```
% this is ../../crops/18r/planning/current pedigrees/primary dominants/les2- mo20w
% generated Friday, June 01, 2018 at 21:28:50 UTC (=1527888530.684756) by compute_pedigrees/1.
% Horizontal pedigrees, generations at same indentation. S: Mo20W; W: W23; M: M14.
% !!! => cross was not by Toni; references to image locations on right.
% Mo20W/Les2-
06R0002:0000000 x 06R0002:0000000
      06R0002:0000204 x 06R0002:0000202
          10R205:S0001109 x 10R1236:0016504
                                                        10R1236:0016504: [10r/gimmel/8.8-[12,13]]
                                                        10R1236:0016506: [10r/gimmel/8.8-[14]]
          10R205:S0005508 x 10R1236:0016506
                11N205:S0038203 x 11N3399:0007709
                11N205:S0038208 x 11N3399:0007708
                11N205:S0039107 x 11N3399:0007703
          10R305:W0004512 x 10R1236:0016506
                                                        10R1236:0016506: [10r/gimmel/8.8-[14]]
                11N305:W0031410 x 11N3400:0007805
                    12N305:W0035905 x 12N3559:0008511
                    12N305:W0035906 x 12N3559:0008505
                          14R305:W0000704 x 14R4220:0006819
                                                                       14R4220:0006819: [14r/bet/17.8-[2112]]
                         14R305:W0000708 x 14R4220:0006812
                                                                       14R4220:0006812: [14r/bet/17.8-[2103]]
                          14R305:W0000715 x 14R4220:0006805
                                                                       14R4220:0006805: [14r/bet/17.8-[2114]]
                          14R305:W0001009 x 14R4220:0006811
                                                                       14R4220:0006811: [14r/bet/17.8-[2116]]
                          14R305:W0001010 x 14R4220:0006812
                                                                      14R4220:0006812: [14r/bet/17.8-[2103]]
                     12N305:W0035909 x 12N3559:0008501
                11N305:W0032601 x 11N3400:0007801
                11N305:W0032909 x 11N3400:0007809
          10R305:W0005104 x 10R1236:0016504
                                                        10R1236:0016504: [10r/gimmel/8.8-[12,13]]
          10R405:M0005004 x 10R1236:0016506
                                                        10R1236:0016506: [10r/gimmel/8.8-[14]]
                11N405:M0038406 x 11N3401:0007903
                11N405:M0038407 x 11N3401:0007903
                11N405:M0038409 x 11N3401:0007903
      06R0002:0000208 x 06R0002:0000207
          06N201:S0004401 x 06N1012:0000205
                07R201:S0028907 x 07R2318:0038611
                                                             07R2318:0038611: [07r/gimmel/11.8-[237,238,239]]
                07R201:S0031508 x 07R2318:0038611
                                                             07R2318:0038611: [07r/gimmel/11.8-[237,238,239]]
                                                             07R2318:0038611: [07r/gimmel/11.8-[237,238,239]]
                07R201:S0033605 x 07R2318:0038611
                07R301:W0022109 x 07R2318:0038611
                                                             07R2318:0038611: [07r/gimmel/11.8-[237,238,239]]
                07R301:W0033507 x 07R2318:0038611
                                                             07R2318:0038611: [07r/gimmel/11.8-[237,238,239]]
                07R401:M0031901 x 07R2318:0038611
                                                             07R2318:0038611: [07r/gimmel/11.8-[237,238,239]]
                07R401:M0033406 x 07R2318:0038611
                                                             07R2318:0038611: [07r/gimmel/11.8-[237,238,239]]
           06N201:S0004404 x 06N1012:0000201
                07R201:S0027605 x 07R2324:0038413
                                                             07R2324:0038413: [07r/gimmel/11.8-[228,229,230]]
          06N201:S0004408 x 06N1012:0000206
                07R201:S0028205 x 07R2316:0038701
                07R201:S0034301 x 07R2316:0038701
                07R201:S0034303 x 07R2316:0038712
                                                             07R2316:0038712: [07r/gimmel/11.8-[247,248,249]]
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les2- mo20w
                  Fri Jun 01 16:28:50 2018
                     11N205:S0031905 x 11N1631:0008603
                     11N205:S0039109 x 11N1631:0008602
                     11N205:S0039110 x 11N1631:0008607
                07R301:W0027811 x 07R2316:0038701
                07R301:W0028103 x 07R2316:0038701
                07R301:W0034401 x 07R2316:0038712
                                                              07R2316:0038712: [07r/gimmel/11.8-[247,248,249]]
                07R401:M0027701 x 07R2316:0038701
                                                      !!!
                07R401:M0029403 x 07R2316:0038701
                07R401:M0034501 x 07R2316:0038712
                                                              07R2316:0038712: [07r/gimmel/11.8-[247,248,249]]
           06N201:S0005601 x 06N1012:0000202
           06N201:S0014304 x 06N1012:0000202
                07R301:W0021210 x 07R2322:0038513
           06N301:W0004207 x 06N1012:0000201
           06N301:W0004501 x 06N1012:0000205
           06N301:W0004502 x 06N1012:0000208
                10R305:W0006505 x 10R2315:0017105
                                                             10R2315:0017105: [10r/gimmel/8.8-[31]]
                     11R305:W0051918 x 11R3284:0054005
                                                                   11R3284:0054005: [11r/aleph/18.8-[1003]]
                          11N305:W0038002 x 11N3405:0008710
                          11N305:W0038004 x 11N3405:0008710
                          11N305:W0038303 x 11N3405:0008710
           06N301:W0011403 x 06N1012:0000206
           06N401:M0005203 x 06N1012:0000201
                10R405:M0003809 x 10R2326:0017208
                                                             10R2326:0017208: [10r/gimmel/9.8-[32]]
                10R405:M0005003 \times 10R2326:0017209
                                                             10R2326:0017209: [10r/gimmel/9.8-[33]]
                                                                   11R3285:0054110: [11r/aleph/18.8-[1002]]
                     11R405:M0051308 x 11R3285:0054110
                     11R405:M0051312 x 11R3285:0054108
                                                                  11R3285:0054108: [11r/aleph/18.8-[1004]]
                          11N405:M0038502 \times 11N3406:0008801
                               12N405:M0037212 x 12N3569:0011705
                                    13R405:M0002504 x 13R4079:0004909
                                                                                  13R4079:0004909: [13r/bet/12.7-[1073],13r
/bet/16.7-[1186],13r/bet/19.7-[1333],13r/bet/22.7-[1467],13r/bet/27.7-[1617]]
                               12N405:M0039410 x 12N3569:0011710
                               12N405:M0039411 x 12N3569:0011704
                               12N405:M0039512 x 12N3569:0011705
                          11N405:M0038503 x 11N3406:0008801
                10R405:M0005007 x 10R2326:0017212
                                                             10R2326:0017212: [10r/gimmel/9.8-[34]]
           06N401:M0012003 x 06N1012:0000205
           06N401:M0024301 x 06N1012:0000202
           07G201:S0000109 x 07G1012:0001001
           07G201:S0000110 x 07G1012:0001005
                09R201:S0033615 x 09R2222:0014806
                                                              09R2222:0014806: [09r/bet/1.9-[75],09r/bet/23.8-[36,37]]
                09R201:S0033907 x 09R2222:0014809
                09R201:S0041401 x 09R2222:0014810
                                                             09R2222:0014810: [09r/bet/1.9-[77],09r/bet/23.8-[38,39]]
                09R201:S0041714 x 09R2222:0014806
                                                              09R2222:0014806: [09r/bet/1.9-[75],09r/bet/23.8-[36,37]]
                     10R205:S0007304 x 10R2207:0017303
                                                                   10R2207:0017303: [10r/gimmel/9.8-[35]]
                          11R205:S0051806 x 11R3246:0053906
                                                                        11R3246:0053906: [11r/aleph/18.8-[1005]]
                               11N205:S0037505 x 11N3404:0008504
```

12N205:S0036412 x 12N3920:0011307

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13R4078:0004605: [13r/bet/1.8-[1721,1732],13r/bet/12.7-[1065],13r/bet/16.7-[1178],13r/bet/19.7-[1325],13r/bet/22.
7-[1459],13r/bet/27.7-[1609]]
                                       13R4078:0004605 x 13R4078:0004605
                                                                                  13R4078:0004605: [13r/bet/1.8-[1721,
1732],13r/bet/12.7-[1065],13r/bet/16.7-[1178],13r/bet/19.7-[1325],13r/bet/22.7-[1459],13r/bet/27.7-[1609]] 13R4078:0004605
: [13r/bet/1.8-[1721,1732],13r/bet/12.7-[1065],13r/bet/16.7-[1178],13r/bet/19.7-[1325],13r/bet/22.7-[1459],13r/bet/27.7-[1
60911
                                      13R4078:0004606 x 13R4078:0004605
                                                                                13R4078:0004605: [13r/bet/1.8-[1721,
1732],13r/bet/12.7-[1065],13r/bet/16.7-[1178],13r/bet/19.7-[1325],13r/bet/22.7-[1459],13r/bet/27.7-[1609]]
                                      14R4078:0007501 x 14R4078:0007502
                                                                                 14R4078:0007502: [14r/bet/17.8-[2145
,2147]]
                                      14R4078:0007504 x 14R4078:0007502
                                                                                 14R4078:0007502: [14r/bet/17.8-[2145
,2147]]
                                      14R4078:0007506 \times 14R4078:0007502
                                                                                 14R4078:0007502: [14r/bet/17.8-[2145
,2147]]
                                      14R4078:0007509 x 14R4078:0007502
                                                                                  14R4078:0007502: [14r/bet/17.8-[2145
,2147]]
                                      14R4078:0007513 \times 14R4078:0007502
                                                                                  14R4078:0007502: [14r/bet/17.8-[2145
,214711
                                      14R4078:0007514 x 14R4078:0007502
                                                                                  14R4078:0007502: [14r/bet/17.8-[2145
,2147]]
                                      14R4078:0007516 x 14R4078:0007502
                                                                                  14R4078:0007502: [14r/bet/17.8-[2145]
,2147]]
                                      14R505:B0002106 x 14R4078:0007502
                                                                                 14R4078:0007502: [14r/bet/17.8-[2145
,2147]]
                                       14R505:B0002109 x 14R4078:0007502
                                                                                14R4078:0007502: [14r/bet/17.8-[2145
,2147]]
                                  12N205:S0037601 x 12N3920:0011306
                                  12N205:S0037602 x 12N3920:0011302
                             11N205:S0037506 x 11N3404:0008505
                             11N205:S0039108 x 11N3404:0008506
                        11R205:S0052003 x 11R3246:0053906
                                                                   11R3246:0053906: [11r/aleph/18.8-[1005]]
                   10R205:S0007902 x 10R2207:0017311
                                                              10R2207:0017311: [10r/gimmel/9.8-[37]]
                   10R205:S0007910 x 10R2207:0017303
                                                               10R2207:0017303: [10r/gimmel/9.8-[35]]
          07G301:W0000202 x 07G1012:0001005
          07G301:W0000807 x 07G1012:0001001
               09R301:W0041611 x 09R2224:0014906
                                                          09R2224:0014906: [09r/bet/1.9-[79].09r/bet/23.8-[40]]
          07G401:M0000305 x 07G1012:0001001
          07G401:M0000307 x 07G1012:0001005
          07G401:M0000603 x 07G1012:0001006
                                            !!!
               09R401:M0043212 x 09R2227:0015006
                                                          09R2227:0015006: [09r/bet/1.9-[82],09r/bet/23.8-[41,42]]
               09R401:M0043213 x 09R2227:0015006
                                                          09R2227:0015006: [09r/bet/1.9-[82],09r/bet/23.8-[41,42]]
               09R401:M0043806 x 09R2227:0015012
                                                          09R2227:0015012: [09r/bet/1.9-[91,99],09r/bet/23.8-[45],09r/q
immel/1.9-[94]
               09R401:M0044104 x 09R2227:0015005
               09R401:M0044106 x 09R2227:0015006
                                                          09R2227:0015006: [09r/bet/1.9-[82],09r/bet/23.8-[41,42]]
               09R401:M0044107 x 09R2227:0015009
                                                          09R2227:0015009: [09r/bet/1.9-[89],09r/bet/23.8-[43,44]]
```

```
09R401:M0045305 x 09R2227:0015012
                                                             09R2227:0015012: [09r/bet/1.9-[91,99],09r/bet/23.8-[45],09r/q
immel/1.9-[94]
           10R205:S0005515 x 10R1012:0016608
                                                        10R1012:0016608: [10r/gimmel/8.8-[15]]
                                                        10R1012:0016608: [10r/gimmel/8.8-[15]]
           10R305:W0004811 x 10R1012:0016608
           10R405:M0005008 x 10R1012:0016608
                                                        10R1012:0016608: [10r/gimmel/8.8-[15]]
           14R305:W0000709 x 14R1012:0007616
                                                        14R1012:0007616: [14r/bet/17.8-[2179]]
           14R305:W0000804 x 14R1012:0007613
                                                        14R1012:0007613: [14r/bet/17.8-[2175]]
          14R305:W0001002 x 14R1012:0007613
                                                        14R1012:0007613: [14r/bet/17.8-[2175]]
          14R305:W0001012 x 14R1012:0007612
                                                        14R1012:0007612: [14r/bet/17.8-[2176]]
                15R305:W0000906 x 15R4351:0010005
                                                             15R4351:0010005: [15r/bet/15.8-[2779]]
                     16R305:W0001404 x 16R4498:0009503
                                                                  16R4498:0009503: [16r/gimmel/30.7-[267]]
                     16R305:W0001406 x 16R4498:0009505
                                                                  16R4498:0009505: [16r/gimmel/30.7-[282]]
                                                                       17R4557:0016506: [17r/gimmel/2.8-[395]]
                          17R305:W0001912 x 17R4557:0016506
                          17R305:W0002003 x 17R4557:0016502
                                                                       17R4557:0016502: [17r/gimmel/2.8-[385]]
                                                                       17R4557:0016502: [17r/gimmel/2.8-[385]]
                          17R305:W0002009 x 17R4557:0016502
                          17R305:W0003917 x 17R4557:0016502
                                                                       17R4557:0016502: [17r/gimmel/2.8-[385]]
                     16R305:W0002803 x 16R4498:0009514
                                                                  16R4498:0009514: [16r/gimmel/26.7-[118]]
                     16R305:W0002804 x 16R4498:0009503
                                                                  16R4498:0009503: [16r/qimmel/30.7-[267]]
                     16R305:W0002805 x 16R4498:0009505
                                                                  16R4498:0009505: [16r/gimmel/30.7-[282]]
                15R305:W0000907 x 15R4351:0010005
                                                             15R4351:0010005: [15r/bet/15.8-[2779]]
                15R305:W0002807 x 15R4351:0010008
                                                             15R4351:0010008: [15r/bet/15.8-[2784]]
                15R305:W0002810 x 15R4351:0010008
                                                             15R4351:0010008: [15r/bet/15.8-[2784]]
           14R305:W0003701 x 14R1012:0007707
                                                        14R1012:0007707: [14r/bet/17.8-[2173]]
                15R305:W0002808 x 15R4389:0010806
                15R305:W0002901 x 15R4389:0010801
                     16R305:W0000701 x 16R4499:0009607
                                                                  16R4499:0009607: [16r/gimmel/30.7-[276]]
                     16R305:W0002801 x 16R4499:0009605
                                                                  16R4499:0009605: [16r/gimmel/30.7-[274]]
                     16R305:W0002902 x 16R4499:0009605
                                                                  16R4499:0009605: [16r/qimmel/30.7-[274]]
                     16R305:W0002906 x 16R4499:0009614
                                                                  16R4499:0009614: [16r/gimmel/30.7-[288]]
                     16R305:W0002911 x 16R4499:0009614
                                                                  16R4499:0009614: [16r/gimmel/30.7-[288]]
                          17R305:W0001719 x 17R4558:0016606
                                                                       17R4558:0016606: [17r/bet/2.8-[403]]
                          17R305:W0001817 x 17R4558:0016606
                                                                       17R4558:0016606: [17r/bet/2.8-[403]]
                          17R305:W0001820 x 17R4558:0016606
                                                                       17R4558:0016606: [17r/bet/2.8-[403]]
                          17R305:W0003816 x 17R4558:0016602
                                                                       17R4558:0016602: [17r/gimmel/2.8-[394]]
                          17R305:W0003906 x 17R4558:0016602
                                                                       17R4558:0016602: [17r/gimmel/2.8-[394]]
                          17R305:W0003908 x 17R4558:0016602
                                                                       17R4558:0016602: [17r/gimmel/2.8-[394]]
                                                                  16R4499:0009607: [16r/qimmel/30.7-[276]]
                     16R305:W0003001 x 16R4499:0009607
                                                                  16R4499:0009607: [16r/qimmel/30.7-[276]]
                     16R305:W0003002 x 16R4499:0009607
                     16R305:W0003003 x 16R4499:0009607
                                                                  16R4499:0009607: [16r/qimmel/30.7-[276]]
                15R305:W0002906 x 15R4389:0010806
                15R305:W0003104 x 15R4389:0010801
                15R305:W0003202 x 15R4389:0010806
                15R305:W0003208 x 15R4389:0010801
          14R305:W0003705 x 14R1012:0007707
                                                        14R1012:0007707: [14r/bet/17.8-[2173]]
           14R305:W0003706 x 14R1012:0007707
                                                        14R1012:0007707: [14r/bet/17.8-[2173]]
      06R0002:0000209 x 06R0002:0000203
          10R205:S0000815 x 10R1235:0016710
                                                        10R1235:0016710: [10r/gimmel/8.8-[17]]
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 10R205:S0007004 x
 10R1235:0016705 x
 10R1235:0016705 : [10r/gimmel/8.8-[16]] 10R205:S0007005 x
 10R1235:0016710 : [10r/gimmel/8.8-[17]] 10R305:W0004514 x
 10R1235:0016710 : [10r/gimmel/8.8-[17]] 10R305:W0005103 x
 10R1235:0016705 : [10r/gimmel/8.8-[16]] 10R1235:0016705 : [10r/gimmel/8.8-[16]] 10R1235:W0010518 x
 10R1235:0016710 : [10r/gimmel/8.8-[17]] 10R1235:W0016710 : [10r/gimmel/8.8-[17]]

10R405:M0005001 x 10R1235:0016710 10R405:M0005013 x 10R1235:0016705 10R1235:0016710: [10r/gimmel/8.8-[17]]

10R1235:0016705: [10r/gimmel/8.8-[16]]