U.S. Registered Holsteins
FOR MAXIMUM PROFIT
Holstein Association USA, Inc.

GETTING THE MOST FOR YOUR INVESTMENT

How To Read An Official Holstein Pedigree

Holstein Association USA, Inc.
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A trusted source for accurate genetic information

Official Holstein Pedigrees combine ancestry, performance and genetic information all into one easy-to-use document. Whether you are making mating decisions or trying to decide which sale animal might have a place on your operation, Official Holstein Pedigrees give you the information and details you need on the animals you are working with.

Official Holstein Pedigrees also serve as a verified source of production and ancestry information when you are selling animals, allowing you to provide trusted documentation to potential buyers; the first step to satisfied, repeat customers!

Read with ease, evaluate with confidence

Official Holstein Pedigrees contain a wealth of important information on a single page. While each animal is different, their information is all presented in the same format, making it easy to evaluate and compare animals.

Official Holstein Pedigrees provide multi-generation details and performance information on Registered Holsteins of all ages.

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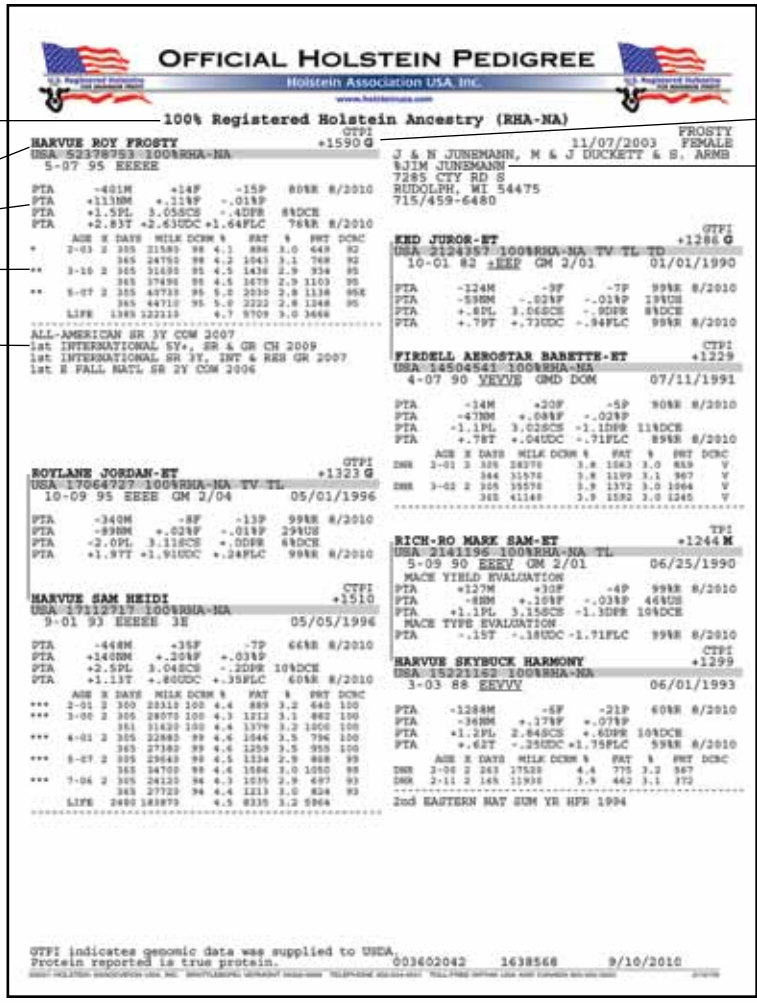

Information included on an Official Holstein Pedigree:

1. 100% Registered Holstein Ancestry (RHA-NA)

The first line, centered on a pedigree, shows the **percentage Registered Holstein Ancestry (RHA)** and whether the animal is of a North American (RHA-NA) blood-line or International (RHA-I).

2.

HARVUE ROY FROSTY
USA 52378753 100%RHA-NA
5-07 95 EEEEE

The first information block on the left side of a pedigree provides you the animal's complete **identification and classification information**. You will see the animal's name, country of origin of the identification, registration number, %RHA information and any genetic codes.

Genetic Codes

BD	Bulldog[1]
BL	Bovine Leukocyte Adhesion Deficiency (BLAD)[1]
TL	Tested free of BLAD
BY	Brachyspina
TY	Tested free of Brachyspina
CV	Complex Vertebral Malformation (CVM)[1]
TV	Tested Free of CVM
DF	Dwarfism[1]
DP	Deficiency of Uridine Monophosphate Synthase (DUMPS)[1]
TD	Tested free of DUMPS
HL	Hairless[1]
IS	Imperfect Skin[1]
MF	Mule-Foot[1]
TM	Tested free of Mule-Foot
PO	Polled[2]
PG	Prolonged Gestation[1]
PT	Pink Tooth (Porphyria)[1]
RC	Carrier of red hair[1]
B/R	Black/Red[1]
TR	Tested free of red hair color

[1]Recessive gene carrier [2]Dominant gene carrier

Classification information is found under the animal's registration number. It includes the age of the animal at classification, final score and major classification categories. The current classification breakdowns were introduced in December 2004. The five categories are Front End/Capacity, Dairy Strength, Rump, Feet & Legs, and Udder. Cows with classification scores that were received prior to December 2004 are underlined, and represent the following categories: Frame, Dairy Character, Body Capacity, Feet & Legs, and Udder. If an animal has been classified Excellent more than once, a multiple E designation may appear on this line after major category designations. Recognition as a Gold Medal Sire, Gold Medal Dam (GMD) or Dam of Merit (DOM) will be found on this line as well.

3.
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    GTPI
+1590 G
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TPI℠ (Total Performance Index) values appear on the same line as the name. TPI is a selection index based on a balance of traits to assist Holstein breeders by sorting out animals that possess genes which will enhance the overall quality of the Holstein breed. The following traits are combined in the TPI formula: PTA Protein, PTA Fat, PTA Type, STA Dairy Form, Udder Composite, Feet & Leg Composite, PTA Productive Life, STA Somatic Cell Score, PTA Daughter Pregnancy Rate, PTA Daughter Calving Ease, and PTA Daughter Stillbirth. There are different types of TPIs you will find on pedigrees: PTPI (Pedigree TPI) for young animals and older animals that do not have PTAs; CTPI (Cow TPI); and GTPI (Genomic TPI) for animals that have been genomically tested.

The TPI value is preceded by a percentile ranking of P5 through P9 for the top 50% of animals born within a given year of birth. For example, P9 animals are in the 90th percentile for the birth year, P8s are in the 80th percentile, etc.

4.
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                                    FROSTY
                          11/07/2003  FEMALE
J & N JUNEMANN, M & J DUCKETT & S. ARMB
%JIM JUNEMANN
7285 CTY RD S
RUDOLPH, WI 54475
715/459-6480
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The information block in the upper right corner reflects **ownership information and the birth date of the animal**. This block also designates whether the animal is male or female and the animal's barn ID or short name for AI bulls.

5.

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PTA      -401M      +14F      -15P    80%R  8/2010
PTA     +113NM    +.11%F    -.01%P
PTA     +1.5PL  3.05SCS    -.4DPR   8%DCE
PTA     +2.83T +2.63UDC +1.64FLC    76%R  8/2010
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Predicted Transmitting Ability (PTA) information follows the animal's identification and classification information. PTAs express the level of genetic superiority or inferiority an animal is expected to transmit to its offspring for a given production or type trait. These values are used to rank animals based on their genetic merit.

Line one indicates the Predicted Transmitting Ability for Milk (M), Fat (F), Protein (P), and Reliability (R) for production information. The date of the PTA for production calculation is also shown on this line. For young animals, the PTA values are estimated by averaging the parents' PTAs. This is denoted with #.

Line two indicates the PTA for Net Merit (NM) and the PTA% for Fat and Protein. For males this line will also include the percent of U.S. daughters in the evaluation.

Line three shows PTAs for Productive Life (PL), Somatic Cell Score (SCS), Daughter Pregnancy Rate (DPR), and Daughter Calving Ease (DCE).

Line four provides the animal's Predicted Transmitting Ability for Type (T), Udder Composite (UDC) and Feet and Legs Composite (FLC). The Reliability (R) for Type and the date of PTAT calculations are also shown on this line.

International genetic evaluations for type and production are labeled by printing MACE YIELD EVALUATION and/or MACE TYPE EVALUATION on the line above the PTA data. The TPI value will be followed by an M. If a conversion formula is used to convert a foreign type evaluation to a U.S. base then CONVERTED TYPE EVALUATION will be printed above the PTA data. These evaluations are based on either conversion formulas or Multiple Across Country Evaluations (MACE). Whenever the PTPI of an offspring of a bull with a MACE or converted proof is calculated a C or an M will appear after the PTPI value until U.S. information is available.

6.

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        AGE  X DAYS   MILK DCRM %    FAT   %    PRT  DCRC
***    2-01  2  300  20310 100  4.4   889  3.2   640  100
***    3-00  2  305  28070 100  4.3  1212  3.1   882  100
                351  31620 100  4.4  1379  3.2  1000  100
***    4-01  2  305  22880  99  4.6  1046  3.5   796  100
                365  27380  99  4.6  1259  3.5   955  100
***    5-07  2  305  29640  99  4.5  1334  2.9   868   99
                365  34700  99  4.6  1586  3.0  1050   99
***    7-06  2  305  24120  94  4.3  1035  2.9   697   93
                365  27720  94  4.4  1213  3.0   824   93
       LIFE    2480 183870      4.5  8335  3.2  5964
```

For females, **production records** follow the genetic information. Each main line indicates the type of testing program (for production records starting prior to 1/1/1997) or TriStar Option (for production records starting after 1/1/1997); age at calving; number of times milked per day; length of record in days; pounds of milk; DCRM (Data Collection Rating for milk); fat percent; pounds of fat; protein percent; pounds of protein; and DCRC (Data Collection Rating for components) during that lactation up to 305 days. An "X" at the end of the line indicates that the record contains some extreme test-day data. A second line of data is only included if the cow's lactation is longer than 305 days (up to 365 days) for that lactation.

State and national leader records for Milk, Fat and Protein production are labeled on the line below the outstanding record. This recognition is based on DHIR and TriStar Premier records.

Once a cow produces more than 100,000 pounds of milk in her lifetime, total production information (LIFE) appears on the pedigree.

Type of Testing Program Labels

Type of Test (for records prior to 1/1/1997)	Dairy Herd Improvement Registry	Dairy Herd Improvement Association
Alternating AM/PM with a time monitor	APT	APM
Alternating AM/PM component sampling	APS	APC
Alternating AM/PM without a time monitor	APR	APD
Weights and component samples at monthly test milkings	DHR	DHI

TriStar Labels (for production records starting after 1/1/1997)	
Premier	***
Deluxe	**
Custom	*

7.
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ALL-AMERICAN SR 3Y COW 2007
1st INTERNATIONAL 5Y+, SR & GR CH 2009
1st INTERNATIONAL SR 3Y, INT & RES GR 2007
1st E FALL NATL SR 2Y COW 2006
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Show records for females are found under the production records if there is room. 1st, 2nd, and 3rd place class winners of the National Holstein Shows are currently added to the database. All-American, Reserve All-American, and Honorable Mention All-American winners are also included in the database.