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# BEEF CATTLE IN CANADA



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# BEEF CATTLE IN CANADA



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## OBJECTIVE

The efficient production of beef from available forage resources is a major objective of government and private planning, and in many countries of the world substantial economic gains are possible through the introduction of improved foundation stock.

The purpose of this booklet is to provide an accurate description of the economic characteristics of modern beef cattle that have been developed in Canada and that are now exported to assist in the development of more efficient beef production enterprises throughout the world.

The prime criterion in the selection of Canadian breeding females and bulls was the efficiency with which forage resources could be converted to beef. The result of this lengthy selection process is a fast-maturing, relatively large animal that is a hard-working and efficient forager, and yet one that is easily handled in confinement. The development of these qualities was necessitated by economic pressures and a need for efficient production within

a wide range of climatic and managerial conditions.

Only those strains with the genetic potential to perform well were selected and propagated from the original importations of Hereford, Aberdeen-Angus, and Shorthorn. In recent years, seed stock of many other breeds have been imported and studied. Of these, the Charolais and the Simmental breeds have proved the most popular, and more recently the Limousin has also gained some prominence.

Discriminating buyers from many countries, including the United States, U.S.S.R., Czechoslovakia, Mexico, Japan, Chile, Brazil, Bulgaria, Australia, New Zealand, Britain, and Denmark have purchased Canadian foundation stock for the development of pure herds and for cross-breeding. Performance levels for future generations are set by the basic stock. It is therefore of prime importance that only select cattle from the best possible sources be considered for foundation purposes.

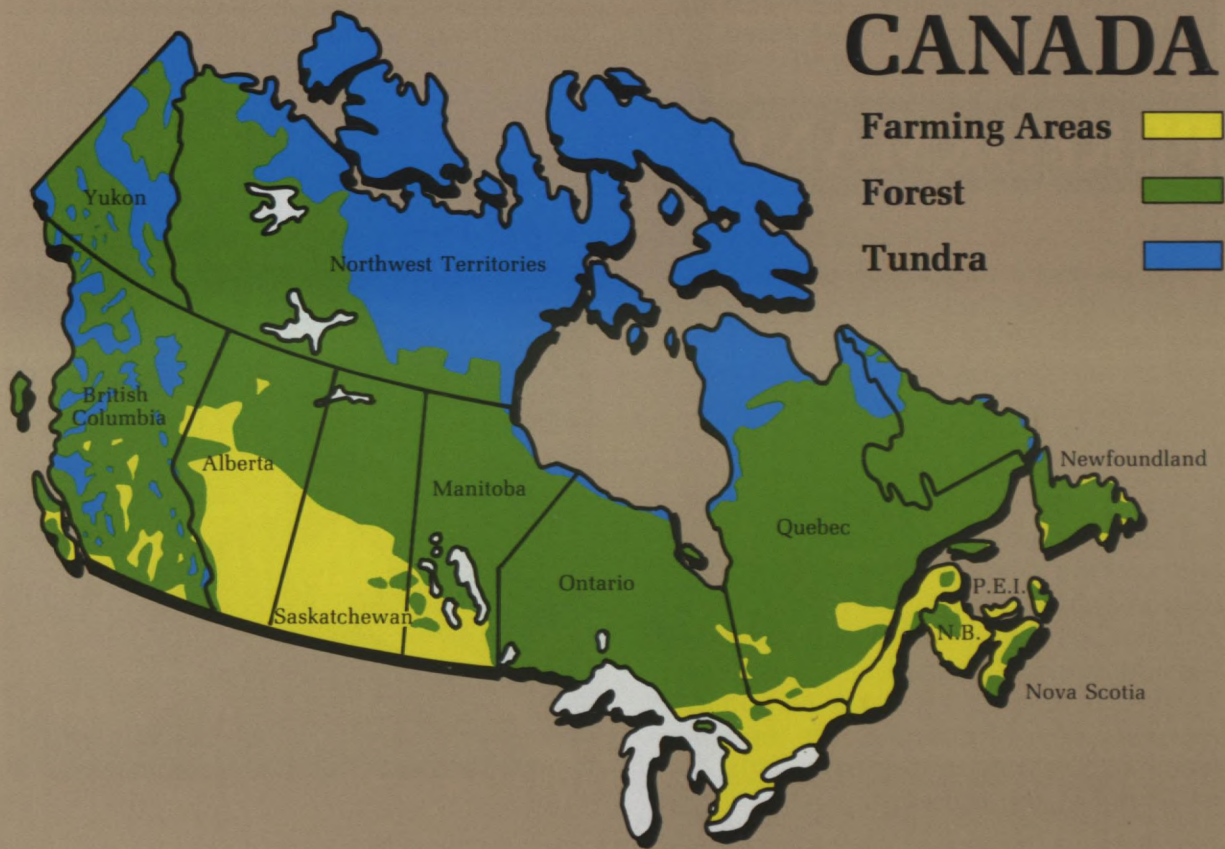


## THE LAND

Canada is the second largest country in the world, stretching 6 440 km (4 000 miles) from east to west and 4 830 km (3 000 miles) from north to south. Of the total land area of 9 312 703 km<sup>2</sup> (3 581 809 square miles), 702 000 km<sup>2</sup> (270 000 square miles) are classed as farmland, concentrated mainly in a narrow band along the southern border.

Canada has a major resource base in the form of about 20 235 000 hectares (50 million acres) of rangeland in the west and 2 023 500 hectares (about five million acres) in the east. In addition to the rangelands, an estimated 2 428 200 hectares (six million acres) of hay, grass and corn silage and 1 618 800 hectares (four million acres) of cereal are used for beef production.

Although beef cattle are raised in most areas of the country, the largest concentrations of purebred stock are in the western provinces of Alberta and Saskatchewan, and in the Great Lakes peninsula of southern Ontario. Western herds are subject to greater climatic extremes and required to graze over wider and rougher terrains. The Ontario herds are usually found on more highly developed pastures. In the westernmost province of British Columbia, large herds thrive on the Interior Plateau and in forested areas. In the Maritime Provinces on the east coast, herds are under more intensive care in a mixed farming economy. The diverse systems of beef production in Canada have produced a type of beef animal that adapts well to widely varied environmental conditions.



## PRACTICE

Canada's beef industry tends to be specialized and consists of two major components: the cow-calf producer, and the feeder. It should be noted that there are a significant number of producers that provide both the calf, and the finished animal ready for slaughter.

Approximately 5 percent of Canada's cattle population are purebred or seed stock animals. From this segment, highly selected breeding stock is developed for the commercial industry, primarily as herd sires.

The cow-calf segment of the industry is located mainly in western Canada. The established practice in commercial operations is to breed during June and July for calving in March and April. Calves are weaned at six to eight months and may then be sold for finishing or carried over for further grazing during the following summer. Cattle are usually wintered in the

shelter of trees, windbreaks or barns, and are fed hay or silage during the snow season which usually occurs during December, January and February in most areas.

Heifers are usually bred to calve at two or three years of age. The most favourable time for shipment of pregnant heifers is during October or November.

Weaned calves will weigh 230 kg (525 lb) at 6 to 8 months and are often introduced to heavy feeding at this age to finish for slaughter at 455–544 kg (1 000–1 200 lb) at 12 to 14 months. Calves which are carried through the winter months on hay and turned out for further grazing in the spring will weigh 363–455 kg (800–1 000 lb) at 17 to 19 months. For the Canadian meat trade these cattle are usually finished on grain for 90 to 120 days before slaughter at 544 kg (1 200 lb). A heavy fat cover is discouraged by the Canadian trade through a lower grade and price.

## PERFORMANCE

High performance in beef cattle herds involves efficiency in reproduction and the conversion of fodder resources to beef. Improvement within a breed requires the gradual development of a superior genetic make-up to conform to these needs.

The traditional concept of animal breeding is the establishment, by individual breeders, of fixed desirable characteristics within a family or herd, using their own selective breeding techniques. This concept has been broadened in Canada by the adoption of National Performance Testing Guidelines set by the National Advisory Board for Beef Cattle Improvement with representation from both government and industry.



## CANADA'S BREED

## IMPROVEMENT PROGRAMS

The objective of Canada's Herd Performance Testing Program is to genetically improve the population for traits of greatest economic importance. Performance testing of these traits is a process that distinguishes genetic differences among animals by measuring the performance of an individual or an individual's offspring. In the first case, genetic differences are identified by the relative difference of the individual's performance compared with its contemporaries. In the latter case, an individual is evaluated genetically by the performance of its progeny compared with progeny of other bulls or cows. The individual performance test is generally favoured for traits that can be easily measured and have relatively high heritability. The individual performance test also allows more rapid

genetic evaluation. The progeny test is useful for the evaluation of imported or other untested bulls and for the evaluation of traits of low heritability. It can also serve to monitor the performance of calves of previously proven bulls and over the years to provide more accurate information on sires.

Canada's Herd Performance Program for beef cattle encompasses four levels of testing: sire evaluation, herd performance, bull test and progeny test. The overall governing body of Canada's performance program is the National Advisory Board for Beef Cattle Improvement. It includes federal and provincial government personnel, purebred and commercial producers, and researchers and representatives from other segments of the beef cattle industry, such as meat packers.

## HERD PERFORMANCE

A number of herd performance programs currently operate in Canada. While the programs differ in name and administration, they perform essentially the same functions, that is, to evaluate the performance of animals in a producer's herd. These programs provide producers with an objective basis for within-herd selection of both male and female breeding stock. In smaller herds, they pertain primarily to the selection of females, as male selection is much more limited.

The traits that are recorded and evaluated on herd performance programs are as follows:

### 1. MATERNAL AND REPRODUCTIVE TRAITS

- calving interval
- cow defects
- calving ease
- calf condition at birth

### 2. GROWTH TRAITS

- birth weight
- adjusted 200-day weight
- average daily gain (birth to weaning)
- average daily gain (on 165-day feeding period)
- adjusted 365-day weight



AGRICULTURE CANADA - BRITISH COLUMBIA FEDERATION OF AGRICULTURE

ENROLLEE NAME :  
ENROLLEE NUMBER :  
CALF DROP YEAR : 86  
LISTED WEIGHTS ARE REPORTED IN : LB

RECORD OF PERFORMANCE - BEEF CATTLE

DATE ISSUED : 00/05/89  
PAGE : 1

CDW HERD SUMMARY AND AVERAGES

I AVERAGE BIRTH AND WEANING WEIGHTS AND NUMBERS OF CALVES BY CDW AGES, FOR CDWs CALVED													II SUMMARY OF DISPOSALS					
CDW AGE IN YEARS													CDW DLF					
2 YEARS			3 YEARS			4 YEARS			5 - 10 YEARS			10+ YEARS			86	85	84	
BORN	WEAN	ACT	BORN	WEAN	ACT	BORN	WEAN	ACT	BORN	WEAN	ACT	BORN	WEAN	ACT	CDW DLF	CDW DLF	CDW DLF	
86																		
NL. OF CDWs	100		119		46		139		62		33		69		36	151	39	127
MALE CALVES	47	6 598	600	82	11 629	653	18	3 680	617	68	19 693	629	33	9 643	694			
FEMALE CALVES	55	26 536	565	68	55 572	584	29	27 516	581	76	60 699	592	34	27 558	551	124	143	16
STEER CALVES		24 568	566		49 574	565		9 622	581		34 646	582		17 584	555			
ALL CALVES	102	56 556	569	150	115 578	583	47	39 606	585	144	113 634	595	67	53 581	561	11	41	6
85																		
NL. OF CDWs	120		78		52		154		70		37		8	591	582			
MALE CALVES	47	4 535	622	38	3 567	629	28	2 510	595	84	18 626	599	37	8 594	533			
FEMALE CALVES	103	60 549	520	42	23 593	521	32	18 523	520	76	48 565	548	36	22 634	610			
STEER CALVES		40 531	583		9 583	523		14 581	571		37 620	607		22 634	610			
ALL CALVES	120	104 518	550	80	35 598	540	60	36 548	551	160	123 591	573	73	68 578	568			
84																		
NL. OF CDWs			54		44		124		49				5	660	626			
MALE CALVES			29		11 459	506	25	5 408	521	60	21 614	585	23	5 660	626			
FEMALE CALVES			26		19 519	531	21	15 539	530	68	63 551	524	31	28 531	510			
STEER CALVES					11 507	526		17 521	536		24 567	530		15 547	520			
ALL CALVES			55		41 500	523	46	37 524	531	128	108 567	539	53	48 550	520			

III AVERAGE WEANING WEIGHTS AND NUMBERS OF CALVES BORN IN SUCCESSIVE 21 DAY PERIODS OF THE CALVING PERIOD													IV HERD MANAGEMENT INFORMATION					
CDW AGE IN YEARS													CDW DLF					
0 - 20 DAYS			21 - 41 DAYS			42 - 62 DAYS			63 - 83 DAYS			84+ DAYS			86	85	84	
BORN	WEAN	ACT	BORN	WEAN	ACT	BORN	WEAN	ACT	BORN	WEAN	ACT	BORN	WEAN	ACT	CDW DLF	CDW DLF	CDW DLF	
86																		
MALE CALVES	1	675	563	22	694	624	17	637	616	4	610	647	4	573	670			
FEMALE CALVES	7	614	542	45	682	560	79	583	584	32	558	611	12	475	588			
STEER CALVES	5	568	515	50	637	574	51	582	565	23	553	572	4	533	609			
ALL CALVES	13	601	533	117	630	574	147	589	581	59	560	598	20	546	609			
85																		
MALE CALVES			8	694	603	10	614	581	10	555	568	7	530	643				
FEMALE CALVES	2	518	478	35	584	523	69	557	530	55	522	535	38	442	532			
STEER CALVES	1		32	631	585	32	625	601	37	544	590	23	467	596				
ALL CALVES	2	518	478	75	615	558	111	581	555	102	538	558	68	481	576			
84																		
MALE CALVES	6	673	549	11	609	559	13	566	572	6	518	574	6	414	522			
FEMALE CALVES	7	612	524	52	570	521	43	526	524	20	484	523	3	450	532			
STEER CALVES	5	571	491	27	579	530	21	536	535	9	474	531	5	444	544			
ALL CALVES	18	621	530	90	577	531	77	535	531	35	467	534	14	433	532			

# SIRE PROVING

Progeny testing enables producers to evaluate the genetic potential of a bull or cow based on progeny performance. It is particularly useful for evaluating mature, unproven, imported bulls for carcass traits and those of low heritability, such as the various maternal and reproductive traits. Progeny testing is the most accurate type of test provided that there are sufficient numbers of offspring. It is also more expensive and time consuming. Progeny testing of young, performance-tested bulls allows optimum genetic evaluation.

Agriculture Canada operates the Canadian Beef Sire Evaluation Program in order to evaluate the performance of

progeny of sires that have calves enrolled under a Record of Performance Program or under the breed association performance programs in Canada. Because data are collected on a large number of progeny, many sires can be accurately evaluated. This applies primarily to AI bulls. The objective of this program is to routinely evaluate widely used beef sires and provide a means for producers to progeny-test individual bulls inexpensively, accurately and rapidly. The majority of progeny-tested bulls that are proven genetically superior are placed in AI Units for widespread distribution.



BROLLE NAME :  
BROLLE NUMBER :  
R.C.P. NUMBER :  
CALF CROP YEAR : 86  
LISTED WEIGHTS ARE REPORTED IN LB

RECORD OF PERFORMANCE - BEEF CATTLE

DATE ISSUED : 88/05/89  
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HERD MANAGEMENT SUMMARY

PROGENY AVERAGES BY SIRE

SIRE TATTOO	BIRTH INFORMATION				WEANING INFORMATION				POST-WEANING INFORMATION 12 MONTHS				LIFETIME AVERAGES		POST-WEANING INFORMATION 15 MONTHS				LIFETIME AVERAGES		POST-WEANING INFORMATION 18 MONTHS				LIFETIME AVERAGES	
	NO. OF CALVES (BORN/DEAD)	AVG. WT. (LB/100)	AVG. CALVES (NO./100)	AVG. ADJ. WT. (LB/100)	AVG. ADG (LB/DAY)	AVG. INDEX	NO. OF CALVES (NO./100)	AVG. ADJ. WT. (LB/100)	AVG. ADG (LB/DAY)	AVG. TEST INDEX	AVG. INDEX	AVG. INDEX	NO. OF CALVES (NO./100)	AVG. ADJ. WT. (LB/100)	AVG. ADG (LB/DAY)	AVG. TEST INDEX	AVG. INDEX	AVG. INDEX	NO. OF CALVES (NO./100)	AVG. ADJ. WT. (LB/100)	AVG. ADG (LB/DAY)	AVG. TEST INDEX	AVG. INDEX	AVG. INDEX		
																									AVG. ADG (LB/DAY)	AVG. TEST INDEX
CH MOD 402R 56	41	46	660	610	2.60	184	15	13	871	851	1.40	111	2.08	186												
MALES 34	11	10	670	618	2.63	98	4	3	1140	1058	2.62	110	2.62	187												
FEMALES 22	13	13	635	613	2.64	106	11	10	801	776	0.96	111	1.88	186												
STEERS 17	17	17	673	662	2.56	106																				
CH WAC1394R 38	31	30	525	568	2.44	100	19	18	677	691	0.76	87	1.67	95												
MALES 14																										
FEMALES 24	21	20	592	570	2.45	99	19	18	677	691	0.76	87	1.67	95												
STEERS 10	10	10	570	562	2.41	100																				
CH WH 375 1	1	1	515	490	2.03	82	1	1	610	632	0.86	99	1.50	86												
MALES																										
FEMALES 1	1	1	515	490	2.03	82	1	1	610	632	0.86	99	1.50	86												
STEERS																										
CH EBR 505 35	23	21	594	528	2.20	91	10	8	685	688	0.84	90	1.64	95												
MALES 21																										
FEMALES 14	10	10	571	546	2.30	93	8	8	706	698	0.78	90	1.66	95												
STEERS 13	11	11	523	514	2.13	90	2		600	650	1.00		1.54													
CH WH 128S 2	2	2	595	570	2.43	98	2	2	705	733	0.97	112	1.76	161												
MALES																										
FEMALES 2	2	2	595	570	2.43	98	2	2	705	733	0.97	112	1.76	161												
STEERS																										
CH WH 175S 24	15	15	602	576	2.45	100	7	7	699	703	0.80	91	1.69	97												
MALES 14																										
FEMALES 10	9	9	601	576	2.46	99	7	7	699	703	0.80	91	1.69	97												
STEERS 6	6	6	605	576	2.44	101																				

## STATION TESTING

Co-operation between the federal and provincial departments of agriculture has resulted in centralized station testing of bulls.

There is a national accreditation system in place. National bull test guidelines exist which define recommended operational procedures. Stations that meet the guidelines can receive signed National Advisory Board accreditation certificates.

Centralized station testing of bulls allows the determination of genetic differences in growth rate under a rigidly controlled feeding and management situation. Station testing also allows accurate genetic evaluation among large contemporary

groups of bulls from many herds and sires. Because environmental and management conditions are constant for all bulls in the groups, only genetic differences will be manifested. Producers can thus choose bulls based on these differences. A superior-performing bull in a test station is more likely to improve a herd than one purchased out of a small tested herd, as the latter test is based on smaller numbers and does not evaluate bulls across herds under the same environmental conditions.

Bulls are placed in stations when weaned at about 200 days of age. They are then given a 28-day warm-up period

to adapt to their new environment before being tested over a 140-day feeding period. Average daily gain is the only trait evaluated as it is devoid of pre-weaning influences. Scrotal size measurements are also taken to assess the bull's potential for breeding.

Approximately 10 000 bulls are tested per year under this program. The test station provides an ideal opportunity for the purchase of thoroughly tested, promising young bulls.

## EXPECTED PROGENY DIFFERENCES

As half of the genetic information of a parent is passed on to its progeny or offspring, selective breeding can improve the genetic quality of beef cattle. While measuring performance is an important step to breed improvement, performance is affected by both genetics and environment. To improve genetic quality, an estimate of genetic worth is required. Expected Progeny Differences (EPDs), estimates of genetic quality, are available through many Canadian programs. EPDs

indicate the expected potential of the progeny of an animal, relative to breed average. For example, an EPD of +19 for weaning weight indicates the progeny or offspring of an animal will average 19 lb (8.6 kg) above breed average. EPDs are available for traits such as weight and weight gain (birth, weaning, post-weaning yearling) and calving ease. Maternal calving ease and milk EPDs which indicate the calving and milking abilities of an animal's daughters are also available.

## RESEARCH

Canada's Department of Agriculture maintains an extensive program of beef cattle research. Studies in genetics, nutrition, meats and physiology continually yield new knowledge that assists in the improvement of efficiency of beef production. Research in selection, crossbreeding schemes, estimation of body composition through ultrasonics, embryo transplants,

parasite control, and estrus synchronization has contributed greatly to the improvement of the Canadian beef herd.

Federal government research in beef cattle is further complemented by research being conducted among seven Canadian universities with faculties of agriculture, provincial departments of agriculture, and the private sector.

## CROSSBREEDING

Controlled crossbreeding as a production technique is now widely practised and the need for selected quality in the parent stock of the pure strains used in crossing is recognized. Before truly superior performance can be achieved by hybridization, it is essential that the parent stock be of select quality. In spite of these requirements, real gains can be achieved by controlled crossing or by repeated use of high-quality bulls on native stock where it is necessary to retain certain native qualities in a cattle population.

Bulls from breeds such as the Canadian Hereford, Aberdeen-Angus, Limousin, Maine Anjou, Charolais and Simmental are now being exported for these purposes. Pure herds of Canadian foundation stock are being established in many countries to provide the quality bulls or females necessary for a successful crossing program. The versatility of Canadian-bred seed stock allows the ani-

mals to readily adapt to many climatic and managerial situations. Their selective use on native stock allows the incorporation of genetic superiority in a large number of traits.



## ANIMAL HEALTH

Canada is free from serious livestock diseases including foot-and-mouth disease and rinderpest. The Animal Disease and Protection Act and Regulations provides controls to ensure that these diseases will never become established in the country. If they should appear, the Act provides for their eradication through immediate slaughter and quarantine procedures. Quarantine stations are located at Mirabel, Quebec and Edmonton, Alberta. There is a maximum security quarantine station on Grosse Ile in the St. Lawrence River that handles cattle from high-risk countries.

Canada's national veterinary service, with approximately 7 000 veterinarians,

attends to the needs of all cattle-farming areas. Agriculture Canada's Food Production and Inspection Branch employs 500 veterinarians full time. The remainder are in private practice and ensure the Canadian farming community of up-to-date services and advice necessary to maintain day-to-day animal health.

Canada became officially free of brucellosis in 1985. Surveillance at livestock markets and abattoirs will continue until at least 1995, as will testing of milk. Canada is one of only six countries to have achieved complete eradication of brucellosis.

Animals are inspected for tuberculosis at routine slaughter, and herds of origin

are traced from animals with lesions. If the disease is found, affected herds are completely depopulated. Canada expects to be free of tuberculosis by the end of 1992.

All testing required by countries importing cattle from Canada is performed by Agriculture Canada's veterinarians or veterinarians accredited by

that department's Food Production and Inspection Branch, with samples and specimens tested at the federal Health of Animals Division laboratory.

This painstaking application of modern veterinary science enables the most discriminating importers to buy from the Canadian herd with complete confidence in the health of their purchases.

## BREED ORGANIZATIONS

The breeder of purebred cattle in Canada performs a distinct function. In contrast to the commercial producer who is primarily interested in the production of cattle for slaughter, the breeder is concerned with the development and improvement of high-performance cattle which meet the demands of the commercial producer.

The breed associations are mainly concerned with the improvement and development of their breeds combined with the administration of issuing pedigrees. The activity of these organizations is controlled by the Animal Pedigree Act, an act approved and administered by the Government of Canada since 1900. It specifies conditions for the formation and operation of breed associations, as well as their powers and responsibilities. Under the Act any misrepresentation of ancestry, misuse of registration certificates, or sale of unregistered animals as purebred is strictly prohibited. A blood group testing laboratory is maintained by Agriculture Canada for parentage testing of cattle. Tests are run on a spot-check basis, on cattle due to be registered, on bulls before semen can be collected, and on other animals to verify their parentage.

The Act is designed to ensure the credibility of Canada's purebred livestock industry.

Many breed associations in Canada have their pedigrees processed and maintain their books of record through a central organization located in Ottawa — the Canadian Livestock Records Corporation. Some breed associations such as the Charolais, Simmental, Limousin, and Hereford conduct registrations and maintain books of record in their head offices. These same associations also have their own performance evaluation programs that assist the breeder in the management and selection of breeding stock within his or her herd and selection of breeding stock from other breeders.

Most breed associations have monthly magazines that provide information on breed improvement programs, sale reports, and superior animals. Provincial, and in many cases regional, breed clubs are organized to assist breeders in the improvement of their herds. All breed associations are equipped to advise buyers and to work with competent livestock exporting firms in handling export orders. Addresses of the Canadian associations are listed on the last page of this booklet.

## BEEF CATTLE REGISTRATIONS

	1984	1985	1986	1987	1988
HEREFORD	51 932	42 975	42 190	44 872	43 161
CHAROLAIS	20 580	19 296	19 046	20 377	23 773
SIMMENTAL	18 515	16 948	16 422	16 420	17 286
ANGUS	15 589	14 588	14 454	16 653	17 657
LIMOUSIN	9 560	9 561	7 094	8 256	9 558
SHORTHORN	3 091	2 636	2 754	2 900	3 080
MAINE-ANJOU	2 193	1 879	1 984	2 305	2 492
SALERS	1 039	1 489	1 921	2 038	2 487
GELBIEH	575	631	698	495	709
BLONDE					
D'AQUITAINE	515	621	910	1 025	1 110
MURRAY GREY	484	572	249	387	354
PINZGAUER	369	343	297	363	402
GALLOWAY	321	265	207	246	257
HAYS					
CONVERTER	285	124	161	253	205
CHIANINA	270	176	251	177	100
TARENDAISE	203	200	209	237	263
HIGHLAND	180	177	189	240	299
RED POLL	160	113	154	135	146
LUING	64	26	37	43	39
SOUTH DEVON	42	45	52	59	64
PIEDMONTESE	25	10	32	52	61
WELSH BLACK	12	35	61	35	
MEUSE-RHINE-YSSEL	1	4	3	1	
BROWN SWISS			191		282
NORMANDE			11		
DEXTER (DUAL)				94	78
BELGIAN BLUE				9	47
OTHERS					35
<b>TOTAL</b>	<b>126 005</b>	<b>112 713</b>	<b>109 577</b>	<b>117 672</b>	<b>123 945</b>

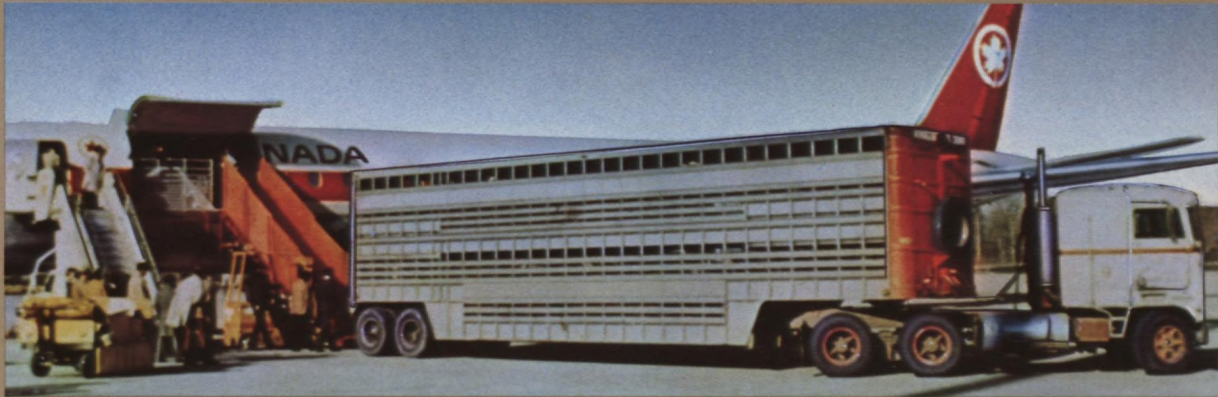
## EXPORT TRADE SERVICES

Canadian government trade representatives are located at all Canadian embassies and high commissions throughout the world. These officers welcome enquiries and are prepared to offer sound advice on trade facilities, recommend contacts with the Canadian industry and make travel arrangements.

The centres of Canada's beef cattle population are serviced regularly by international airlines. Arrangements can be made through trade offices to have competent export representatives meet buyers and visitors and arrange itineraries to suit their needs. Interpreters can be provided when required. With these experienced

guides it is possible to see, within a day, some of the finest beef cattle in the world. If cattle of a specific age or breeding are of interest, it is possible to see a wide selection in all price ranges without excessive travel.

International banking and insurance facilities, animal health inspection services, and livestock transport and documentation services are all immediately available. Canadian exporters are prepared to move cattle to any accessible point in the world. Air transport is often preferred for particularly valuable cattle, but shiploads of high-quality breeding stock also move regularly to international markets.



# ABERDEEN-ANGUS



The first breeding herd of Aberdeen-Angus imported into North America was brought to Canada from its native Scotland in 1876. The progeny of these early Aberdeen-Angus imports soon attracted interest and other shipments followed. Breeders were impressed with their longevity, hardiness, and ability to produce high-quality beef — qualities that have been the prime factors in developing the breed in Canada. The Aberdeen-Angus now ranks second in popularity among Canadian beef animals. All Aberdeen-Angus are hornless, and both black and red animals are registered in the same herdbook.

There are currently more than 2 000 breeders of registered Aberdeen-Angus in Canada, and 1988 registrations were in excess of 17 000. Although the main export market has been the United States, recent shipments to Britain, Argentina and Japan have signified rising interest in the breed.

The Canadian Aberdeen-Angus is particularly noted for its increased size, foraging ability under rugged conditions, and ability to produce a high-quality carcass. These carcasses have been consistent winners at major competitions throughout Canada. Desirable conformation and excellent marbling are two of the major factors involved in this outstanding performance. These qualities, combined with good mothering ability, have made the Aberdeen-Angus popular for crossbreeding. Aberdeen-Angus bulls are in demand for crossbreeding with first-calf dairy heifers to permit breeding at an

earlier age. The Aberdeen-Angus crosses, like their parents, are naturally hornless — a desirable feature.

The birth weight of an Angus calf is low, averaging 35 kg (77 lb) but its growth rate enables it to overcome this situation. In 1989, Canadian Herd Performance Program records show that Aberdeen-Angus males had an average yearling weight of 393 kg (865 lb) and 297 kg (653 lb) for females. In the same year, animals on test had a post yearling average daily gain of 1.05 kg (2.3 lb) for males and 0.67 kg (1.5 lb) for females.

an average daily gain of 1.08 kg (2.38 lb) for males and 0.66 kg (1.45 lb) for females. Exceptional animals at test stations have recorded gains of up to 1.86 kg (4.1 lb) per day.

Some of the characteristics for which the Canadian Aberdeen-Angus is most noted are the following:

- 1) large size and ability to produce under rugged conditions;
- 2) outstanding ability to yield a carcass of superior conformation and exceptional, well-marbled muscle;
- 3) ability to produce a desirable weight carcass at an early age;
- 4) exceptional ease of calving, excellent mothering ability, and above-average milk production;
- 5) natural resistance to sunburn, pink eye, and snow blindness; and
- 6) naturally hornless.



# CHAROLAIS



The Charolais is an ancient breed popularized in France. The first importations to Canada occurred in 1955 with a few animals from the United States. The major importation period commenced in 1965 with pure seed stock from France. From the original triple-purpose meat, draft and milk type, Canada has developed the Charolais into a specialized beef breed displaying growth, high-yielding carcasses and exceptional muscling.

In 1988, Canadian breeders of registered Charolais numbered 2 500, and registrations reached 20 000 animals. Exports have been mainly to the United States and South Korea.

In 1968, the Canadian Charolais Association introduced the "Conception to Consumer" progeny test program. It is designed to evaluate the breeding performance of Charolais sire and to make progeny information available. It stresses economically important traits such as ease of calving, pre-weaning gain, post-weaning gain, and carcass merit. The program has produced an animal that has an unassisted calving rate of 98.4 percent for normally presented calves and improved weaning weights.

In addition the Canadian Charolais Association has developed the Charolais Herd Analysis and Records Management Program (CHARM). CHARM is a computer analysis program designed to simplify record keeping, provide performance information and enable comparison of specific herd performance data with the overall breed averages. CHARM allows collection and analysis of data from birth to yearling along with registration proce-

dures. This operation, along with the Conception to Consumer Program, has enabled the Canadian breeder to more accurately select superior animals and produce breeding stock that the foreign buyer can purchase with confidence.

The resultant strain of Canadian Charolais has contributed to the efficiency in beef production. Offspring resulting from the use of Charolais sires on other Canadian beef-breed females have demonstrated superior growth rates and carcass characteristics. Carcasses have minimal fat covering but dress well because of exceptionally good muscling. Charolais cattle grow well on grass and in feedlots.

Birth weights for calves average 43 kg (95 lb) for males and 40 kg (88 lb) for females. In 1989, the Canadian Herd Performance Program records show that Charolais males had an average yearling weight of 459 kg (1 010 lb) and 367 kg (807 lb) for females. In the same year animals on test had a post yearling daily gain of 1.30 kg (2.9 lb) for males and 0.88 kg (1.9 lb) for females.

The characteristics for which the Canadian Charolais is most noted are the following:

- 1) large size and docile temperament;
- 2) rapid growth with exceptional muscling;
- 3) production of high-yielding carcasses having a minimum of fat cover; and
- 4) ease of calving.

# HEREFORD



Herefords were first imported into Canada in 1860. There was a need to develop a type of beef animal that was hardy, prolific and able to graze wide areas efficiently. From the original imports, only those strains which possessed the necessary vigour and hardiness survived. From this foundation the modern Canadian Hereford has been developed.

There are currently more than 6 000 breeders of registered Herefords in Canada, and annual registrations are about 43 000. Canadian Herefords have been exported to several countries, including the United States, Australia, New Zealand, Japan, Bulgaria, Denmark, U.S.S.R., Chile, Argentina, Uruguay, Brazil and the United Kingdom.

The current overwhelming popularity of the Canadian Hereford is sound testimony to its adaptability and usefulness. In addition to purebred cattle, many large herds of straightbred but unregistered cattle are excellent sources of high-performance and practical female stock. Herefords are widely used in crossbreeding with dairy cows, and excellent semen is readily available.

Of particular interest to Hereford breeders throughout the world has been the development of an outstanding natural hornless strain in Canada. The great size and excellent performance of these animals have placed them among the most sought-after beef cattle in the world. An increasing proportion of both showing and performance test winners in Canada are of the polled strain.

The birth weight of Hereford calves is about 37 kg (81 lb). In 1989, Canadian Herd Performance Program records show that males on test had an average yearling weight of 388 kg (854 lb) and 308 kg (678 lb) for females. In the same year, animals on test had a post yearling average daily gain of 1.08 kg (2.4 lb) for males and 0.73 kg (1.6 lb) for females.

The following are the characteristics for which the Canadian Hereford is most noted:

- 1) natural hardiness and excellent foraging ability over wide areas and rough terrain;
- 2) unusual adaptability to a variety of climatic and forage conditions; and
- 3) ability to reproduce effectively with a minimum of care, attention or calving difficulties.

# LIMOUSIN



The Limousin breed was first imported into Canada in late 1968 with a reputation as an efficient producer of lean red meat on less feed. Raised on the rough terrain of the relatively isolated region of south-central France, these range animals were bred to forage for themselves as the area produced very little in feed grains. Today the Limousin is noted for its ability to deliver a maximum yield of high-quality beef at minimal cost in labour and feed.

In 1988, there were more than 1 800 breeders of registered Limousin and registrations were in excess of 10 000. A herdbook compiled by the Canadian Limousin Association allows breeders to register all calves above 37 percent if they are sired by a registered Limousin bull. New breeders can thus start with their existing cow herds and upgrade them to purebred Limousin cattle at 90 percent. All full French cattle are identified in a separate herdbook and are the result of the mating of two parents that traces directly back to the herdbook in France.

The Canadian Limousin is particularly noted for its foraging ability under rugged conditions and its ability to produce a high-yielding and high-quality car-

cass. These qualities, combined with good mothering ability, have made the Limousin popular for crossbreeding. Limousin cross steers have produced high-quality carcasses that have been winners at major competitions throughout Canada.

The birth weight of Limousin calves is about 38 kg (84 lb) for males and 36 kg (79 lb) for females. In 1989, Canadian Herd Performance Program records show that males on test had an average yearling weight of 421 kg (926 lb) and 323 kg (711 lb) for females. In the same year, animals on test had a post yearling average daily gain of 1.23 kg (2.7 lb) for males and 0.79 kg (1.7 lb) for females.

Characteristics for which Limousin in Canada are most noted are the following:

- 1) ability to produce under rugged conditions;
- 2) ability to produce a high-quality, high-yielding carcass;
- 3) ease of calving, mothering ability and fertility; and
- 4) efficiency in conversion of feed.

# SIMMENTAL



Simmental cattle originated in the Simme Valley of Switzerland centuries ago. As the breed spread throughout Europe it acquired a variety of names such as Pie Rouge, Fleckvieh, Austrian Fleckvieh, and Red and White. Canadian Simmental breeders selected seedstock from several European countries where performance testing has been practised for many years. Sires from this large genetic pool were bred to beef cows in Canada to produce the foundation animals for the Canadian Simmental breed.

Founded in 1968, the Canadian Simmental Association has registered over 300 000 head of cattle. In 1988 there were about 4 000 breeders of registered Simmental cattle in Canada and pedigrees issued annually now exceed 17 000. While exports have primarily been to the United States, recent shipments have been made to South America, including Brazil, Colombia and Mexico.

The Canadian Simmental Association's Simmental Industry's Reproductive Expectation System or SIREs directory is published annually and is based on all performance data in the herdbook. All purebred Simmental bulls are compared on the basis of the progeny performance. This comprehensive summary shows the EPD of each sire in key economic traits (weaning weight, yearling weight, calving ease, etc.). The SIREs book identifies promising young sires and reports com-

pletely on all active sires in the breed.

Through upgrading and selection, Canadian breeders developed a pool of quality polled purebred Simmental which have demonstrated increased weaning weights on the first cross and offer early sexual maturity, ease of calving, fertility and generous milk for the growing calf. Simmental sired calves grow well on grass or feedlots and produce a carcass of lean, tender meat with desirable carcass weight and grade.

Birth weights of Simmental calves average about 44 kg (97 lb) for males and about 41 kg (90 lb) for females. In 1989, Canadian Herd Performance Program records show that males on test had an average yearling weight of 481 kg (1 058 lb) and 365 kg (803 lb) for females. In the same year animals on test had a post yearling average daily gain of 1.32 kg (2.9 lb) for males and 0.84 kg (1.9 lb) for females.

Following are the characteristics for which the Simmental in Canada is most noted:

- 1) large size and docile nature;
- 2) heavy muscle structure;
- 3) high growth rate and high milk production; and
- 4) easy adaptability to wide variations in environmental conditions.



## BEEF BREED ASSOCIATIONS IN CANADA

### **Canadian Angus Association**

P.O. Box 3209  
Regina, Saskatchewan  
S4P 3H1

### **Canadian Blonde d'Aquitaine Association**

207-1606 Centre Street N.  
Calgary, Alberta  
T2E 2R9

### **Canadian Brown Swiss Association**

343 Waterloo Avenue  
Guelph, Ontario  
N1H 3K1

### **Canadian Charolais Association**

Charolais Bldg.  
2320-41st Avenue N.E.  
Calgary, Alberta  
T2E 6W8

### **Canadian Chianina Association**

Doole Road, R.R. 3  
Ladysmith, B.C.  
V0R 2E0

### **Canadian Galloway Association**

R.R. 1  
Manilla, Ontario  
K0M 2J0

### **Canadian Gelbvieh Association**

165 George Craig Blvd., N.E.  
P.O. Box 536  
Calgary International Airport  
Calgary, Alberta  
T2E 7H3

### **Canadian Hays Converter Association**

310, 4723-1 Street S.W.  
Calgary, Alberta  
T2G 4Y8

### **Canadian Hereford Association**

5160 Skyline Way N.E.  
Calgary, Alberta  
T2E 6V1

### **Canadian Highland Cattle Society**

Keijoasan Fold, R.R. 2  
Tweed, Ontario  
K0K 3J0

### **Canadian Limousin Association**

5663 Burleigh Crescent, S.E.  
Calgary, Alberta  
T2W 1Z7

### **Canadian Lincoln Red Association**

56 Courtfield Crescent  
Islington, Ontario  
M9A 4S9

### **Canadian Luing Cattle Association**

Kathryn, Alberta  
T0M 1E0

### **Canadian Maine-Anjou Association**

110-3016 19th Street N.E.  
Calgary, Alberta  
T02 6X9

### **Canadian Murray Grey Association**

P.O. Box 605  
Red Deer, Alberta  
T4N 5G6

### **Canadian Piedmontese Association**

P.O. Box 11  
Admiral, Saskatchewan  
S0N 0B0

### **Canadian Pinzgauer Association**

251 Stockman's Centre  
2116-27th Avenue N.E.  
Calgary, Alberta  
T2E 7A6

### **Canadian Red Poll Cattle Association**

P.O. Box 149  
Millet, Alberta  
T0C 1Z0

### **Romagnola-Marchigiana (Romark) Association**

P.O. Box 177  
Jarvie, Alberta  
T0G 1H0

### **Salers Association of Canada**

246, 2116-27th Avenue, N.E.  
Calgary, Alberta  
T2E 7A6

### **Canadian Shorthorn Association**

Gummer Bldg.  
5 Douglas Street  
Guelph, Ontario  
N1H 2S8

### **Canadian Simmental Association**

13, 4101-19th Street N.E.  
Calgary, Alberta  
T2E 7C4

### **Canadian South Devon Association**


P.O. Box 667  
Olds, Alberta  
T0M 1P0

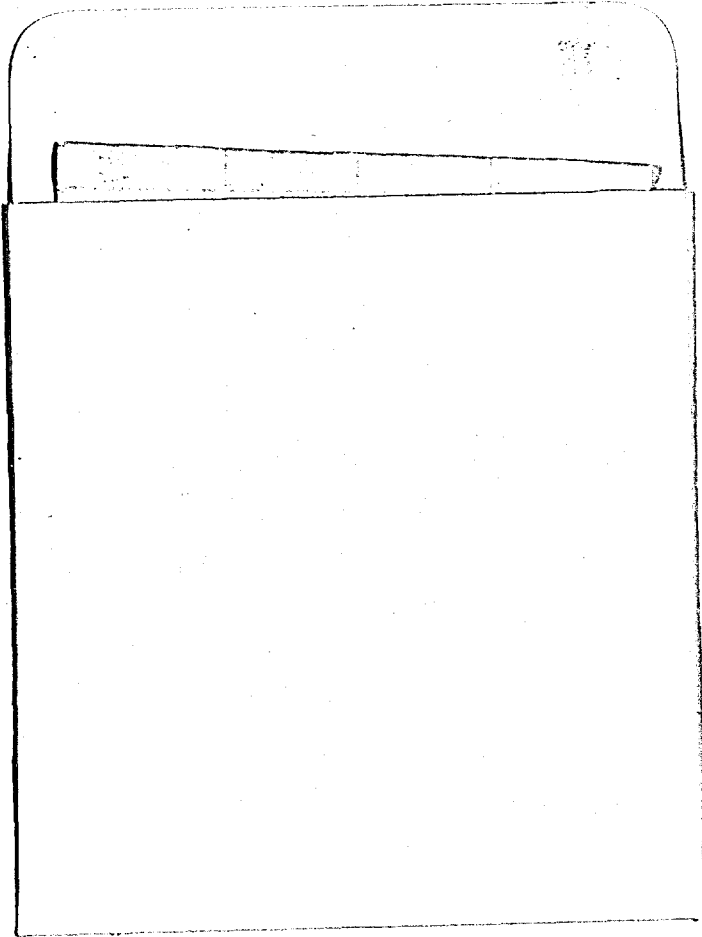
### **Canadian Tarentaise Association**

P.O. Box 73  
Walsh, Alberta  
T0J 3L0

### **Canadian Welsh Black Cattle Society**

Suite 5, P.O. Box 6  
Hanna, Alberta  
T0J 1P0

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