

## Brown Swiss Breed News...

### Newly Identified Fertility Factor in Brown Swiss

One of the major areas of concentrated effort in the Brown Swiss breed worldwide is to improve fertility. Thanks to the continuing research with genomics, a possible factor that has been contributing to lower fertility in Brown Swiss has been identified. This Haplotype, or single copy of a DNA region, is relatively common in the Brown Swiss population. What interested researchers at AIPL is that no animals could be identified that had two copies of this Haplotype. The name given by the industry to this newly identified fertility factor is Brown Swiss Haplotype 1, or BH1.

Working with this discovery and utilizing the extensive data set provided by DHIA records, AIPL scientist have determined that there is a high probability BH1 impacts either conception or early embryonic development in Brown Swiss cattle. What is exciting about this is that some of the impact of this Haplotype is already contained in Brown Swiss Daughter Pregnancy Rate (DPR), Sire Conception Rate (SCR), Cow Conception Rate (CCR) and Heifer Conception Rate (HCR) data.

It must be stressed that BH1 is not a magic bullet that solves all fertility issues. A couple of the most prominent sires that are noted for fertility concerns do not have BH1 in their genotype. On the other hand, a number of sires that are regarded as improvers of fertility do have BH1 in their genotype. This means that there are more factors that influence fertility than BH1. However, by including consideration for BH1, breeders should shorten calving intervals for Brown Swiss females. The simple way to accomplish this is to avoid using sires that have BH1 on daughters of bulls that also have been labeled with BH1.

At this time, BSCBA plans to have the complete list of US Brown Swiss animals who have BH1 in their genotype as identified with the 50k CHIP published by August 17. A list of AI bulls with NAAB codes known to possess BH1 will be published on August 9.

#### Brown Swiss A.I. Sires Identified as BH1 Haplotype Carriers

(\*Tested using 50K chip)

BSUSA000000163153 1972 I 021BS00415 WEST LAWN STRETCH IMPROVER (M)  
BSUSA000000176943 1980 I 029BS03687 JOHANN MR MAGIC ET  
BSUSA000000179888 1982 I 029BS03700 JUST SO LUCRATIVE ET  
BSUSA000000181329 1984 A 076BS09016 VICTORY ACRES JUBILAT EMORY\*TM  
BSUSA000000183095 1986 I 021BS00449 LONE OAK IMA DAZZLER ET  
BSUSA000000183189 1986 I 029BS03712 JOHANN LUCIFER ET (M)  
BSUSA000000184298 1987 I 014BS00215 SNOWBIRDS COMBUSTION ET  
BSUSA000000184560 1988 I 151BS00015 SNOWBIRDS SIMONIZE  
BSUSA000000186040 1989 A 076BS00900 VICTORY ACRES SIMON EVEN ET\*TM  
BSUSA000000186951 1990 I 029BS03721 ROUND HILL CONDUCTOR EXIDE ET  
BSUSA000000187103 1990 I 001BS00480 LONE OAK IMA DOLLSON ET  
BSUSA000000187361 1990 I 054BS00256 LYNDAL EMORY EMERALD ET  
BSUSA000000187451 1990 I 009BS00071 R BAY EMORYS EARNEST T  
BSUSA000000187362 1991 I 029BS03724 LYNDAL EMORY LEGACY ET  
BSUSA000000187668 1991 I 001BS00493 BETTA VUE EMORY PRELUDE ET  
BSUSA000000188212 1991 I 151BS00073 AMBER RAE EMORYS DUKE  
BSUSA000000188359 1991 I 011BS00571 TWIN GATE MAYFLOWERS ABNER ET  
BSUSA000000188006 1991 I 029BS03726 GLENMOOR BRIETTA BRANDON  
BSCAN000000033547 1992 I 073BS00011 TWIN GATE ANDY ET  
BSUSA000000189890 1992 I 151BS00085 TOP ACRES PEERLESS ET  
BSUSA000000190077 1993 I 054BS00266 TOP ACRES PACER  
BSUSA000000190143 1993 I 151BS00088 FOREST LAWN EMORY JARL ET \*TM  
BSUSA000000191518 1995 I 029BS03744 CROWS NEST PROGRESSION ET (M)  
BSUSA000000191611 1995 I 029BS03745 TOP ACRES JET PILOT ET (M\*)  
BSITAPN0000105557 1995 I 212BS00017 CAOD EMORY OSSIDO

BSITARE0000108716 1995 I 206BS00008 AYTOLA TIT REGGIANO (M) (D)  
BSUSA000000191383 1996 I 054BS00293 R HART CHRISTIANS CHAMP TWIN  
BSUSA000000191472 1996 I 011BS00596 SUN-MADE GAR BRO VORTEX  
BSUSA000000191480 1996 I 054BS00294 TOP ACRES EVEN BALANCE ET  
BSUSA000000191798 1996 I 011BS00601 ROUND HILL CAPTAIN DART ET  
BSUSA000000191912 1996 I 054BS00302 R HART EC ENTICE ET \*TM  
BSUSA000000191928 1996 A 054BS00311 QUINCY EVEN SPECIAL ET \*TW \*TM  
BSUSA000000191929 1996 I 151BS00124 LONG ACRES EMORY AARON  
BSUSA000000192191 1996 I 029BS03752 TOP ACRES PONZI ET  
BSUSA000000195832 1996 I 196BS05320 BLESSING EMORY EROS ET  
BSUSA000000192016 1997 I 009BS00081 ROUND HILL PRES DISCOVER ET  
BSUSA000000192190 1997 I 151BS00133 TOP ACRES PATRICIO ET  
BSUSA000000192278 1997 I 014BS00277 R HART EC EAGLE ET \*TM  
BSUSA000000192321 1997 I 001BS00530 LIME ROCK WONDER GEM  
BSUSA000000192391 1997 I 151BS00141 ELM PARK ANDRE ET  
BSUSA000000192542 1997 I 001BS00531 SULTANA EARNEST SAMSON ET  
BSUSA000000192631 1997 I 001BS00140 R HART CONNIES PRECISE ET (M)  
BSUSA000000192915 1998 I 001BS00537 KRUSES LJ PRELUDE SIZZLER  
BSUSA000000193223 1998 I 029BS03759 TOP ACRES EVEN BETTER ET  
BSUSA000000193300 1998 I 054BS00324 HENDRESS PRELUDE MERCURY  
BSUSA000000193323 1998 I 054BS00326 R HART CHRISTIANS CURRENCY  
BSUSA000000193366 1998 I 029BS03761 BLESSING EMERALD ABSOLUTE ET  
BSUSA000000193489 1998 I 054BS00329 ARTHURST GARBRO DIABLO ET \*TM  
BSITASO0000129800 1998 I 212BS00077 SUPERBROWN EVE VIN ROMBO  
BSUSA000000193558 1999 I 054BS00331 ROLLING VIEW DALLAS ET  
BSUSA000000193700 1999 I 054BS00344 FRONT LINE BARNET ET \*TW  
BSUSA000000193755 1999 I 054BS00340 R HART CHILLERS FROST ET  
BSUSA000000193756 1999 I 009BS00086 R HART CHILLERS FREEZE ET  
BSUSA000000194070 1999 I 151BS00180 FRONT LINE BULLOVA ET  
BSUSA000000194123 1999 I 007BS00756 CROWS NEST JVIN PEANUT ET  
BSUSA000000194311 2000 I 014BS00294 FRONT LINE CHIME BLAKE ET  
BSUSA000000194693 2000 I 001BS00543 LOST ELM KILOWATT ET  
BSUSA000000195618 2001 A 054BS00374 SUN-MADE VIGOR ET \*TM  
BSUSA000000195755 2001 I 011BS00635 TOP ACRES BONFIRE ET \*TM  
BSCHE120015144895 2001 I 007BS00777 R.B. Poldi FERRARI \*TM  
BSUSA000000196304 2001 A 138BS03032 SCF JET VICTOR TWIN \*TM  
BSITA020500104449 2001 P 206BS00021 POLAR EVEN EMO PRODIGO ET \*TM  
BSUSA000000196109 2002 I 001BS00552 SUN-MADE VANISH ET  
BSUSA000000196292 2002 I 054BS00384 KULP GEN EAGLE DALE  
BSUSA000000196418 2002 I 014BS00310 TRIANGLE ACRES EA PARAGON  
BSUSA000000196419 2002 I 054BS00386 TRIANGLE ACRES POUNCE ET  
BSUSA000000196445 2002 I 054BS00387 HILLTOP ACRES SPEC DELUXE  
BSUSA000000196470 2002 I 054BS00388 TRIANGLE ACRES POET PACKAGE  
BSUSA000000196634 2002 I 200BS00105 LOST ELM KLASSIC ET  
BSUSA000000196911 2003 I 007BS00781 FAIR HILL DAL EASTON ET \*TM  
BSUSA000000197112 2003 I 054BS00397 KULP GEN JOLT DRAKAR ET  
BSUSA000000197128 2003 I 007BS00782 HILLTOP ACRES E GENERAL \*TM  
BSUSA000000197134 2003 I 054BS00399 HILLTOP ACRES SPL DELIVERY  
BSUSA000000197305 2003 A 014BS00320 KULP GEN PRONTO DALLY ET \*TM  
BSUSA000000197555 2004 A 014BS00323 R N R BRINKS JAD ET \*TM  
BSUSA000000197610 2004 A 054BS00406 KULP GEN DYNASTY DRAGON  
BSUSA000000197691 2004 I 014BS00324 ARTHURST ABSOLUTE DESTIN \*TM  
BSUSA000000197788 2004 I 054BS00412 TRIANGLE ACRES PJ POTENT ET  
BSUSA000000198015 2004 P 200BS00406 HILLTOP ACRES GOLDMINE  
BSUSA000000198138 2005 I 054BS00420 HILLTOP ACRES D DOCTOR  
BSUSA000000198162 2005 I 007BS00804 NEW VIEW D ATTITUDE ET \*TM  
BSUSA000000198305 2005 P 001BS00564 LOST ELM CRUSADER ET \*TM  
BSUSA000000198628 2005 P 054BS00432 NORTH STAR DOLLAR \*TM  
BSUSA000000198913 2006 P 054BS00446 SUN-MADE KB PAYLOAD ET \*TM  
BSUSA000000198993 2006 P 138BS04443 CUTTING EDGE SECRET ET \*TM

BSUSA000000199034 2006 P 007BS00815 SUN-MADE GB PERIMITER ET \*TM  
BSCAN000104235621 2006 P 200BS00410 TRIANGLE ACRES POET ET  
BSUSA000000199430 2007 P 001BS00573 SUN-MADE KB PILLAR ET \*TM  
BSUSA000000199436 2007 P 001BS00577 HOLYLAND SCIPIO E SELLER \*TM  
BSUSA000068101680 2007 P 014BS00345 MONUMENT AGENDA POPSTAR \*TM  
BSUSA000068102142 2007 P 054BS00455 OLD MILL E COOL SNICKERS ET\*TM  
BSUSA000470210343 2007 P 054BS00452 HILLTOP ACRES SUPERMAN TWIN\*TM  
BSUSA000068100323 2008 P 054BS00458 FOREST LAWN ZEUS DIAMOND ET\*TM  
BSCAN000007855696 2008 P 200BS00301 GUBELMAN VIGOR DASHER ET  
BSUSA000068104096 2008 G 151BS00222 BAIL-MIK SDF ATTABOY ET  
BSUSA000068105030 2008 G 203BS01124 NORTH LANES VIGOR PARSON ET\*TM  
BSUSA000068106834 2008 G 054BS00462 CUTTING EDGE W AUSTIN ET \*TM  
BSUSA000068113037 2008 G 203BS01137 HARTS THUNDER \*TM  
BSUSA000068111500 2009 P 200BS00113 OLSONS MACYS VIGOR MAC  
BSUSA000068114761 2009 P 054BS00481 NORTH CREEK V CARMELLO \*TM  
BSUSA000068115385 2009 G 014BS00350 TRASKVIEW VIGOR GOLDEN BOY \*TM  
BSUSA000068117098 2009 G 054BS00478 TRIANGLE ACRES VIGOR PURSUE\*TM  
BSITA014990056196 2009 P 714BS00002 RIVA AURU WILSON \*T  
BSITA016990293348 2009 P 714BS00003 LOCA VEGAS VIGOR