

# Data Collection Rating

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## Definitions

The accuracy of lactation records from a wide variety of test plans can be compared using a "data collection rating" (**DCR**). To ensure that DCR's are defined similarly across the U.S. dairy industry, standard terminology, example values, and computer programs have been provided to breed associations, dairy records processing centers, AI companies, and others. Since February 1999, DCR's are computed from test-day data at AIPL using "[best prediction](#)."

**DCR:** Squared correlation of estimated and true yields multiplied by a factor of 104 to give monthly testing a rating of 100 and daily testing a rating of 104.

**DCRM:** DCR for milk yield.

**DCRC:** DCR for component yields calculated as the average of fat and protein DCR.

**Herd DCR:** DCR of a herd; equivalent to the DCR for a cow tested in that herd that reached 305 days in milk on the herd's most recent test day.

**Weight:** Ratio of the error variance from daily testing to the error variance from less complete testing; computed from the DCR and used to weight lactation records in the animal model. Differs from the squared correlation and DCR because genetic and permanent environmental effects are excluded from the variance ratio.

**Table 1.** Data collection ratings (DCR's), squared correlations of true with estimated milk yields, and lactation weights for various 305-day records.

Test plan	Test days (no.)	Lactation weight (%)	Squared correlation	DCR
Daily	305	100	100	104
Labor efficient record				
10-d mean	100 <sup>1</sup>	99	100	104
5-d mean	50 <sup>2</sup>	98	99	103
Monthly supervised				
all milkings <sup>3</sup>	10	95	96	100
2 of 3 milkings	10	92	93	97
1 of 2 milkings	10	89	91	95
1 of 3 milkings	10	83	87	90
Monthly owner-sampler				
all milkings <sup>3</sup>	10	66	72	75
2 of 3 milkings	10	64	70	73
1 of 2 milkings	10	63	69	72

1 of 3 milkings	10	60	66	69
Bimonthly supervised				
all milkings <sup>3</sup>	5	90	91	95
2 of 3 milkings	5	84	87	90
1 of 2 milkings	5	79	83	86
1 of 3 milkings	5	71	75	78
Bimonthly owner-sampler				
all milkings <sup>3</sup>	5	63	69	72
2 of 3 milkings	5	61	66	69
1 of 2 milkings	5	58	64	67
1 of 3 milkings	5	53	60	62

<sup>1</sup>A 10-day average reported in each of 10 mo.

<sup>2</sup>A 5-day average reported in each of 10 mo.

<sup>3</sup>Milk weights were obtained from all milkings on each test day.

**Table 2.** Data collection ratings (DCR's) for records of < 305 days with supervised monthly testing.

Test	Days in milk	First-lactation DCR		Later-lactation DCR	
		All <sup>1</sup>	a.m.-p.m. <sup>2</sup>	All	a.m.-p.m.
1	15	36	27	23	18
2	45	49	42	39	33
3	75	61	53	54	47
4	105	71	63	67	60
5	135	80	72	78	70
6	165	87	80	86	79
7	195	92	86	92	85
8	225	96	90	96	90
9	255	99	93	99	93
10	285	100	95	100	94

<sup>1</sup> Milk weights were obtained from all milkings on each test day.

<sup>2</sup> Only one of the two milkings was weighed on each test day.