sale price and can easily pay for many years of testing.

TYPES OF PRODUCTION RECORDS

The most common production record keeping systems used in South Dakota are Owner-Sampler and standard DHIA. Each is specifically designed for the dairymen's varied needs.

Owner-Sampler

The Owner-Sampler program is designed for the dairyman with a smaller grade herd who does not anticipate selling surplus cattle but wishes production information for culling and feeding purposes. These records are not official and can not be used in the analysis of sires or advertisement for the sale of animals.

The dairyman weighs and samples the milk from each cow for two consecutive milkings, records the feed information and the breeding, calving, and dry dates. The fieldman collects the samples and runs the butterfat tests. Additional production and feed information is determined, depending on the method of calculation.

The dairyman must own a milk scale and a milk sampling dipper, plus a milk sample bottle for each cow in milk. This type of test costs about 30c per cow per month or \$3.60 per cow per year.

Standard DHIA

The standard DHIA program is designed for the dairy herd owner who desires an official test which can be used for the sale of surplus livestock and for sire analysis. The DHIA fieldman weighs, samples, and tests the milk from two consecutive milkings;

records the amount and price of feed consumed by each cow; and identifies and eartags newly born calves. Additional production, feed, and cost information is provided for the dairyman's use in management practices.

The dairyman agrees to provide room and board for the fieldman during his monthly field visit to the farm. All necessary testing equipment is supplied either by the Dairy Herd Improvement Association or the fieldman. This type of record costs approximately 60c per cow per month or \$7.20 per cow per year.

METHODS OF CALCULATING THE RECORDS

Owner-Sampler records can be calculated either manually or by electronic data processing machines. The standard DHIA records are all processed by an electronic data processing machine. When production records are manually calculated all of the bookwork is completed by the DHIA fieldman. When production records are processed by electronic data processing machines, the DHIA fieldman submits the completed barn sheet to the processing center. The processing center for this area is at Ames, Iowa. The method of calculation does not alter the reliability of the records; however, more information is available when the records are machine processed.

The information available for each type of record under each method of calculation is shown in the table on page 5.

	oduction Record for	Owner		JOHN A	DAMS			- 3- 1-		S	Samples taken	1-21
	onth of JAN., 1965	Addre	55	RT. 4	BROOKI	NGS,	S. DAI	Κ.				1-22
	tal cows in herd 17 ntering date 20	Tester	10.5	M. R.	JONES				-	1	Reported	1-26
Sple	Cows	Weig	tht of	Milk	Milk	1 %	Fat	Т	otal to Dat	e	Dates Bred	Grain
No.	Name	Eve.	Morn.	1 day	Month		Month	Days	Milk	Fat	Fresh or Dry	per Day
1.	9	15.0	14.0	29.0	900	4.5	41	243	10060	431		10
2.	26	27.0	26.7	53.7	1660	3.8	63	199	10600	381		16
3.	DUCHESS	25.0	24.3	49.3	1530	3.7	57	106	6750	242	Bred 12-21-64	14
4.	AMY	14.6	13.0	27.6	860	4.2	36	327	11410	461		9
5.	BELLE					1		274	10530	454	Sold 1-4-65	
6.	SUSAN	21.8	20.0	41.8	1300	3.9	51	85	4190	177		13
7.	OPAL	15.0	14.5	29.5	910	3.3	30	303	10010	404		71
8.	SPOT	The second		-				478	17930	707	Dry Fresh (M)	4
9.	PRIMROSE	31.6	31.0	62.6	1940	4.1	80	33	2070	85	Frèsh (M) 12-31-64	20
٦.	MARY	18.8	19.0		1170	3.4	40	146	6780		The second	10
11.	B-ETHEL	23.4	23.4	46.8	1450	3.4	49	97	4340	153	1.14	12
12.	GRACE	26.1	26.4	52.5		3.6	59	90	4500	100		15
13.	SALLY	23.4	23.2	46.6	1440	3.5	50	69	2650	100		128
14.	MXRT	25.0	25.8	50.8	1570	3.0	47	63	3530	122	1-20-65	12
15.	HAZEL		9.11								Purchased Dry 12-24-6 Purchased	1-200
16.	SMITH	11.4	11.1	22.5	590	3.9	23	26	590	23	Purchased 1-9-65 Fresh (F)	7
17.	EMBLEM	28.4	29.0	57.4	1780	2.7	48	31	1780		Fresh (F) 1-2-65	12
18.	2001 / 675			13.5							75	
19.	der Britanistanie	1	-41					- 70	1		38 7	Tor-
20.												
21.	Textle Million	12 3	AL A	430		1	300					100
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FIGURE 1

TYPE OF RECORD BREED 9	DATE	0	DHIA 1-6		JOHN	N AD	AMS		6			RY HI		NG CEN	TEP			PERIOD				AGRIC	ULTURAL F	ESEARCH S		ŧΕ
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46 06 0999	26 7 20	1 1	CODE								L	7	26 KED 3X	7	30	7	DRIED	8 10	65	DAYS	* MILKE		Estimated Sold for Dr Died or So Inverse		5 Mashris 6 Ketosis 7 Other Sig 8 Abortion	iness
Ayrshire 5 Brown Swiss I Guernsey 6 Milking Shorthorn I Holstein 7 Red Done I Jersey 8 Other 9 Red Poll	1 in Milk 2 Colved 3 Dry 4 8 5 Left Herd	ired	6. First Calf He 7. Entered Her 8. Aborted 9. Nurse Cow	leifer rd						1		THI	IS TEST		OFF AT 27 NANCY IN A 60 DAY	DAYS OF ORDER TO	PREG- HAVE D.	FRESHENING FO MONTH) CALVI	OR NORMAL (12	AFTER TO 13	3X THIS		# 305 Day U * 305 Day Re not be comp	ictorion cord has been or worked this lactation		
-	STATUS		TEST DAY			NTRATES		cow	CURR	ENT TEST P	ERIOD						NUMBER I	· · · ·	LACTATI	ON TO DA	TE		Lance			
REGISTRATION OR EARTAG NUMBER OF COW	CODE DATE OF	CHG	DAILY MILK WT. (LBS.)	% FAT	LBS. FED	LBS INDI CATED	BARN NAME	INDEX NUMBER	DAYS IN MILK	MILK LBS.	FAT LBS.		ATE ESH DAY	AGE AT CALVING (MOS.)	BODY CWT.	DRY	CARRIED		MILK	% FAT	FAT POUNDS	% S.N.F.	SOLIDS NOT FAT POUNDS	VALUE PRODUCT \$	FEED COST	R CO A RI
002928053							LILLY	29						167	13	66	226	305	13670	3.4	463					#
002928053	1		20 6	3.6	8		LILLY		31	640	23	9	11	167	13		252*	331	14210		482			434	257	
3 003857297	1		37.0	2.8	14	8	PAT	45	31	1150	32		04	126	14	77		157*	8140		250			226	133	5
3 004724708	5 7	15			-31	6	KATHY	62	2-1			9	11	86	14	20	201	284	12400	4.1	504	, !	1	439	278	20
3 004724711	46	28	64 4	3.1	16	24	BRIDGE	66	31	2000	62	3	07	84	15	110	44	154	11420	3.6	416			364	262	
3 004724709							NAN	71						64	14	58	222	305	15290	3.3	508		1			#
004724709	3 7	13				6	NAN		2	30	1	8	25	64	14	29	265	319	15520	3.3	517		-	468	282	
4200J7592	1		39 0	3.6	14	9	MARGIE	75	31	1210	44	1	06	61	15	126	139	214	12180	3.5	431			382	249	1
3 4200J7594	26	27	83 2*	3.5	20	36	MAY	78	42*	3490	122	6	27	66	14	51		42	3490	3.5	122*	8.3	290	108	79	
3 4200J7881	5 7	22				6	PANSY	82				10	03	48	14	27	56	262	9340	3.8	352			310	176	3
4200J8076							NELLIE	88						41	15	56	197	305	10340	3.8	388		-			1
4200J8076	27	12					NELLIE	20%	1	20	1	8	23	41	15	3	272	320	10580	3.8	397			351	201	1
3 4200J8076	27	12	72 7*	4.2	18	31	NELLIE		27	1960	82	7	12	52	15	3		27	1960	4.2	82	8.5	167	70	52	
3 42WAH8736	1		52 8	3.3	16	17	DOROTHY	90	31	1640	54	2	10	39	13	55	111	179	10870	3.2	348			314	209	
3 42WAH8993							DORA	92		1				29	12		191	305	10580	3.8	404					1
3 42WAH8993	3 7	1				5	DORA		- 10	170	7	8	23	29	12	41	236	309	10650	3.8	407		1	356	203	
3 42WAH8017						6	CORA	93						28	12			305	8480	4.2	356					3
3 42WAH8017	5 7	1					CORA		- 10	130	8	8	25	28	12			307	8510	4.2	358			307	177	3
3 005413211							JOY	96						24	12		171	229	9730	3.6	351					8
3 005413211	871	.5				10	JOY		4	140	5	11	25	24	12	3	171	229	9730	3.6	351			312	192	8
3 005413211	8 7	15	44 5	4.0	14	16	JOY	MAG	24	1070	43	7	15	32	12	3		24	1070	4.0	43		The services	37	25	8
3 005413212	1		36.5	3.4	14	11	LADY	97	31	1130	38	2	11	25	11		101	178	8610	3.5	303			267	174	
3 42WAH9363	8 7		40.8	3.7		L. 24	LIZ	98	31	1260	47	12	01	26	11			216*	10260	3.8	387			349	223	8
3 42WAM8225			32 4		14	8	8225	100	42	1360	53				13			42	1360	3.9	53			46	23	
3 004936251	7 7		51.7		16		SMITH	101	41	2120	74	3	25	50	14	48	72	136	7230	3.5	253		1 5 6	256	180	
3 005413213			46 5*		16		MYRT	102	27	1260	55	7	12	25	14			27	1260	4.4	55	9.4	118	47	31	
3 42WAM8223	2 7	19			14	7	LIDIA	103				7	19	30	12											
HERD NUMBER C	OF COWS	7		%	-		CONCENTRATES	SUCCULEN		DRY	1000		FEEDING	AVG	RATE OF	VALU	15.05	COST OF	FEED	INCOME	FEED CO	ST	TOTA	POUNDS	SOLIC)S
DATA ON TEST	IN MILK		MILK	BUTTE		FAT	CONSUMED	CONSUME		DRY DUGHAGE DNSUMED	PASTU		INDEX	AVG BODY CWT.	RATE OF FORAGE FEEDING		DUCT C	ONCENTRATES	COST	OVER FEEL COST	PER CWI	DAY	CON	ENTRATES	NOT FAT	
HERD TOTALS COW-DAYS 498	407		202			726	6484	2988		10 185	DAY					51	54	13	26	38			5 76	140	POUNE	
DAILY AVG. COW-MONTHS PER COW THIS MONTH 16	82		40 6	3.6		1.4	13 44	185. %	NE LB	12 22	% N	E	94		2.2		29	26	52	77	3	8 "	3 10	3 5		POUND
12 MONTH COW-DAYS HERD TOTALS 7600	6565		2693			983	831	136		10NS 69	10 DA	YS				8	68	174	368	500	- /////	NUM OI WOR		\$100 RETURN ABOVE FEED COST PER WORKER	10 LBS	
2 MO COW-YEARS	86		2974	3.		473	CWT. % NE	CWT 9	23 6	T. MENE	NO DAYS	% NE	10	7 13	2.2	4	17	84	177	240	1 3	7	5 539	100	*	185.

FIGURE 2

PRODUCTION RECORDS DO NOT COST, THEY PAY

Standard DHIA records can pay for themselves by a savings of 1 pound of grain per cow per day. If each cow, by proper feeding and culling, can increase production by 220 pounds of milk, or 8 pounds of butterfat per year, the record has paid for itself. This is an increase of less than one glass of milk per cow per day. Replacing two 6,000 pound milk producers with two 10,000 pound producers or four 8,000 pound producers with four 10,000 pound producers will pay for each year of standard DHIA testing in a 30-cow herd. The above-mentioned savings need only be half as great to pay for the Owner-Sampler records.

These savings can not be made without the information received from production testing records.

HOW TO ENROLL IN A PRODUCTION TESTING PROGRAM

In many areas of the state, dairy production testing programs are in operation. If a dairyman wishes to join a Dairy Herd Improvement Association existing in the county or area, he should contact the county extension agent, who will in turn direct him to the local DHIA board or fieldman.

If there is no program in operation, a Dairy Herd Improvement Association consisting of standard DHIA, Owner-Sampler, or both, can be organized in a county or a group of counties when a sufficient number of dairymen are interested. Twenty or more is advisable; however, an association can be organized with as few as five dairymen if a part-time fieldman

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1	DHI	A	26	12		11380	4.0		8.3	945	327	119	50 47	8	992	376	MRJ				
2	100						1		100			143			1175	480	MRJ				
	DHI	A	38	14	61	13430	4.2	565	8.2	1101	340	262	80 108	0	2167	856	MRJ				
3	DHI	Α	52	14	63											-	-				
4	1								-												
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2	4	26	63		46WA	C9283		ODE			A	1	7-1-2	D	UKE	8-15	-63				
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FIGURE 3

can be employed. The interested group should meet with the county extension agent and the county dairy committee to formulate plans for canvassing the area for more dairymen interested in the program. Generally it is much easier to hire a competent DHIA fieldman with a large number of members than with few members.

After a sufficient number of interested dairymen have been contacted, they should all meet to form the Dairy Herd Improvement Association. A board of directors should be elected and a constitution and bylaws adopted.

The local association should operate under the direction of the state Extension dairyman through the county extension agent. All of the business affairs of the association will be handled by the local board of directors.

Total cost of equipment should be investigated and membership and annual dues set so as to defray these association expenses. An association of many dairymen will experience much lower individual

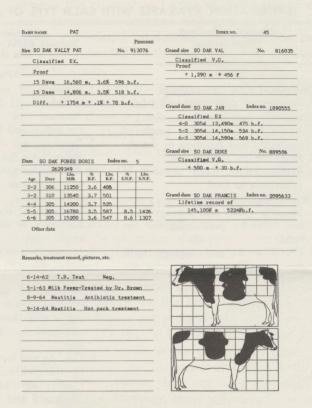


FIGURE 4. REVERSE SIDE OF FIG. 3.

dues to pay for equipment than a small association.

The association must also decide on a testing fee and contact candidates for the DHIA fieldman position. The responsibility of hiring a fieldman lies with the association, but the training of the fieldman is the responsibility of the state Extension dairyman.

TESTING HAS HELPED OTHERS— IT CAN HELP YOU ALSO

During the 40 years that testing has been in operation in South Dakota, the tested cow has increased production on the average of 119 pounds of milk per year, while the untested cow has increased only 78 pounds annually.

Production testing has been a useful tool to increase production in herds for many years. You too can invest in this tool and advance in the dairy business.

INFORMATION AVAILABLE WITH EACH TYPE OF RECORD UNDER EACH METHOD OF CALCULATION

(Manually	calculated)
Owner-	Sampler

(Machine calculated) Standard DHIA and Owner-Sampler cow information

(Machine calculated) Standard DHIA and Owner-Sampler herd information

(Figure 1)

A. Individual Cow Information

- 1. Amount of milk produced (daily, monthly, and lactation to date).
- 2. Amount of butterfat produced (monthly and lactation to date).
- 3. Butterfat test on test day.
- 4. Recommended daily amount of grain mix to feed.

B. Herd Information

- Monthly totals and average milk and butterfat production for the herd.
- Yearly totals and average milk and butterfat production for the herd.

(Figure 2)

- 1. Amount of milk produced (daily, monthly, and lactation to date).
- 2. Amount of butterfat produced (monthly and lactation to date).
- 3. Butterfat test on test day and average test for lactation to date.
- 4. Amount of grain fed daily and recommendations as to the amount to feed daily.
- 5. Lactation to date value of product.
- 6. Lactation to date income over feed costs.
- 7. Lactation summary when cow is dried off and a 305-day lactation summary.¹
- 8. Number of days dry previous to starting present lactation, days carrying a calf during present lactation, and days in milk with present lactation.
- 9. Calving and lactation records entered by the fieldman on the "Lifetime History of Individual Cow" form (figures 3 and 4).²

1305-day lactation used for sire analysis on standard DHIA only.

²This form completed by fieldman on Standard DHIA only.

(Figure 2)

- 1. Average daily milk, butterfat, and percent test.
- 2. Average daily amounts of feed consumed.
- 3. Average daily value of product, feed costs, and income over feed costs.
- 4. Total herd production, feed consumption and costs, value of product, and income over feed costs for the present month.
- 5. Twelve month herd average on production, feed consumption and costs, value of products, and income over feed cost. (A rolling herd average is computed each month. This is an average of the past 12 months production.)
- 6. Total herd production, feed consumption and costs, value of product, and income over feed costs for past 12 months.
- 7. A DHIA lactation listing of all cows grouped by sires with actual and 305-day, 2-times-a-day milking, mature equivalent records to facilitate culling and breeding. Lactation averages, actual and 305-day, 2-times-a-day milking, mature equivalent records grouped according to calving season. This information is made available to the dairyman annually on the "DHIA Lactation Listing" (figure 5).

For additional information contact your county extension agent of DHIA fieldman.

BRE	ED HERD COD									-	711	-	-/			UNIVERS	N LI	211	140							RR	EED	HERD COL	JE 30
3			TOHN	ADAMS												d Technolo			REPORT	T FOR PE	RIOD ENDI	ING 11	65				3 9	99 85 0	027
	ST. CO. HER		ROUTE										U. S.	DEPAR	RTMENT	OF AGRIC	operating					MO.						ST. CO. HE	
	BREED CODE Ayrshire 5. Brown Swi	3	BROOM	CINGS, S. D).																(a. 111			Estim		4.	Injury	7. Other	F1-1-
	Guernsey 6- Milking St Holstein 7- Red Dane Jersey 8- Other	orthorn C												3	MILKED BX THIS						Condition	ns Affecting F	2.	Sold	Dairy	5. Beef 6.	Maste	tis 8. Aborti	on
,	9. Red Poli													LA	CTATION							Bar Lilla		+	- F			-	
B		cow	Classic St	DAM	BI	RTH DA	TE	DA	TE FRESH	н				ABER D	AYS						PRODUCTIO			T	HER	DMATE		DIFFEREN	CE
E	COW NUMBER	INDEX NUMBER	BARN	OR SIRE NUMBER	MO.	DAY	YR.	MO.	DAY	YR.		CWT.	O 10 D		IN MILK	NO. RECORDS	MILK LBS.	% FAT	FAT LBS.	% S.N.F.	SOLIDS NOT EAT POUNDS	MILK LRS.	FAT LRS.	AR	MILK	F	AT	MILK	FA
3	003933296	0062		003147373	09	03	52		14 (098	16		22			15550	_	590	S.N.F.	POUNDS	15550	590	H	L83,	C	85.		
3	003933296	0062		003147373	09	03	52		12		110	16		20			17640	3.4				17993	619	7		- 1	10		
3	SIRE AVERAG			000951239	0,	05	32				104	16		21		002	16595		598			16771	604	1		in the			
																										A			
3	004260117	0082		003332611	03	29	56	03	27		060	13		22		001	11240		400			11465	408						
3	SIRE AVERAG				-			- 3			060	13		22		001	11240		400	1		11465	408		T.				
3	003933992	0070		003698168	04	19	54		10		089	15		22		-	9090		325	į-		9090	325						
3	004036398	0075		003307503	12	13	54		20		071	13		22		2 4	15320		528		1911	15473	533				-4		
3	004036398	0075		003307503	12	13	54				083	13		07			16910		525	1		16910	525						
3	004036399	0071		002290330	01	02	55		16		070	13		22			12310		523			12433	528			24			
3	004199052	0078		003446880	10	21		01	05		063	14	05	15			14590		556	i		14882	567	8					
3	004199052	0078		003446880	10	21		09	09		071	14			189		8410		283			11552	389	3	718				
3	004199053	0079		003446880	10	21		11	09		061	16		17			19150		706	1		19533	720			4			
3	004317770	0083		003446878	09	11		09	06	61	060	14		21			17350	3.5	615			17697	627						
3	004317771	0085		003446880	09	30		12	02	60	051	14	04	21	292	100	15750	3.6	572			16538	601	8					
3	004317771	0085		003446880	09	30	56	09	23	61	060	14	9-1	18	305		5280	3.9	205			5386	209						
3	SIRE AVERAG	E		001168150	1.3						067	14	04	18	286	010	13416	3.6	483	1	13 1	13949	502						
3	004992608	0106		004527724	09	24	59	09	18	61	024	12		20	305		9160		396	1	Belo	12000	519					tip it	113
3	SIRE AVERAG	E		001216567							024	12		20	305	001	9160	4.3	396			12000	519						
3	004992610	0108		004527726	11	16	59	11	01	61	024	10		22	305		12260	3-2	392			16061	514						
3	005042546	0107		004527725	10	25		11	23		025	11			298	7-1	12560		469			16328	610			-			
3	005042548	0109		004036398	11	27		12	01		025	12	N 1	22			12780		477	i		16614	620						
3	SIRE AVERAG		-	001220204	1	21	33	12	01	OI	024	11			302	003	12533		446		1	16334	581		7				1
																						1332							
3	004429587	0088		003307502	02	20	57	06	14	61	052	13	12	14	276		11500	4.2	478	1		12437	517	3		916	0.1		
3	004618495	0094		003307502	02	15	58	09	13	61	043	14	12	19	267		8490	3.5	295	1 1		9509	330	8		7 1	- 1		
3	004618495	0094		003307502	02	15		06	10		052	14			105		2860		100			6757	236						
3	004618496	0095		004036402	04	06	58	07	22	61	039	13	05	11	197	Mary 1	7390	3.6	268			11303	410	3					
3	004618497	0096		004036401	04	01	58	08	15	61	040	15	03	23	305		9730	4.7	453	1		11092	516			-			
3	004618498	0100		003446880	04	05	58	02	06	62	046	15	14	12	229		7400	3.6	269			9605	349	3	FAT	173			
3	004792385	0098		004121009	08	04	58	11	12	61	039	12	05	17	305	11 4 1	12840	3.6	463	i		14766	532		100	8.	3		
3	004825427	0097		004317679	09	19	58	09	03	61	036	13	05	14	305		13780	3.8	530			16260	625	10	E I		1		
3	004825428	0102		004317771	10	01	58	02	05	61	028	12	100	22	305		12030	3.8	454	1		15158	572		1-1-6	11			
3	004900759	0103		003307502	02	08		02	20		024	11			305	BIG FA	12500		495	1	100	16375	648		1			de la cita	
3	004927901	0105		004260117	04	10	59	09	27	61	029	10	-		305		13430	3.6	484	l.		16788	605		304		123		
3	004927902	0104		004036401	04	19		08	08		028	13		21			10350		421		12 19 19	13041	530		1944				
3	SIRE AVERAG	E		001247304							038	12	08	17	267	012	10191	3.9	392		L	12757	489						
	OWS ARE IN			SEASON 1		Lac	tatio	n ave	rage		047	13	06	18	267	013	9755	3.8	373			11762	449	00		MAY T	HROUG	NS CALVING 3H SEPTEMBE WS CALVING	R
)	RDER BY SIR	E NO.		SEASON 2	2	Lac	tatio	n av	erage		054	13	05	19	294	016	13801	3.6	501	1	Nick in	15355	558	00				ROUGH APRI	
A	ITHIN BREE	D							-		-	13		18	282	029	11987	3.7	444			13744	509	1:	7% P	FRCE	NT C	ows	
÷					Herd	-			-		051			-						1				-	-				
	BE COMPLETED BY HERD OWNER - State breed lacto										051	12	06	17	267	36100	10232	3 6	370	1		12048	436	1 1 5	8% L	FFT I	HERD)	

FIGURE 5

Published and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914, by the Cooperative Extension Service of South Dakota State University, Brookings, John T. Stone, Director, U. S. Department of Agriculture, cooperating.

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