!flybase/wild\_stocks/wild\_stocks.doc 7 Sep 1996 [ma]. !Previous update 21 Dec 2001 [ma]. Last update 9 Jul 2004 [ma]. Wild stocks and chromosomes. flybase/wild\_stocks/wild\_stocks.txt is a text file of data on stocks and chromosomes of D. melanogaster. The majority of these are "wild-type" stocks, but this file also incudes information about "inbred" mutant strains used for genomic studies. The core of this file is the information on wild type stocks from Lindsley and Grell (1968) (itself derived from Bridges and Brehme, 1942), supplemented with more recent data. The file not only includes information on stocks, but also on certain chromosomes, extracted from natural or laboratory populations, whose genetic properties have been studied - in particular chromosomes found to induce male recombination or other dysgenic phenomena.

Updates to [ma11@gen.cam.ac.uk](mailto:ma11@gen.cam.ac.uk)

a y[1]; cn bw sp [iso-1]

p An "isogenic" strain used for large scale analysis and sequencing of the D. melanogaster genome by the BDGP (P1 and BAC clones), the EDGP (BAC clones) and Celera Genomics (whole-genome shotgun). The strain was isogenised using balancer chromosomes in Jim Kennison's laboratory (FBrf0072686). Used for Tamkun's and Smoller's P1 clone libraries as well as for the BDGP and EDGP BAC clone libraries.

E FBrf0155828 == Kaminker et al., 2002, GenomeBiol. 3(12) RESEARCH0084.11--0084.20

s Carries at least one potentially active hobo and I-element; no P-elements.

x FBrf0126983 == Adams et al., 2000, Science 287(5461) 2185--2195

x FBrf0111326 == Ashburner et al., 1999, Genetics 153(1) 179--219

x FBrf0127005 == Benos et al., 2000, Science 287(5461) 2220--2222

x FBrf0135823 == Benos et al., 2001, Genome Res. 11(5) 710--730

x FBrf0072686 == Brizuela et al., 1994, Genetics 137(3) 803--813

x FBrf0127123 == Hoskins et al., 2000, Science 287(5461) 2271--2274

x FBrf0053438 == Smoller et al., 1991, Chromosoma 100 487--494

x FBrf0155828 == Kaminker et al., 2002, GenomeBiol. 3(12) RESEARCH0084.11--0084.20

a CSisoX

o Derived from the Canton-S stock in G. Rubin's lab. Isogenised using balancers.

p Used by Hoskins for SNP mapping.

x R. Hoskins, Personal communication to FlyBase, 3 May 2001

x FBrf0136956 == Hoskins et al., 2001, Genome Res. 11(6) 1100--1113

a CSiso2

o Derived from the Canton-S stock in G. Rubin's lab. Isogenised using balancers.

p Used by Hoskins for SNP mapping.

x R. Hoskins, Personal communication to FlyBase, 3 May 2001

x FBrf0136956 == Hoskins et al., 2001, Genome Res. 11(6) 1100--1113

a CSiso3

o Derived from the Canton-S stock in G. Rubin's lab. Isogenised using balancers.

p Used by Hoskins for SNP mapping.

x R. Hoskins, Personal communication to FlyBase, 3 May 2001

x FBrf0136956 == Hoskins et al., 2001, Genome Res. 11(6) 1100--1113

a ORisoX

o Derived from the Oregon-R stock in G. Rubin's lab. Isogenised using balancers.

p Used by Hoskins for SNP mapping.

x R. Hoskins, Personal communication to FlyBase, 3 May 2001

x FBrf0136956 == Hoskins et al., 2001, Genome Res. 11(6) 1100--1113

a ORiso2

o Derived from the Oregon-R stock in G. Rubin's lab. Isogenised using balancers.

p Used by Hoskins for SNP mapping.

x R. Hoskins, Personal communication to FlyBase, 3 May 2001

x FBrf0136956 == Hoskins et al., 2001, Genome Res. 11(6) 1100--1113

a ORiso3

o Derived from the Oregon-R stock in G. Rubin's lab. Isogenised using balancers.

p Used by Hoskins for SNP mapping.

x R. Hoskins, Personal communication to FlyBase, 3 May 2001

x FBrf0136956 == Hoskins et al., 2001, Genome Res. 11(6) 1100--1113

a Austin

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Started at the University of Texas.

d Before 1929.

p Viability and fertility good.

a Berlin

C Wild-type stock.

o From the Zoologisches Institut, Gottingen; taken to Berkeley by H.J. Becker.

x FBrf0012476 == Becker, 1959, Chromosoma 10 654--678

x Umea Stock List

a Berlin-K

i Berlin K

C Wild-type stock.

o Used extensively at Leiden University Medical Center (Jan Eeken and colleagues).

x FBrf0073021 == Eeken et al., 1994, Mutat. Res. 307(1) 201--212

x FBrf0054740 == Kramers et al., 1991, Mutat. Res. 252 17--33

x FBrf0043301 == Eeken et al., 1985, Mutat. Res. 150 261--275

x Bloomington Stock List

E FBrf0043301 == Eeken et al., 1985, Mutat. Res. 150 261--275

s An M strain in PM system.

a Birmingham

C Laboratory stock.

x FBrf0037625 == Bingham et al., 1982, Cell 29(3) 995--1004

x FBrf0043484 == Simmons and Bucholz, 1985, Proc. natn. Acad. Sci. USA. 82 8119--8123

x FBrf0046391 == Simmons et al., 1987, Genetics 117 671--685

x FBrf0080716 == Engels, 1995.6.27, personal communication

E FBrf0080716 == Engels, 1995.6.27, personal communication

This is not really a wildtype strain since it has In(1)sc[S1L]sc[8R] (= Muller 5).

o The origin of the P elements in this line is not known, and other In(1)sc[S1L]>sc[8R] lines have no P elements. However, a good guess is that it was contaminated while in Mather's laboratory in Birmingham, England.

s Has many P elements, but no autonomous ones.

s P element sites include

s X 1C, 1D, 1F, 2D, 3B, 3E, 5D, 6D, 7B, 7D, 9E, 12F, 13C, 13E, 16A, 18C,

s 18D, 18F, 19A, 19C

s 2L 21B, 23B, 25E, 28C, 28D, 30C, 38C, 39C

s 2R 41B, 44B, 47A2-5, 47A13-16, 47C, 48F, 52D, 55B, 55C, 56E, 57A, 60BC

s 3L 61E, 62A, 62D, 64DE, 67C, 69A, 73F, 75F, 76C, 78D

s 3R 84E, 86E, 87E, 88B, 89A, 89C, 90E, 91A, 97A, 97EF, 100D

s 4 No sites

s Heterochromatin No sites

a Canton-S

e Canton-Special

i Canton S

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

x FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

o Selected from wild flies.

R Canton, OH, USA

w C.B. Bridges

p Contains a recessive for multiple thoracic and scutellar bristles, which overlaps wild type in most flies but appears sporadically in strains partly

p derived from Canton-S.

c Polytene chromosomes normal (Bridges)

E FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

s Southern blot and polytene in situ hybridization analyses indicate a complete absence of @P-element@ and @hobo@ elements.

a Florida-iso39

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

o Probably derived from the original Florida stock of T.H. Morgan; made

isogenic by Child up to 1936 and again by Ives in 1939.

a Florida-40

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

i Derived from wild flies collected on citrus fruits.

R Florida, USA

w H.H. Plough

d March 3 1940

a MR-h12

C Extracted wild-type chromosome.

e Haifa-12

x FBrf0041239 == Eeken and Sobels, 1984, J. Cell. Biochem. B 8 152

x FBrf0037079 == Gerasimova, 1981, Molec. gen. Genet. 184(3) 544--547

x FBrf0030682 == Green, 1977, Proc. natn. Acad. Sci. USA. 74(8) 3490--3493

x FBrf0048701 == Monastirioti et al., 1988, Molec. gen. Genet. 215 94--99

o Derived from wild flies.; Single chromosome 2 derived with balancers from an iso-female strain.

w M.M. Green

R Mt. Carmel, Haifa, Israel

E FBrf0041239 == Eeken and Sobels, 1984, J. Cell. Biochem. B 8 152

s Carries two complete @P-element@ inserts, one on X chromosome, one on chromosome 2.

d 1976

a Harwich

C Wild-type stock.

x FBrf0028755 == Kidwell and Kidwell, 1976, Genetics 84 333--351

x FBrf0033154 == Kidwell and Novy, 1979, Genetics 92 1127--1140

o Derived from wild flies.; from two females.

R Harwich, MA, USA

d 1967

p The classic P-strain.

w M.L. Tracey

x FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

E FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

s Southern blot analyses reveal the presence of a series of full length and internally deleted @hobo@ elements

a Huntsville

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

R Texas, USA

d 1935

o Derived from wild flies.

c Polytene chromosomes normal

a Lausanne-S

e Lausanne-Special

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Derived from wild flies.

d 1938

w C.B. Bridges

R Lausanne, WI, USA

p Has short posterior scutellar bristles.

c Polytene chromosomes normal (Bridges)

a Oregon-R

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Derived from wild flies.

d 1925 or earlier

w D.E. Lancefield

R Roseburg, OR, USA

p Stock contains a slight @e@ allele, a branching of the posterior crossvein

p (in chromosome 2), and an occasional scooped wing.

c Homozygous for @Df(2R)Ore-R@.

a Oregon-R-C

C Selected wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Selected from Oregon-R.

d 1938

w C.B. Bridges

p Body color not so dark as that of Oregon-R.

c Homozygous for @Df(2R)Ore-R@.

a Oregon-R-G

C Selected wild-type stock.

o Gelbart laboratory version of Oregon-R.

x FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

E FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

s Southern blot analysis reveals the presence of numerous full length @hobo@ elements and internally deleted elements of two size classes (1.5 and 1.6 kb).

s Does not contain @P-element@.

a Oregon-R-S

C Selected wild-type stock.

o J. Sparrow laboratory version of Oregon-R.

x FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

E FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

s Southern blot analysis reveals the presence of numerous full length @hobo@ elements and internally deleted elements of 1.9 kb size class. Homozygous for an insertion of a 1.9 kb hobo element within the disk region of @dpp@. This insertion is does not produce a @dpp@ mutant phenotype.

s Does not contain @P-element@.

a &pgr;2

C Selected wild-type stock.

x FBrf0080716 == Engels, 1995.6.27, personal communication

x FBrf0033167 == Engels and Preston, 1979, Genetics 92 161--174

x FBrf0035947 == Engels and Preston, 1981, Cell 26(3 Part 1) 421--428

x FBrf0040973 == Engels and Preston, 1984, Genetics 107 657--678

x FBrf0056156 == O'Hare et al., 1992, Genet. Res. 60 33--41

x FBrf0038996 == O'Hare and Rubin, 1983, Cell 34 25--35

x FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

E FBrf0080716 == Engels, 1995.6.27, personal communication

d 1976

R Madison, WI, USA

o Taken from a wild population and inbred by pair matings for many generations.

u It was selected from several such inbred lines for the high level of GD sterility it caused.

s P element sites on the X include 2F, 5E, 11A, 17C (FBrf0035947, FBrf0040973, FBrf0056156)

s Contains a mixture of autonomous and nonautonomous P elements (FBrf0041720, FBrf0038996)

E FBrf0045767 == Blackman et al., 1987, Cell 49 497--505

s Southern blot analysis reveals the presence of a series of full length and internally deleted @hobo@ elements.

a Samarkand

C Wild-type stock.

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Derived from wild flies.

d 1936

R Samarkand, Uzbek Republic, USSR

x FBrf0003764 == Dubinin et al., 1937, Biol. Zh. 6 1007--1054.

p Original stock contained a low frequency of inversions in 3R; chromosomes

p probably are now all of standard sequence. Ives reports that females of his

p lines of Samarkand are distinguishable from Oregon-R females in that they

p have no faint trident on the thorax and that there is always a well-defined

p black band on seventh (most-posterior) dorsolateral abdominal segment.

a South Amherst-31

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0003118 == Plough and Ives, 1935, Genetics 20 42--69

o Derived from wild flies.

R South Amherst, MA, USA

d August 1931

w P. Ives

a South Amherst-38

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

o Derived from wild flies.

R South Amherst, MA, USA

d August 1938

w P. Ives

a Stephenville

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Derived from wild flies.

R Stephenville, TX, USA

d 1935

c Polytene chromosomes probably normal.

p Fertility and viability good.

a Swedish-b

C Wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Derived from wild flies.

R near Stockholm, Sweden

d 1923

w C.B. Bridges

p Slight abnormality of abdominal banding and position of scutellar bristles.

c Homozygous for @Df(2R)Sw-R@.

a Swedish-c

C Selected wild-type stock.

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Derived from Swedish-b

d 1938

w C.B. Bridges

p Body color lighter than that of Swedish-b.

c Homozygous for deficiencies in tips of 2L and 2R.

a T-007

C Extracted wild-type chromosome.

p A chromosome 2 derived from wild caught flies found to induce both

p mutations and male recombination.

w Y. Hiraizumi

s Due to @P-element@ activity.

o Derived from wild flies.

R Harlingen, TX, USA

d 1970

x FBrf0037078 == Isackson et al., 1981, Molec. gen. Genet. 184(3) 539--543

x FBrf0036547 == Matthews, 1981, Genetics 97(1) 95--111

x FBrf0031626 == Slatko, 1978, Genetics 90(2) 257--276

x FBrf0077652 == Slatko, 1977, Thesis, University of Texas at Austin, TX

x FBrf0054084 == Eeken et al., 1991, Genet. Res. 58 211--223

a Mr-GB39

C Extracted wild-type chromosome.

w M.M. Green

o Derived from wild flies.

R California, USA

x FBrf0054084 == Eeken et al., 1991, Genet. Res. 58 211--223

a Mr-n1

C Extracted wild-type chromosome.

w M.M. Green

o Derived from wild flies.

R Nappa, CA, USA

x FBrf0054084 == Eeken et al., 1991, Genet. Res. 58 211--223

a Tx(3)2

C Extracted wild-type chromosome.

w Y. Hiraizumi

R South Texas, TX, USA

o Chromosome 3 extracted from natural population.

x FBrf0045236 == Green, 1986, Proc. natn. Acad. Sci. USA. 83 1036--1040

a Tx(3)1

C Extracted wild-type chromosome.

w Y. Hiraizumi

R South Texas, TX, USA

o Chromosome 3 extracted from natural population.

x FBrf0045236 == Green, 1986, Proc. natn. Acad. Sci. USA. 83 1036--1040

a Texas 1

C Wild-type stock.

o Derived from wild flies.

R South Texas, TX, USA

d 1965

x FBrf0049847 == Exley and Eggleston, 1989, Genet. Res. 53(3) 163--171

x FBrf0077103 == Exley, 1989, Ph.D. Thesis, Liverpool University, England

x FBrf0022847 == Linney et al., 1971, Heredity 27 163--174

a Texas 6

C Wild-type stock.

o Derived from wild flies.

R South Texas, TX, USA

d 1965

x FBrf0049847 == Exley and Eggleston, 1989, Genet. Res. 53(3) 163--171

x FBrf0077103 == Exley, 1989, Ph.D. Thesis, Liverpool University, England

x FBrf0022847 == Linney et al., 1971, Heredity 27 163--174

a Urbana-S

C Wild-type stock.

e Urbana-Special

x FBrf0006100 == Bridges and Brehme, 1944, Publs Carnegie Instn. 552, 257pp

x FBrf0020044 == Lindsley and Grell, 1968, Publs Carnegie Instn. 627, 469pp

o Derived from wild flies.

w C.B. Bridges

R Urbana, IL, USA

p Body color somewhat lighter than standard wild type.

c Polytene chromosomes normal.

a Uc

C Laboratory stock.

e Unstable-chromosome

o A @y<up>59b</up>@ @z<up>1</up>@ @w<up>i</up>@ @ct<up>6</up>@ @f<up>

</up>@ X chromosome from a male whose grandfather had been treated with ethyl methanesulfonate.

x FBrf0046395 == Johnson-Schlitz and Lim, 1987, Genetics 115 701--709

x FBrf0038055 == Laverty and Lim, 1982, Genetics 101 461--476

x FBrf0041034 == Lim and Crowe, 1984, Genetics 107(3/2) s63

x FBrf0040140 == Lim et al., 1983, Proc. natn. Acad. Sci. USA. 80 6624--6627

x FBrf0073744 == Lim and Simmons, 1994, BioEssays 16(4) 269--275

x FBrf0033204 == Lim, 1979, Genetics 93(3) 681--701

x FBrf0033293 == Lim, 1979, Genetics 91(4/2) s68

x FBrf0034940 == Lim, 1980, Genetics 94(4/2) s63--s64

x FBrf0036020 == Lim, 1981, Cold Spring Harbor Symp. Quant. Biol. 45(2) 553--560

x FBrf0048955 == Lim, 1988, Proc. natn. Acad. Sci. USA. 85 9153--9157

x FBrf0058562 == Sheen et al., 1993, Genetics 133(2) 315--334

s Behavior due to @hobo@ element(s).

a 31.1MRF

C Extracted wild-type chromosome.

x FBrf0030109 == Yannopoulos and Pelecanos, 1977, Genet. Res. 29(3) 231--238

x FBrf0035416 == Yannopoulos and Zacharopoulou, 1980, Mutat. Res. 73(1) 81--92

x FBrf0038495 == Yannopoulos et al., 1982, Mutat. Res. 96(1) 41--51

x FBrf0063981 == Yannopoulos et al., 1980, Europ. Dros. Res. Conf. 6 Proc. 41--48

x FBrf0037137 == Yannopoulos et al., 1981, Mutat. Res. 83(3) 383--393

x FBrf0038192 == Yannopoulos et al., 1982, Heredity 49(2) 235--242

x FBrf0047040 == Yannopoulos and Stamatis, 1987, Mutat. Res. 176 37--45

x FBrf0031527 == Yannopoulos, 1978, Experientia 34 1000--1002

x FBrf0031586 == Yannopoulos, 1978, Genet. Res. 31(2) 187--196

x FBrf0031591 == Yannopoulos, 1978, Genet. Res. 32 239--247

x FBrf0033652 == Yannopoulos, 1979, Molec. gen. Genet. 176 247--253

p A chromosome 2 derived from wild-caught flies that induces male recombination.

q Kept over In(2L)Cy, In(2R)Cy, L<up>4</up>

s Due to @P-element@ activity.

o Derived from wild flies.

R Near Patras, Greece

d Autumn 1971

a 23.5MRF

C Extracted wild-type chromosome.

x FBrf0054250 == Zabalou et al., 1991, Hereditas 114(1) 1--13

x FBrf0037137 == Yannopoulos et al., 1981, Mutat. Res. 83(3) 383--393

x FBrf0039984 == Yannopoulos et al., 1983, Mutat. Res. 108 185--202

x FBrf0045765 == Yannopoulos et al., 1987, Cell 49 487--495

x FBrf0046116 == Hatzopoulos et al., 1987, EMBO J. 6 3091--3096

x FBrf0048701 == Monastirioti et al., 1988, Molec. gen. Genet. 215 94--99

x FBrf0036458 == Stamatis et al., 1981, Genet. Res. 38(2) 125--135

x FBrf0049899 == Stamatis et al., 1989, Genetics 123 379--387

x FBrf0038495 == Yannopoulos et al., 1982, Mutat. Res. 96(1) 41--51

p A chromosome 2 derived from wild-caught flies that induces a high

p frequency of apparent double crossovers in heterozygous males; those analysed

p are either intrachromosomal transpositions of wild-type alleles from the

p 23.5MRF chromosome into a marked homolog.

s Due to @hobo@ activity.

q Kept over In(2L)Cy, In(2R)Cy, L<up>4</up>

o Derived from wild flies.

R Near Patras, Greece

a OK1

e Oklahoma 1

C Wild-type stock.

o Derived from wild flies.

R Oklahoma City, OK, USA

w J.N. Thompson, Jr

d 1974.

x FBrf0030273 == Woodruff and Thompson, 1977, Heredity 38 291--307

x FBrf0031668 == Henderson et al., 1978, Genetics 88 93--107

x Mid-America Stock List

i OK 1

a Algeria

C Wild-type stock.

R Algeria

x Umea Stock List

a Wien

C Wild-type stock.

R Wien, Austria

d 1966

x Umea Stock List

a Zabcice

C Wild-type stock.

R Brno, Czechoslovakia

d 1977

x Umea Stock List

a Birsk

C Wild-type stock.

R Birsk, USSR

d 1974

x Umea Stock List

a Boa Esperance

C Wild-type stock.

R Minas Gerais, Brazil

x Umea Stock List

a Bygdea

C Wild-type stock.

R Bygdea, Sweden

d 1988

x Umea Stock List

a Cardwell

C Wild-type stock.

R Queensland, Australia

x Umea Stock List

a Champetieres

C Wild-type stock.

R Champetieres, France

p virus free 78e

x Umea Stock List

a Chateau Tahbilk

C Wild-type stock.

R Australia

d 1989

q several lines

x Umea Stock List

a Chichijima

C Wild-type stock.

R Chichijima, Japan

d 1979

x Umea Stock List

a Chieti-v

C Wild-type stock.

R Italy

x Umea Stock List

a Chongju

C Wild-type stock.

R Chongju, Korea

x Umea Stock List

a Coffs Harbour

C Wild-type stock.

R Coffs Harbour, New South Wales, Australia

x Umea Stock List

a Crkwenica

C Wild-type stock.

R Crkwenica, Czechoslovakia

x Umea Stock List

a Curitiba

C Wild-type stock.

R Curitiba, Brazil

x Umea Stock List

a Alma-Ata

C Wild-type stock.

R Alma-Ata, Kazakstan

d 1978

x Umea Stock List

a Fairfield-2

C Wild-type stock.

R Melbourne, Australia

d 1980

x Umea Stock List

a Fairfield-11

C Wild-type stock.

R Melbourne, Australia

d 1980

x Umea Stock List

a Fairfield-15

C Wild-type stock.

R Melbourne, Australia

d 1980

x Umea Stock List

a Fairfield-16

C Wild-type stock.

R Melbourne, Australia

d 1980

x Umea Stock List

a Fairfield-18

C Wild-type stock.

R Melbourne, Australia

d 1980

x Umea Stock List

a Amherst-3

C Wild-type stock.

R South Amherst, MA, USA

x Umea Stock List

x Mid-America Stock List

w Singh, 1939

a Fairfield-19

C Wild-type stock.

R Melbourne, Australia

d 1980

x Umea Stock List

a Falsterbo

C Wild-type stock.

R Falsterbo, Sweden

x Umea Stock List

a Gelendzhik-79

C Wild-type stock.

R Gelendzhik, USSR

d 1979

x Umea Stock List

a Anapa-78

C Wild-type stock.

R Anapa, USSR

d 1978

x Umea Stock List

a Gruta

C Wild-type stock.

R Gruta, Argentina

x Umea Stock List

a Gurzuf

C Wild-type stock.

R Gurzuf, USSR

d 1961

x Umea Stock List

a Hikone

C Wild-type stock.

R Hikone, Japan

x Umea Stock List

a Hikone-A-S

C Wild-type stock.

x Bloomington Stock List

a Hikone-A-W

C Wild-type stock.

x Bloomington Stock List

a Hikone-R

C Selected wild-type stock.

R Hikone, Japan

p resistent to BHC, DDT, parathione, nicotine

x Umea Stock List

a Hameenlinna

C Wild-type stock.

R Hameenlinna, Finland

d 1972

x Umea Stock List

a Akayu

C Wild-type stock.

R Akayu, Japan

d 1976

x Umea Stock List

a Anapa-79

C Wild-type stock.

R Anapa, USSR

d 1979

x Umea Stock List

a Israel

C Wild-type stock.

R Israel

d 1954

x Umea Stock List

a Karsnas

C Wild-type stock.

R Karsnas, Sweden

x Umea Stock List

a Karsnas-R

C Selected wild-type stock.

R Karsnas, Sweden

p Hg-resistent

x Umea Stock List

a Krasnodar

C Wild-type stock.

R Krasnodar, USSR

d 1974

x Umea Stock List

a Kurdamir

C Wild-type stock.

R Kurdamir, Azerbaijan

d 1977

x Umea Stock List

a Ashtarak

C Wild-type stock.

R Ashtarak, Armenia

d 1977

x Umea Stock List

a Luminy

C Wild-type stock.

R Luminy, France

x Umea Stock List

x Mid-America Stock List

a Manago

C Wild-type stock.

R Manago, Hawaii

d 1989

x Umea Stock List

a Medvasto-29

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Medvasto-21

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Medvasto-22

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Medvasto-23

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Medvasto-24

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Medvasto-25

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Medvasto-28

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Medvasto-29

C Wild-type stock.

R Finland

d 1992

x Umea Stock List

a Moltrasio

C Wild-type stock.

R Italy

x Umea Stock List

a Moravsky Pisek

C Wild-type stock.

R South Moravia, Czechoslovakia

d 1972

x Umea Stock List

a Naantali

C Wild-type stock.

R Naantali, Finland

d 1973

x Umea Stock List

a Nokia

C Wild-type stock.

R Nokia, Finland

d 1971

x Umea Stock List

a Aspra

C Wild-type stock.

R Aspra, Italy

x Umea Stock List

a Avondale-2

C Wild-type stock.

R Tasmania, Australia

d 1984

x Umea Stock List

a Qiryat-Anavim

C Wild-type stock.

R Jerusalem, Israel

d 1953

x Umea Stock List

a Qiryat-Anavim 81

C Wild-type stock.

R Jerusalem, Israel

d 1981

x Umea Stock List

a Qiryat-Anavim 83

d 1983

C Wild-type stock.

R Jerusalem, Israel

x Umea Stock List

a Salvador

C Wild-type stock.

R Bahia, Brazil

x Umea Stock List

a San Miguel

C Wild-type stock.

R Buenos Aires, Argentina

x Umea Stock List

a Bacup

C Wild-type stock.

R Bacum, England

x Umea Stock List

a Siniy Gay

C Wild-type stock.

R Siniy Gay, USSR

d 1979

x Umea Stock List

a Slankamen

C Wild-type stock.

R Belgrad, Yugoslavia

d 1982

x Umea Stock List

a Staket

C Wild-type stock.

R Staket, Sweden

x Umea Stock List

a Strangnas-74

C Wild-type stock.

R Strangnas, Sweden

d 1974

q isofemale

x Umea Stock List

a Stromsvreten 8

C Wild-type stock.

R Akersberga, Sweden

d 1969

x Umea Stock List

a Suchumi

C Wild-type stock.

R Czechslovakia

d 1964

x Umea Stock List

a Tashkent

C Wild-type stock.

R Tashkent, Uzbekistan

d 1977

x Umea Stock List

a Turku

C Wild-type stock.

R Turku, Finland

d 1966

x Umea Stock List

a Uman-66

C Wild-type stock.

R Uman, USSR

d 1966

x Umea Stock List

a Uman-79

C Wild-type stock.

R Uman, USSR

d 1979

x Umea Stock List

a Umea-15

C Wild-type stock.

R Umea, Sweden

d 1992

x Umea Stock List

a Umea-16

C Wild-type stock.

R Umea, Sweden

d 1992

x Umea Stock List

a Umea-17

C Wild-type stock.

R Umea, Sweden

d 1992

x Umea Stock List

a Umea-18

C Wild-type stock.

R Umea, Sweden

d 1992

x Umea Stock List

a Umea-19

C Wild-type stock.

R Umea, Sweden

d 1992

x Umea Stock List

a Umea-94

C Wild-type stock.

R Umea, Sweden

d 1994

x Umea Stock List

a Valdemarsvik-79

C Wild-type stock.

R Valdemarsvik, Sweden

d 1979

q isofemale

x Umea Stock List

a BER 1

C Wild-type stock.

R Bermuda

d 1954

w B. Wallace

x Mid-America Stock List

a BER 2

C Wild-type stock.

R Bermuda

d 1954

w B. Wallace

x Mid-America Stock List

a BOG 1

C Wild-type stock.

R Bogota, Columbia

d 1962

w B. Wallace

x Mid-America Stock List

C Wild-type stock.

R Bogota, Columbia

d 1962

w B. Wallace

a BOG 2

x Mid-America Stock List

C Wild-type stock.

R Bogota, Columbia

d 1962

w B. Wallace

a BOG 3

x Mid-America Stock List

C Wild-type stock.

R Bogota, Columbia

d 1962

w B. Wallace

a BS 1

C Wild-type stock.

R Barcelona, Spain

d 1954

w B. Wallace

x Mid-America Stock List

a BV 1

C Wild-type stock.

R Virginia, USA

d 1954

w B. Wallace

x Mid-America Stock List

a CA 1

C Wild-type stock.

R Capetown, South Africa

d 1954

w B. Wallace

x Mid-America Stock List

a CA 2

C Wild-type stock.

R Capetown, South Africa

d 1954

w B. Wallace

x Mid-America Stock List

a CO 3

C Wild-type stock.

R New York, USA

d 1961

w B. Wallace

x Mid-America Stock List

a CO 4

C Wild-type stock.

R New York, USA

d 1961

w B. Wallace

x Mid-America Stock List

a CO 7

C Wild-type stock.

R New York, USA

d 1961

w B. Wallace

x Mid-America Stock List

a EV

C Wild-type stock.

R New York, USA

d 1966

w B. Wallace

x Mid-America Stock List

a KSA 2

C Wild-type stock.

R Koriba Dam, South Africa

d 1963

w B. Wallace

x Mid-America Stock List

a KSA 3

C Wild-type stock.

R Koriba Dam, South Africa

d 1963

w B. Wallace

x Mid-America Stock List

a KSA 4

C Wild-type stock.

R Koriba Dam, South Africa

d 1963

w B. Wallace

x Mid-America Stock List

a M 2

C Wild-type stock.

R Australia

w B. Wallace

x Mid-America Stock List

a M 4

C Wild-type stock.

R Australia

w B. Wallace

x Mid-America Stock List

a MO 1

C Wild-type stock.

R New York, USA

d 1961

w B. Wallace

x Mid-America Stock List

a MO 2

C Wild-type stock.

R New York, USA

d 1961

w B. Wallace

x Mid-America Stock List

a MO 18

C Wild-type stock.

R New York, USA

d 1961

w B. Wallace

x Mid-America Stock List

a MWA 1

C Wild-type stock.

R Wisconsin, USA

d 196\_

w B. Wallace

x Mid-America Stock List

a NO 1

C Wild-type stock.

R Louisiana, USA

d 1954

w B. Wallace

x Mid-America Stock List

a PVM

C Wild-type stock.

R Madeira, Portugal

d 1965

w B. Wallace

x Mid-America Stock List

a PYR 2

C Wild-type stock.

R Pyrenees, Spain

d 1965

w B. Wallace

x Mid-America Stock List

a PYR 3

C Wild-type stock.

R Pyrenees, Spain

d 1965

w B. Wallace

x Mid-America Stock List

a QI 2

C Wild-type stock.

R Israel

d 1954

w B. Wallace

x Mid-America Stock List

a RC 1

C Wild-type stock.

R California, USA

d 1954

w B. Wallace

x Mid-America Stock List

a Reids 1

C Wild-type stock.

R Madeira, Portugal

d 1965

w B. Wallace

x Mid-America Stock List

a Reids 2

C Wild-type stock.

R Madeira, Portugal

d 1965

w B. Wallace

x Mid-America Stock List

a Reids 3

C Wild-type stock.

R Madeira, Portugal

d 1965

w B. Wallace

x Mid-America Stock List

a RVC 2

C Wild-type stock.

R California, USA

d 1963

w B. Wallace

x Mid-America Stock List

a RVC 3

C Wild-type stock.

R California, USA

d 1963

w B. Wallace

x Mid-America Stock List

a RVC 4

C Wild-type stock.

R California, USA

d 1963

w B. Wallace

x Mid-America Stock List

a TW 1

C Wild-type stock.

R New York, USA

d 1977

w B. Wallace

x Mid-America Stock List

a TW 2

C Wild-type stock.

R New York, USA

d 1977

w B. Wallace

x Mid-America Stock List

a TW 3

C Wild-type stock.

R New York, USA

d 1977

w B. Wallace

x Mid-America Stock List

a VAG 1

C Wild-type stock.

R Athens, Greece

d 1965

w B. Wallace

x Mid-America Stock List

a VAG 2

C Wild-type stock.

R Athens, Greece

d 1965

w B. Wallace

x Mid-America Stock List

a VAG 3

C Wild-type stock.

R Athens, Greece

d 1965

w B. Wallace

x Mid-America Stock List

a Wild 1A

C Wild-type stock.

R New York, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 1B

C Wild-type stock.

R New York, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 2A

C Wild-type stock.

R Ohio, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 2C

C Wild-type stock.

R Ohio, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 2D

C Wild-type stock.

R Ohio, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 3A

C Wild-type stock.

R Ohio, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 3B

C Wild-type stock.

R Ohio, USA

d 1966

d B. Wallace

x Mid-America Stock List

a Wild 5A

C Wild-type stock.

R Georgia, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 5B

C Wild-type stock.

R Georgia, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 5C

C Wild-type stock.

R Georgia, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 8D

C Wild-type stock.

w B. Wallace

x Mid-America Stock List

a Wild 9A

C Wild-type stock.

R Georgia, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 10A

C Wild-type stock.

R South Carolina, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 10D

C Wild-type stock.

R South Carolina, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 10E

C Wild-type stock.

R South Carolina, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 11A

C Wild-type stock.

R North Carolina, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 11C

C Wild-type stock.

R North Carolina, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Wild 11D

C Wild-type stock.

R North Carolina, USA

d 1966

w B. Wallace

x Mid-America Stock List

a Sapporo

C Wild-type stock.

R 7-10-88a, Sapporo, Japan

w H.Takada

x Mid-America Stock List

a T 15

C Wild-type stock.

R Tishomingo, OK, USA

w J. Hellack

x Mid-America Stock List

a T 25

C Wild-type stock.

R Tishomingo, OK, USA

w J. Hellack

x Mid-America Stock List

a T 26

C Wild-type stock.

R Tishomingo, OK, USA

w J. Hellack

x Mid-America Stock List

a CT 1

C Wild-type stock.

R Chateau Tahbilk, Australia

w J.N. Thompson, Jr

x Mid-America Stock List

a CT 109

C Wild-type stock.

R Chateau Tahbilk, Australia

w J.N. Thompson, Jr

x Mid-America Stock List

a JF 1

C Wild-type stock.

R Jeffery Orchard, Grand Rapids, OH, USA

w M. Gromko

x Mid-America Stock List

a Ivis

w M. Kidwell

x Mid-America Stock List

a St. Catherines

w M. Kidwell

x Mid-America Stock List

a 5-17-88a

1

C Wild-type stock.

R Hunter's Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88a

2

C Wild-type stock.

R Hunter's Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88a

3

C Wild-type stock.

R Hunter's Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88a

4

C Wild-type stock.

R Hunter's Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88a

5

C Wild-type stock.

R Hunter's Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88a

6

C Wild-type stock.

R Hunter's Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-21-88b

1

C Wild-type stock.

R Kakamega, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-21-88b

2

C Wild-type stock.

R Kakamega, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-21-88b

3

C Wild-type stock.

R Kakamega, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-21-88b

4

C Wild-type stock.

R Kakamega, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-21-88b

5

C Wild-type stock.

R Kakamega, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 8-05-88

1

C Wild-type stock.

R Lake Baringo, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-09-88

1

C Wild-type stock.

R Little Governor's Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-09-88

2

C Wild-type stock.

R Little Governor's Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-09-88

3

C Wild-type stock.

R Little Governor's Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-09-88

4

C Wild-type stock.

R Little Governor's Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-09-88

5

C Wild-type stock.

R Little Governor's Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88b

1

C Wild-type stock.

R Makindu, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88b

2

C Wild-type stock.

R Makindu, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88b

3

C Wild-type stock.

R Makindu, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88b

4

C Wild-type stock.

R Makindu, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-17-88b

5

C Wild-type stock.

R Makindu, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-08-88

1

C Wild-type stock.

R Mara River Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-08-88

2

C Wild-type stock.

R Mara River Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-08-88

3

C Wild-type stock.

R Mara River Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-08-88

4

C Wild-type stock.

R Mara River Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-08-88

5

C Wild-type stock.

R Mara River Camp, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-15-88

a

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 5-15-88

b

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-17-88

1

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-17-88

2

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-17-88

3

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-17-88

4

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-29-88

A

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-29-88

B

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-29-88

C

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-29-88

D

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-29-88

E

C Wild-type stock.

R Nairobi, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-15-88

1

C Wild-type stock.

R Naivasha, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-15-88

2

C Wild-type stock.

R Naivasha, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-15-88

3

C Wild-type stock.

R Naivasha, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-15-88

4

C Wild-type stock.

R Naivasha, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-15-88

5

C Wild-type stock.

R Naivasha, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-15-88

6

C Wild-type stock.

R Naivasha, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

1

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

2

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

4

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

5

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

6

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

7

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

8

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

9

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-07-88b

10

C Wild-type stock.

R Namanga, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-09-88

1

C Wild-type stock.

R Ngulia Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-09-88

2

C Wild-type stock.

R Ngulia Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-09-88

3

C Wild-type stock.

R Ngulia Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-09-88

4

C Wild-type stock.

R Ngulia Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-09-88

8

C Wild-type stock.

R Ngulia Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-09-88

9

C Wild-type stock.

R Ngulia Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 6-09-88

10

C Wild-type stock.

R Ngulia Lodge, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-30-88

1

C Wild-type stock.

R North Kinangop, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-30-88

2

C Wild-type stock.

R North Kinangop, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-30-88

3

C Wild-type stock.

R North Kinangop, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-30-88

4

C Wild-type stock.

R North Kinangop, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-30-88

5

C Wild-type stock.

R North Kinangop, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-02-88

1

C Wild-type stock.

R Westlands, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-02-88

2

C Wild-type stock.

R Westlands, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-02-88

3

C Wild-type stock.

R Westlands, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-02-88

4

C Wild-type stock.

R Westlands, Kenya

w R.C. Woodruff

x Mid-America Stock List

a 7-02-88

5

C Wild-type stock.

R Westlands, Kenya

w R.C. Woodruff

x Mid-America Stock List

a BG 80A

C Wild-type stock.

R Bowling Green, OH, USA

w R.C. Woodruff

x Mid-America Stock List

a BG 87-1

C Wild-type stock.

R Bowling Green, OH, USA

w R.C. Woodruff

x Mid-America Stock List

a BG 87-2

C Wild-type stock.

R Bowling Green, OH, USA

w R.C. Woodruff

x Mid-America Stock List

a St. John 1

C Wild-type stock.

R Maho Bay, St. John

w R.C. Woodruff

x Mid-America Stock List

a St. John 2

C Wild-type stock.

R Maho Bay, St. John

w R.C. Woodruff

x Mid-America Stock List

a WV 80A

C Wild-type stock.

w R.C. Woodruff

x Mid-America Stock List

a Crimea

C Wild-type stock.

x Mid-America Stock List

a CT 106

C Wild-type stock.

x Mid-America Stock List

a CT 119

C Wild-type stock.

x Mid-America Stock List

a KCA 1

C Wild-type stock.

x Mid-America Stock List

a N 34

C Wild-type stock.

x Mid-America Stock List

a OKLA-Ap

1

C Wild-type stock.

R Noble, OK, USA

x Mid-America Stock List

a Seto, Japan

C Wild-type stock.

R Seto, Japan

x Mid-America Stock List

a Swedish-b-6

C Wild-type stock.

x Mid-America Stock List

a Wageningen

C Wild-type stock.

x Mid-America Stock List

a Oregon-R-P2

C Selected wild-type stock.

w A. Mahowald

p Selected for rapid egg-laying ability (Indiana fly farm strain)

x Bloomington Stock List