

Sussex Summary Report 2016



Promising Young Bull List - A list of Young Sussex Bulls born since 1st January 2014 with a Beef Value above average and either an adjusted 300 or 400 day weight

Sire Summary

A list of Sussex Sires that have produced progeny since 1st January 2014 and have a Beef Value above breed average. Sires are listed alphabetically (imported sires are listed first).

These results are delivered to the beef industry by Signet Breeding Services using data collected through the Signet Beefbreeder service.

The EBVs in this publication are based on the National Sussex Evaluation 30th April 2016

Introduction

This Breeding Report has been published by Signet Breeding Services in association with the Sussex Cattle Society. Both Signet and the Society continue to encourage all breeders of Sussex to record. More records give a truer picture and greater accuracy in the figures for individuals. It is becoming increasingly evident that users of Sussex genetics are looking for accurate performance records when making selection decisions.

We believe that the figures in this document, if used sensibly, can be of benefit to pedigree and commercial breeders.

For more information about Signet's Beefbreeder Recording Service

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Why is Performance Recording Important?

The performance and physical appearance of animals are the result of a combination of factors; the genes they get from their parents, management such as feeding, and other effects such as age and sex.

To make genetic improvement breeders need to be able to assess how much of an animal's performance is controlled by its genes alone, i.e. its breeding value, and how much is due to everything else (the 'environment').

Estimated Breeding Values (EBVs)

The best way to measure the breeding value of an animal is to record its performance and analyse this data to produce *Estimated* Breeding Values (EBVs).

The EBVs are expressed in the same units as they were measured (e.g. 400-day growth in kg, muscle depth in mm). The average EBV of animals born in the base year is set to zero for all traits, the average Calving Value set to 2 and the average Beef Value is set to 8. Because all EBVs are expressed relative to a common base direct comparisons can be made across all Sussex herds in Beefbreeder and also across time allowing measurement of genetic progress.

EBVs estimate the genetic merit of animals, but calves get only half of their genes from each parent. Before the calf has any performance records of its own, the best estimate of its own EBV is half the sire EBV plus half its dam EBV.

Accuracy Values

Given that the EBV is an estimate of the true breeding value of an animal it is valuable to know the accuracy of the estimate. The Accuracy (Acc %) provides a measure of confidence in the EBV for each trait. It is expressed as a percentage and is calculated from the number of performance records that exist for each trait on the animal itself and all its relatives including progeny, parents, full and half brothers and sisters. The higher the accuracy the greater the confidence in the EBV and the lower the chance of it changing with new information. The potential range in accuracy values will depend on the particular trait with highly heritable traits having a higher range than those with a low heritability.

It is important to note that BLUP evaluations compensate for a lack of information on an animal by adjusting its EBVs towards the average so there is no need to discount EBVs with low accuracies still further.

Interpreting Estimated Breeding Values (EBVs)

Gestation Length (days)

Gestation length refers to the merit of animals when used as terminal sires. The more negative the EBV the shorter the gestation length is expected to be when the bull's progeny are born.

Calving Ease

EBVs for calving ease predict the direct effect of using a particular bull on the percentage of unassisted calvings.

Maternal Calving Ease

EBVs for maternal calving ease predict the proportion of unassisted calvings that you would expect to be produced by a bull's daughters.

Birth weight (expressed in kg liveweight).

The calf's weight at birth. Higher values for birth weight are more likely to be associated with difficult calvings.

Calving Value

The Calving Value indicates what the effect will be of using a particular bull on the ease with which his progeny are born.

200-day milk (expressed in kg liveweight).

The best estimate of the portion of the 200-day weight due to the dam's milking ability and due to the sire's daughters and relative's milking ability and which will be passed on to future daughters. Higher positive values indicate higher milk yields and better maternal ability. This will only be expressed in female descendants, but both males and females carry the genes for maternal ability.

200-day growth (expressed in kg liveweight).

Based on the weight of the calf adjusted to 200 days. It is the best estimate of the sire's genetic merit for growth to weaning. Higher positive values indicate faster growth.

400-day growth (expressed in kg liveweight).

Based on the weight of the calf adjusted to 400 days. It is the best estimate of the sire's genetic merit for growth to 400 days of age. Higher positive values indicate faster growth.

Muscle Depth (expressed in mm)

Muscle depth is measured by ultrasonic scanning and gives better evaluations of live animal conformation.

Fat depth (expressed in mm fat).

The best estimate of a calf's fat depth at about 400 days of age. 2mm of fat are equivalent to one EU carcass classification fat class. Higher positive values indicate fatter stock; high negative values indicate leaner stock.

Maternal Production Value

The economic value of an animal's ability to produce progeny with good carcass characteristics and breed females that are suitable as herd replacements

Beef Value

The Beef Value ranks animals on their estimated overall genetic merit for growth and carcass traits.

SUSSEX Beefbreeder BLUP Analysis							
Year 2014 Average, Top and Bottom 25, 10 and 1 percent							
Trait	Bottom 1%	Bottom 10%	Bottom 25%	Breed Average	Top 25%	Top 10%	Top 1%
Birth Weight (days)	2.9	2.0	1.5	1.0	0.4	-0.1	-1.0
Calving Ease	-2.4	-1.5	-0.9	-0.3	0.3	0.8	1.8
Maternal Calving Ease	-0.7	-0.3	-0.1	0.1	0.3	0.5	0.8
Gestation Length (days)	2.1	1.4	1.0	0.5	0.0	-0.5	-1.2
CALVING VALUE	-1	0	1	1	2	3	4
200-Day Weight (kg)	-6	5	11	18	25	31	42
400-Day Weight (kg)	-2	17	27	39	51	62	80
Muscle Depth (mm)	-0.5	1.0	1.9	2.9	3.8	4.7	6.2
Fat Depth (mm)	-0.3	-0.1	0.0	0.2	0.4	0.5	0.8
BEEF VALUE	12	20	25	30	35	40	48
200-Day Milk (kg)	-4	-2	-1	1	2	4	6
Age at First Calving (%)	0.14	0.07	0.02	-0.02	-0.07	-0.2	-0.19
Longevity (years)	-0.3	0.0	0.1	0.3	0.4	0.6	0.8
Calving Interval (days)	6.5	3.6	2.0	0.1	-1.8	-3.5	-6.3
MATERNAL VALUE	-11	-2	2	8	13	18	26
MATERNAL PRODUCTION VALUE	-6	3	9	15	21	26	35

SUSSEX GENETIC TRENDS OVER TIME

Year	No. Animals	Gest. Length	Calve Ease	Birth Weight	CALVING VALUE	200 Day Milk	200 Day Growth	400 Day Growth	Muscle Score	Muscle Depth	Fat Depth	BEEF VALUE	MAINT VALUE	Longevity	Age at First Calving	Calving Interval	Maternal Weaning Weight	Maternal Calving Ease	MAT. Value	Maternal Prod. Value
1990	528	-0.06	-0.11	0.08	2.05	0.43	6.22	12.91	0.15	1.01	0.08	16.03	0.00	0.08	-0.03	0.52	0.00	-0.08	3.25	5.41
1991	470	-0.04	-0.21	0.15	1.98	-0.29	7.06	14.59	0.17	1.05	0.09	16.59	0.00	0.04	-0.04	0.63	0.00	0.04	2.53	4.38
1992	528	-0.04	-0.34	0.14	1.83	-0.15	7.32	14.31	0.16	1.20	0.09	17.04	0.00	0.02	-0.03	0.38	0.00	0.07	2.90	4.76
1993	562	-0.21	-0.17	-0.01	2.18	-0.15	6.72	14.31	0.15	1.08	0.11	17.18	0.00	0.02	-0.03	-0.26	0.00	0.03	3.16	5.60
1994	577	-0.02	-0.20	0.18	1.97	0.04	7.55	16.90	0.20	1.14	0.10	17.93	0.00	0.09	-0.02	0.21	0.00	0.11	3.56	5.71
1995	714	0.04	-0.12	0.24	1.94	0.57	7.42	18.51	0.23	1.34	0.12	19.68	0.00	0.12	-0.01	0.02	0.00	0.02	3.83	6.74
1996	724	-0.14	-0.08	0.14	2.17	0.07	8.77	19.87	0.24	1.51	0.14	20.43	0.00	0.06	-0.02	-0.13	0.00	0.05	2.93	6.65
1997	724	-0.17	-0.14	0.12	2.15	0.11	9.70	21.53	0.27	1.52	0.17	21.05	0.00	0.07	-0.02	-0.53	0.00	0.03	4.19	8.15
1998	885	0.06	-0.18	0.32	1.84	0.11	9.63	22.09	0.30	1.61	0.17	21.36	0.00	0.12	-0.01	-0.26	0.00	0.07	3.65	7.71
1999	986	0.03	-0.10	0.29	1.96	0.29	9.63	22.69	0.33	1.81	0.18	22.43	0.00	0.09	-0.01	-0.16	0.00	0.03	2.86	7.95
2000	932	-0.01	-0.06	0.28	2.05	0.58	10.36	23.91	0.32	1.87	0.19	22.89	0.00	0.12	-0.01	-0.09	0.00	0.01	4.02	9.13
2001	860	0.12	-0.23	0.38	1.78	0.76	11.61	25.67	0.36	1.99	0.22	23.71	0.00	0.09	-0.03	0.34	0.00	0.01	4.31	9.42
2002	761	0.21	-0.21	0.51	1.73	0.36	11.74	26.32	0.38	2.05	0.15	23.79	0.00	0.14	-0.02	0.28	0.00	0.03	4.02	8.93
2003	764	0.29	-0.20	0.64	1.65	0.43	13.12	29.64	0.44	2.16	0.14	25.02	0.00	0.19	-0.03	0.36	0.00	0.04	5.52	10.58
2004	740	0.41	-0.24	0.83	1.51	0.27	14.92	33.81	0.51	2.35	0.13	26.72	0.00	0.21	-0.03	-0.01	0.00	0.06	6.20	11.46
2005	656	0.34	-0.28	0.81	1.55	0.42	15.83	34.98	0.51	2.40	0.16	27.12	0.00	0.23	-0.03	0.61	0.00	0.05	5.60	10.89
2006	584	0.44	-0.51	0.95	1.24	0.58	17.71	37.85	0.56	2.69	0.19	28.70	0.00	0.24	-0.04	0.67	0.00	0.03	6.71	12.34
2007	658	0.39	-0.28	0.89	1.45	0.55	17.54	38.38	0.59	2.68	0.18	28.98	0.00	0.26	-0.03	0.58	0.00	0.08	6.76	13.24
2008	591	0.46	-0.32	0.82	1.38	0.96	15.57	35.35	0.59	2.58	0.17	28.38	0.00	0.25	-0.02	0.44	0.00	0.09	6.68	13.38
2009	696	0.45	-0.25	0.81	1.42	0.73	15.25	35.21	0.56	2.54	0.19	28.37	0.00	0.22	-0.02	0.31	0.00	0.11	6.01	12.53
2010	768	0.40	-0.10	0.71	1.60	1.18	14.45	33.95	0.55	2.55	0.22	28.14	0.00	0.23	-0.01	0.26	0.00	0.06	5.38	12.63
2011	715	0.46	-0.21	0.93	1.45	0.75	17.69	40.03	0.65	2.99	0.20	30.95	0.00	0.24	-0.02	0.15	0.00	0.13	6.63	14.75
2012	855	0.46	-0.28	0.96	1.37	0.69	18.19	40.63	0.64	2.91	0.20	30.71	0.00	0.25	-0.02	0.19	0.00	0.13	6.86	14.14
2013	771	0.44	-0.34	1.03	1.40	0.64	19.98	43.03	0.66	3.10	0.20	31.60	0.00	0.26	-0.03	0.29	0.00	0.13	7.28	14.84
2014	693	0.53	-0.32	1.18	1.30	0.83	21.83	46.90	0.74	3.44	0.24	33.59	0.00	0.30	-0.02	0.23	0.00	0.15	7.88	16.74
2015	615	0.60	-0.37	1.31	1.19	0.83	23.72	50.13	0.79	3.59	0.23	34.66	0.00	0.31	-0.02	-0.19	0.00	0.15	8.59	17.53
2016	92	0.59	-0.20	1.28	1.32	1.61	23.82	52.51	0.83	3.47	0.20	35.63	0.00	0.35	-0.02	-0.69	0.00	-0.07	9.88	18.78