```
% this is 16r/planning/packing_plan.pl
% generated by ../maize/crops/merge_plan_data.perl using operation sequence
% on Mon May 23 23:51:19 CDT 2016 for crop 16r.


% this is 16r/planning/packing_plan.org
% generated by ../maize/crops/merge_plan_data.perl
% on Fri May 20 13:07:18 CDT 2016 for crop 16r.
%
% The most recent plan data are derived from ../demeter/data/plan.pl for the 15r.  These
% are substituted into the packing_plan.pl data for 15r to generate
% packing_plan/10 facts that are in the previous sequence, but not numbered.
%
% Wait until all packing_plan/10 facts are written, and in the correct sequence,
% before re-running the script to insert the sequence numbers for planting!



% elite line: get seed from Matt, don''t bother packing

packing_plan(1,1,['elite'],1,[fly],'','','16R',60,20).

packing_plan(2,1,['elite'],1,[fly],'','','16R',60,20).

packing_plan(3,1,['elite'],1,[fly],'','','16R',60,20).

packing_plan(4,1,['elite'],1,[fly],'','','16R',60,20).

packing_plan(5,1,['elite'],1,[fly],'','','16R',60,20).



% what went in here instead of the doubled haploids from candy gardner?

packing_plan(6,1,[''],1,[fly],'','','16R',20,20).

packing_plan(7,1,[''],1,[fly],'','','16R',20,20).

packing_plan(8,1,[''],1,[fly],'','','16R',20,20).

packing_plan(9,1,[''],1,[fly],'','','16R',20,20).

packing_plan(10,1,[''],1,[fly],'','','16R',20,20).



% 1st planting inbreds

packing_plan(11,1,['09R201:S0xxxxxx x 09R201:S0xxxxxx'],1,[inbred],'','','16R',20,20).

packing_plan(12,1,['09R201:S0xxxxxx x 09R201:S0xxxxxx'],1,[inbred],'','','16R',20,20).

packing_plan(13,1,['09R201:S0xxxxxx x 09R201:S0xxxxxx'],1,[inbred],'','','16R',20,20).



packing_plan(14,1,['09R301:W0xxxxxx x 09R301:W0xxxxxx'],1,[inbred],'','','16R',20,20).

packing_plan(15,1,['09R301:W0xxxxxx x 09R301:W0xxxxxx'],1,[inbred],'','','16R',20,20).

packing_plan(16,1,['09R301:W0xxxxxx x 09R301:W0xxxxxx'],1,[inbred],'','','16R',20,20).
```

```
packing_plan(17,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],1,[inbred],'','','16R',20,20).
packing_plan(18,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],1,[inbred],'','','16R',20,20).
packing_plan(19,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],1,[inbred],'','','16R',20,20).
packing_plan(20,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],1,[inbred],'','','16R',20,20).
packing_plan(21,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],1,[inbred],'','','16R',20,20).
packing_plan(22,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],1,[inbred],'','','16R',20,20).
packing_plan(23,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],1,[inbred],'','','16R',20,20).



packing_plan(24,1,['13R504:B0xxxxxx x 13R504:B0xxxxxx'],1,[inbred],'','','16R',20,20).
packing_plan(25,1,['13R504:B0xxxxxx x 13R504:B0xxxxxx'],1,[inbred],'','','16R',20,20).

% 2nd planting inbreds

packing_plan(26,1,['09R201:S0xxxxxx x 09R201:S0xxxxxx'],2,[inbred],'','','16R',20,20).
packing_plan(27,1,['09R201:S0xxxxxx x 09R201:S0xxxxxx'],2,[inbred],'','','16R',20,20).


packing_plan(28,1,['09R301:W0xxxxxx x 09R301:W0xxxxxx'],2,[inbred],'','','16R',20,20).
packing_plan(29,1,['09R301:W0xxxxxx x 09R301:W0xxxxxx'],2,[inbred],'','','16R',20,20).
packing_plan(30,1,['09R301:W0xxxxxx x 09R301:W0xxxxxx'],2,[inbred],'','','16R',20,20).


packing_plan(31,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],2,[inbred],'','','16R',20,20).
packing_plan(32,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],2,[inbred],'','','16R',20,20).
packing_plan(33,1,['09R401:M0xxxxxx x 09R401:M0xxxxxx'],2,[inbred],'','','16R',20,20).


packing_plan(34,1,['13R504:B0xxxxxx x 13R504:B0xxxxxx'],2,[inbred],'','','16R',20,20).
packing_plan(35,1,['13R504:B0xxxxxx x 13R504:B0xxxxxx'],2,[inbred],'','','16R',20,20).
```

%%%%% selves

% lls1 1 half-row

packing_plan(36,1,['12N205:S0041906 x 12N3738:0000804'],1,[self],'is 3rd; alternate for forebear of family 4057','K1702','16R',15,10).

% lls1 121D K3402 2 half-rows

packing_plan(37,1,['15R305:W0003009 x 15R4331:0004904'],1,[self],'is 3rd','K3402','16R',15,10).

packing_plan(38,1,['15R405:M0003904 x 15R3877:0005004'],1,[self],'is 2nd','K3402','16R',15,10).

% lls1121D K5302 2 half-rows

packing_plan(39,1,['15R305:W0002701 x 15R4211:0005516'],1,[self],'is 3rd','K5302','16R',15,10).

packing_plan(40,1,['15R405:M0003710 x 15R4213:0005618'],1,[self],'is 3rd','K5302','16R',15,10).

% les23 2 half-rows

packing_plan(41,1,['15R205:S0000501 x 15R4231:0009207'],1,[self],'is 3rd','K1802','16R',15,10).

packing_plan(42,1,['15R205:S0002605 x 15R4247:0009302'],1,[self],'is 3rd; check sex organs; 15r had excellent tassel and no ear','K16306','16R',15,10).

%%%%%%%%%%%%%%%%%%%%%% 11.5 rows recessives %%%%%%%%%%%%%%%%%%%%%%

% les23 11 half-rows

```
packing_plan(43,1,['15R4339:0006503 x 15R4339:0006503'],1,[check,'W'],'is 5th selfed','K1
802','16R',15,10).

packing_plan(44,1,['15R4340:0006601 x 15R4340:0006601'],1,[check,'M'],'is 4th selfed','K1
802','16R',15,10).

packing_plan(45,1,['15R4370:0006703 x 15R4370:0006703'],1,[check,'S'],'is 3rd selfed','K1
804','16R',15,10).

packing_plan(46,1,['15R4341:0006805 x 15R4341:0006805'],1,[check,'W'],'is 4th selfed','K1
804','16R',15,10).

packing_plan(47,1,['15R4371:0006904 x 15R4371:0006904'],1,[check,'M'],'is 3rd selfed','K1
804','16R',15,10).

packing_plan(48,1,['15R4342:0007002 x 15R4342:0007002'],1,[check,'S'],'is 3rd selfed','K3
514','16R',15,10).

packing_plan(49,1,['15R4343:0007101 x 15R4343:0007101'],1,[check,'W'],'is 4th selfed','K3
514','16R',15,10).

packing_plan(50,1,['15R4372:0007201 x 15R4372:0007201'],1,[check,'M'],'is 3rd selfed','K3
514','16R',15,10).



packing_plan(51,1,['15R4344:0007301 x 15R4344:0007301'],1,[check,'W'],'is 3rd selfed','K1
6306','16R',15,10).

packing_plan(52,1,['15R4373:0007403 x 15R4373:0007403'],1,[check,'M'],'is 3rd selfed','K1
6306','16R',15,10).

packing_plan(53,1,['15R305:W0000908 x 15R4373:0007409'],1,[check,'S','W','M'],'dominant m
utant in row? contaminant?','K16306','16R',15,10).
```

% les3 6 half-rows

% may like cooler weather, lots of light, very late developping, must cross
% blindly, favored lower leaves in 12r. Phenotype variable, from small
% necroses to brown necroses on midrib to yellow-green splotchies on lower
% or upper leaves. Functionally recessive, possibly malleable phenotype.
%
% In 12n, a strong necrotic phenotype developed well before flowering.

4 12.7

packing_plan(54,1,['15R4374:0007503 x 15R4374:0007503'],2,[check,'S'],'is 2nd selfed; late developping phenotype; yellow-green splotchies, earlier in the process of lesion formation; very different from K11903; favored lower leaves in 12r; cross all plants blindly; may be functionally recessive; excellent light-brown necrotic lesion phenotype 8.1 in 12n, well before flowering; evidence of small, slight oscillations','K11906','16R',15,10).

packing_plan(55,1,['15R4345:0007602 x 15R4345:0007602'],2,[check,'S'],'is 2nd selfed; late developping phenotype; yellow-green splotchies, earlier in the process of lesion formation; very different from K11903; favored lower leaves in 12r; cross all plants blindly; may be functionally recessive; excellent light-brown necrotic lesion phenotype 8.1 in 12n, well before flowering; evidence of small, slight oscillations','K11906','16R',15,10).

packing_plan(56,1,['15R4375:0007701 x 15R4375:0007701'],2,[check,'W'],'is 2nd selfed; late developping phenotype; yellow-green splotchies, earlier in the process of lesion formation; very different from K11903; favored lower leaves in 12r; cross all plants blindly; may be functionally recessive; excellent light-brown necrotic lesion phenotype 8.1 in 12n, well before flowering; evidence of small, slight oscillations','K11906','16R',15,10).

packing_plan(57,1,['15R4346:0007801 x 15R4346:0007801'],2,[check,'W'],'is 2nd selfed; late developping phenotype; yellow-green splotchies, earlier in the process of lesion formation; very different from K11903; favored lower leaves in 12r; cross all plants blindly; may be functionally recessive; excellent light-brown necrotic lesion phenotype 8.1 in 12n, well before flowering; evidence of small, slight oscillations','K11906','16R',15,10).

packing_plan(58,1,['15R4376:0007903 x 15R4376:0007903'],2,[check,'M'],'is 2nd selfed; late developping phenotype; yellow-green splotchies, earlier in the process of lesion formation; very different from K11903; favored lower leaves in 12r; cross all plants blindly; may be functionally recessive; excellent light-brown necrotic lesion phenotype 8.1 in 12n, well before flowering; evidence of small, slight oscillations','K11906','16R',15,10).

packing_plan(59,1,['15R4377:0008008 x 15R4377:0008008'],2,[check,'M'],'is 2nd selfed; late developping phenotype; yellow-green splotchies, earlier in the process of lesion formation; very different from K11903; favored lower leaves in 12r; cross all plants blindly; may be functionally recessive; excellent light-brown necrotic lesion phenotype 8.1 in 12n, well before flowering; evidence of small, slight oscillations','K11906','16R',15,10).

```
%  les5 6 half-rows

packing_plan(60,1,['15R205:S0002207 x 15R0685:0009103'],2,[self,'S'],'is 1st; should be r
ecessive; be ready to bc if not','K68503','16R',15,10).

packing_plan(61,1,['15R305:W0003209 x 15R0685:0009103'],2,[self,'W'],'is 1st; should be r
ecessive; be ready to bc if not','K68503','16R',15,10).

packing_plan(62,1,['15R405:M0003505 x 15R0685:0009103'],2,[self,'M'],'is 1st; should be r
ecessive; be ready to bc if not','K68503','16R',15,10).



packing_plan(63,1,['15R205:S0002205 x 15R0685:0009107'],2,[self,'S'],'is 1st; should be r
ecessive; be ready to bc if not','K68507','16R',15,10).

packing_plan(64,1,['15R305:W0003115 x 15R0685:0009107'],2,[self,'W'],'is 1st; should be r
ecessive; be ready to bc if not','K68507','16R',15,10).

packing_plan(65,1,['15R405:M0003507 x 15R0685:0009107'],2,[self,'M'],'is 1st; should be r
ecessive; be ready to bc if not','K68507','16R',15,10).
```

%%%%%%%%%%%%%%%%%%%% 13 rows bulks for flying %%%%%%%%%%%%

% Les4 18 half-rows

% p205, 206
% packing_plan(66,1,['13R205:S0002205 x 13R4082:0005502'],1,[inc,self,'B'],'is 6th!; addi
tional bulking good','K0302','16R',15,10).
% packing_plan(67,1,['13R205:S0002205 x 13R4082:0005502'],2,[inc,self,'B'],'is 6th!; addi
tional bulking good','K0302','16R',15,10).

% p207, 208
% packing_plan(68,1,['13R305:W0000702 x 13R4083:0005603'],1,[inc,self],'is 6th!; check os
c; forbear male had great phenotype, smaller lesions on lower leaves than Mo20W on 9.1 in
 12n; sheath lesions were more diagnostic','K0302','16R',15,10).
% packing_plan(69,1,['13R305:W0000702 x 13R4083:0005603'],2,[inc,self],'is 6th!; check os
c; forbear male had great phenotype, smaller lesions on lower leaves than Mo20W on 9.1 in
 12n; sheath lesions were more diagnostic','K0302','16R',15,10).

% p251, 252
% packing_plan(70,1,['14R205:S0000215 x 14R4229:0009701'],1,[inc,self,'B'],'is 6th!','K03
03','16R',15,10).
% packing_plan(71,1,['14R205:S0000215 x 14R4229:0009701'],2,[inc,self,'B'],'is 6th!','K03
03','16R',15,10).

% p140, 141
% packing_plan(72,1,['12R405:M0000310 x 12R3587:0023110'],1,[inc,self],'is 6th!; phenotyp
e 9.1 in 12n','K0303','16R',15,10).
% packing_plan(73,1,['12R405:M0000310 x 12R3587:0023110'],2,[inc,self],'is 6th!; phenotyp
e 9.1 in 12n','K0303','16R',15,10).

% p163, 164
% packing_plan(74,1,['12N205:S0036705 x 12N3948:0017506'],1,[inc,self,'B'],'is 6th!; chec
k osc; male had good phenotype 9.1 in 12n','K2101','16R',15,10).
% packing_plan(75,1,['12N205:S0036705 x 12N3948:0017506'],2,[inc,self,'B'],'is 6th!; chec
k osc; male had good phenotype 9.1 in 12n','K2101','16R',15,10).

% p173, 174
% packing_plan(76,1,['12N305:W0038310 x 12N3949:0017706'],1,[inc,self],'is 6th!; in 12n,
male had weak phenotype 9.1, better by 13.1, but good phenotype by 15.1','K2101','16R',15
,10).
% packing_plan(77,1,['12N305:W0038310 x 12N3949:0017706'],2,[inc,self],'is 6th!; in 12n,
male had weak phenotype 9.1, better by 13.1, but good phenotype by 15.1','K2101','16R',15
,10).

% p98, 99
% packing_plan(78,1,['11N405:M0032808 x 11N3419:0010704'],1,[self,inc],'is 6th!; addtnl b
ulking good; check osc; male had good phenotype 9.1 in 12n','K2101','16R',15,10).
% packing_plan(79,1,['11N405:M0032808 x 11N3419:0010704'],2,[self,inc],'is 6th!; addtnl b
ulking good; check osc; male had good phenotype 9.1 in 12n','K2101','16R',15,10).

packing_plan(80,1,['15R305:W0000711 x 15R4352:0010904'],1,[inc,self,'B'],'is 6th','K2106'
,'16R',15,10).
packing_plan(81,1,['15R305:W0000711 x 15R4352:0010904'],2,[inc,self,'B'],'is 6th','K2106'
,'16R',15,10).

```
packing_plan(82,1,['15R405:M0001101 x 15R4353:0011002'],1,[inc,self,'B'],'is 6th','K2106'
,'16R',15,10).
packing_plan(83,1,['15R405:M0001101 x 15R4353:0011002'],2,[inc,self,'B'],'is 6th','K2106'
,'16R',15,10).
```

φ 17.7

```
%  Les8    8 half-rows
```

φ 17.7

```
% p304, 305
% packing_plan(84,1,['14R405:M0001105 x 14R4283:0021405'],1,[inc,self,'B'],'is 6th!; may
be fast','K0604','16R',15,10).
% packing_plan(85,1,['14R405:M0001105 x 14R4283:0021405'],2,[inc,self,'B'],'is 6th!; may
be fast','K0604','16R',15,10).


% p252, 253
% packing_plan(86,1,['14R205:S0000105 x 14R4284:0021512'],1,[inc,self,'B'],'is 6th!','K24
05','16R',15,10).
% packing_plan(87,1,['14R205:S0000105 x 14R4284:0021512'],2,[inc,self,'B'],'is 6th!','K24
05','16R',15,10).


% p175, 176
% packing_plan(88,1,['12N305:W0039207 x 12N3614:0024110'],1,[inc,self],'is 6th!; poor yie
ld on 13r selves','K2405','16R',15,10).
% packing_plan(89,1,['12N305:W0039207 x 12N3614:0024110'],2,[inc,self],'is 6th!; poor yie
ld on 13r selves','K2405','16R',15,10).


% p306, 307
% packing_plan(90,1,['14R405:M0001103 x 14R4285:0021603'],1,[inc,self,'B'],'is 6th!','K24
05','16R',15,10).
% packing_plan(91,1,['14R405:M0001103 x 14R4285:0021603'],2,[inc,self,'B'],'is 6th!','K24
05','16R',15,10).
```

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%% 27.5 rows primary and secondary dominants %%%%%%%%%%%%%%%%%%%%%%%%%%

% Les1 1 half-row

packing_plan(92,1,['15R405:M0001411 x 15R4384:0009402'],2,['M'],'is 2nd; branch rebuild','K0106','16R',15,10).

% Les2 4 half-rows

% p284
% packing_plan(93,1,['14R305:W0000704 x 14R4220:0006819'],1,['W'],'is 4th; repeat of 15r','K0202','16R',15,10).

% p230
% packing_plan(94,1,['13R405:M0002608 x 13R4076:0004202'],1,['M'],'is 5th; repeat of 15r','K0202','16R',15,10).

packing_plan(95,1,['15R305:W0000906 x 15R4351:0010005'],2,['W'],'is 2nd; branch rebuild','K0207','16R',15,10).

packing_plan(96,1,['15R305:W0002901 x 15R4389:0010801'],2,['W'],'is 2nd; branch rebuild; later phe in 15r','K0207','16R',15,10).

% Les2-N845A 3 half-rows

% p231
% packing_plan(97,1,['13R405:M0002601 x 13R4148:0019102'],1,['M'],'is 5th; repeat 15r','K5515','16R',15,10).

% p274
% packing_plan(98,1,['14R205:S0000607 x 14R4275:0020306'],1,['S'],'is 4th','K5525','16R',15,10).

% p287
% packing_plan(99,1,['14R305:W0000808 x 14R3937:0020415'],2,['W'],'is 2nd; may be chlorotic; one mutant in 15r','K5525','16R',15,10).

```
%  Les6  1 half-row



% p319
% packing_plan(100,1,['14R405:M0001101 x 14R4278:0020905'],1,['M'],'is 5th; repeat of 15r
','K2212','16R',15,10).
```

φ17.7

```
%  Les7  6 half-rows
```

φ17.7

```
packing_plan(101,1,['10R305:W0001502 x 10R1035:0021906'],1,['W'],'is 3rd; no phe 15r; anc
estor of 13R305:W0000803; stalled branch?; pick one of two','K0509','16R',15,10).

packing_plan(102,1,['10R305:W0001511 x 10R1035:0021903'],1,['W'],'is 3rd; no phe 15r; alt
ernate for 11N305:W0039501; stalled branch?; pick one of two','K0509','16R',15,10).


% p097
packing_plan(103,1,['11N305:W0039501 x 11N3192:0013810'],1,['W'],'is 4th; no phe 15r; for
ebear of 13R305:W000080; stalled branch?; pick one of two','K0509','16R',15,10).


% p087
packing_plan(104,1,['11N305:W0030810 x 11N3192:0013803'],1,['W'],'is 4th; no phe 15r; alt
ernate for 11N305:W0039501; stalled branch?; pick one of two','K0509','16R',15,10).


% p215
% packing_plan(105,1,['13R305:W0000803 x 13R3974:0021303'],1,['W'],'is 5th; no phe 15r; c
rummy tassels in 14r; repeat; stalled branch?','K0509','16R',15,10).


% p262
% packing_plan(106,1,['14R205:S0000109 x 14R4280:0021111'],1,['S'],'is 5th; no phe 15r','
K2312','16R',15,10).
```

φ17.7

```
%  Les9  2 half-rows



packing_plan(107,1,['15R205:S0000401 x 15R4391:0012707'],1,['S'],'is 5th','K2506','16R',1
5,10).
```

```
% p320
% packing_plan(108,1,['14R405:M0001308 x 14R4286:0021905'],1,['M'],'is 4th; repeat 15r; p
oor germination in 15r; overplant?','K2506','16R',15,10).



%  Les10 3 half-rows


packing_plan(109,1,['15R205:S0002501 x 15R4395:0013304'],1,['S'],'is 4th; fast; forebear
had no ears in 12r; male parent had bad tassel in 14r','K2606','16R',15,10).


packing_plan(110,1,['12R405:M0001501 x 12R3451:0028009'],2,['M'],'is 2nd; may be fast; al
ternate branch for 15R405:M0003909','K2606','16R',15,10).

packing_plan(111,1,['15R405:M0003909 x 15R4398:0013904'],1,['M'],'is 3rd; may be fast; ta
ssel looked sterile in 15r, but this is the progeny','K2606','16R',15,10).



%  Les11   3 half-rows


% p321
% packing_plan(112,1,['14R405:M0001304 x 14R4162:0022908'],1,['M'],'is 5th; repeat 15r; p
ick one of three','K0901','16R',15,10).


packing_plan(113,1,['14R405:M0003903 x 14R4162:0022908'],1,['M'],'is 5th; alternate for 1
4R405:M0001304; pick one of three','K0901','16R',15,10).

packing_plan(114,1,['14R405:M0003906 x 14R4162:0022908'],1,['M'],'is 5th; alternate for 1
4R405:M0001304; pick one of three','K0901','16R',15,10).


%  Les12  3 half-rows


% p079
% packing_plan(115,1,['11N205:S0034309 x 11N3189:0016803'],1,['S'],'is 3rd; repeat 15r; c
lear phe 15r; alternate branch for 12R205:S0002216; given metabolic effects, cut out most
 wild-types','K1001','16R',15,10).


% p110
% packing_plan(116,1,['12R205:S0002216 x 12R3629:0028403'],1,['S'],'is 4th; repeat of 13r
, 14r, 15r; clear phe 15r; a few ok tassels in 14r; check osc; missed in 12n; phenotype p
oor; given metabolic effects, cut out most wild-types','K1001','16R',15,10).



% p111
% packing_plan(117,1,['12R205:S0002217 x 12R3454:0028708'],1,['S'],'is 3rd; repeat of 13r
, 14r, 15r; good ears and tassels on some plants in 14r; modifier jump in 12n; given meta
bolic effects, cut out most wild-types','K2711','16R',15,10).
```

```
%  Les13  3 half-rows


packing_plan(118,1,['15R305:W0003003 x 15R4402:0015101'],1,['W'],'is 3rd','K1109','16R',15,10).

% p340
% packing_plan(119,1,['14R405:M0001803 x 14R4166:0023701'],1,['M'],'is 5th; looked like W23 in 15r; repeat 15r','K1109','16R',15,10).


packing_plan(120,1,['15R405:M0001619 x 15R1715:0015202'],2,['M'],'is 2nd','K2805','16R',15,10).


%  Les17   4 half-rows


% p153
% packing_plan(121,1,['12R405:M0011105 x 12R3242:0030209'],1,['M'],'is 5th; repeat 15r; many plants had ok tassels and small ears in 14r','K3007','16R',15,10).

packing_plan(122,1,['12R405:M0009910 x 12R3242:0030202'],1,['M'],'is 5th; alternate for 12R405:M0011105','K3007','16R',15,10).

packing_plan(123,1,['12R405:M0010820 x 12R3242:0030209'],1,['M'],'is 5th; alternate for 12R405:M0011105','K3007','16R',15,10).

packing_plan(124,1,['12R405:M0011110 x 12R3242:0030203'],1,['M'],'is 5th; alternate for 12R405:M0011105','K3007','16R',15,10).


%  Les18   2 half-rows


% p143
% packing_plan(125,1,['12R405:M0008203 x 12R3645:0030503'],1,['M'],'is 4th; repeat 15r; alternate branch to 12ns; tendency to crummy tassel','K1411','16R',15,10).


% p182
% packing_plan(126,1,['12N405:M0038707 x 12N4030:0030504'],1,['M'],'is 5th; repeat 15r; tendency to crummy tassel','K1411','16R',15,10).
```

% Les19 1 half-row

packing_plan(127,1,['15R405:M0001310 x 15R4401:0014902'],1,['M'],'is 5th','K3206','16R',15,10).

% Les20-N2457 14 half-rows

packing_plan(128,1,['15R205:S0002505 x 15R0686:0015302'],2,['S'],'is 1st; recreated from martys; alternate','K68602','16R',15,10).

packing_plan(129,1,['15R305:W0002805 x 15R0686:0015302'],2,['W'],'is 1st; recreated from martys; alternate','K68602','16R',15,10).

packing_plan(130,1,['15R405:M0003411 x 15R0686:0015302'],2,['M'],'is 1st; recreated from martys; alternate','K68602','16R',15,10).

packing_plan(131,1,['15R205:S0002411 x 15R0686:0015307'],2,['S'],'is 1st; recreated from martys','K68607','16R',15,10).

packing_plan(132,1,['15R305:W0003106 x 15R0686:0015307'],2,['W'],'is 1st; recreated from martys','K68607','16R',15,10).

packing_plan(133,1,['15R405:M0001601 x 15R0686:0015307'],2,['M'],'is 1st; recreated from martys','K68607','16R',15,10).

packing_plan(134,1,['15R205:S0002306 x 15R4403:0015507'],2,['S'],'is 3rd','K7110','16R',15,10).

packing_plan(135,1,['15R305:W0003004 x 15R2930:0015905'],2,['W'],'is 2nd','K7110','16R',15,10).

packing_plan(136,1,['15R305:W0003013 x 15R4044:0016008'],2,['W'],'is 2nd; alternate for 15R2930:0015905','K7110','16R',15,10).

packing_plan(137,1,['15R305:W0002903 x 15R4177:0016107'],2,['W'],'is 3rd','K7110','16R',15,10).

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packing_plan(138,1,['15R305:W0002904 x 15R3654:0016401'],2,['W'],'is 5th','K7110','16R',15,10).

packing_plan(139,1,['15R405:M0003701 x 15R1129:0015401'],2,['M'],'is 2nd','K7110','16R',15,10).

packing_plan(140,1,['15R405:M0003307 x 15R2931:0016704'],2,['M'],'is 3rd','K7110','16R',15,10).

packing_plan(141,1,['15R405:M0003804 x 15R4406:0016801'],2,['M'],'is 4th','K7110','16R',15,10).
```

Φ17.7

```
%  Les21    1 half-row

% p331
% packing_plan(142,1,['14R405:M0001610 x 14R4048:0026106'],1,['M'],'is 4th; repeat 15r; check osc; stems may be brittle','K3311','16R',15,10).
```

Φ17.7

```
%  Les21-N1442   3 half-row

packing_plan(143,1,['15R205:S0000101 x 15R4183:0017105'],1,[inc,self,'B'],'is 6th!; misplaced in field','K7205','16R',15,10).
```

Φ17.7

```
packing_plan(144,1,['15R305:W0000701 x 15R4363:0017408'],1,[check],'is 6th!','K7205','16R',15,10).

packing_plan(145,1,['15R305:W0000704 x 15R4363:0017408'],1,[check],'is 6th!','K7205','16R',15,10).
```

Φ17.7

```
%  Les*-mi1    1 half-row

packing_plan(146,1,['15R205:S0000510 x 15R4412:0018104'],1,['S'],'is 5th','K12205','16R',15,10).
```

% doubled haploids from candy gardner

packing_plan(147,1,['16R0687:0000000','15SGEM:BGEM:13397','(ALTIPLANO BOV903/PHZ51)/PHZ51'],1,[fly],'','','16R',15,10).

packing_plan(148,1,['16R0688:0000000','14SGEM:BGEM:17314','(ANCASHINO ANC102/PHB47)/PHB47'],1,[fly],'','','16R',15,10).

packing_plan(149,1,['16R0689:0000000','14SGEM:BGEM:12345','(BOFO DGO123/PHB47)/PHB47'],1,[fly],'','','16R',15,10).

packing_plan(150,1,['16R0690:0000000','14SGEM:BGEM:19336','(CON NORT ZAC161/PHB47)/PHB47'],1,[fly],'','','16R',15,10).

packing_plan(151,1,['16R0691:0000000','14SGEM:BGEM:08337','(CRISTALINO AMAR AR21004/PHB47)/PHB47'],1,[fly],'','','16R',15,10).

packing_plan(152,1,['16R0692:0000000','14SGEM:BGEM:04349','(CRISTALINO AMAR AR21004/PHB47)/PHB47'],1,[fly],'','','16R',15,10).

packing_plan(153,1,['16R0693:0000000','14SGEM:BGEM:08361','(CUZCO CUZ217/PHZ51)/PHZ51'],1,[fly],'','','16R',15,10).

packing_plan(154,1,['16R0694:0000000','14SGEM:BGEM:13350','(ONAVENO SON24/PHB47)/PHB47'],1,[fly],'','','16R',15,10).

packing_plan(155,1,['16R0695:0000000','14SGEM:BGEM:25341','(PATILLO GRANDE BOV649/PHZ51)/PHZ51'],1,[fly],'','','16R',15,10).

packing_plan(156,1,['16R0696:0000000','14SGEM:BGEM:11338','(PATILLO GRANDE BOV649/PHB47)/PHB47'],1,[fly],'','','16R',15,10).

packing_plan(157,1,['16R0697:0000000','14SGEM:BGEM:08313','BR105:N(PHZ51)(PHZ51)-(2n)-003-001-B'],1,[fly],'','','16R',15,10).

packing_plan(158,1,['16R0698:0000000','14SGEM:BGEM:15346','((Tehua - CHS29/PHB47 B)/PHB47)-(2n)-003-001-B'],1,[fly],'','','16R',15,10).

packing_plan(159,1,['16R0699:0000000','15SGEM:BGEM:14378','(YUCATAN TOL389 ICA/PHZ51)/PHZ51'],1,[fly],'','','16R',15,10).

packing_plan(160,1,['16R0700:0000000','13SGEM:06-N3:4962','(YUNGUENO BOV362/PHZ51)/PHZ51'],1,[fly],'','','16R',15,10).

packing_plan(161,1,['16R0701:0000000','14SGEM:BGEM:06313','(YUNGUENO BOV362/PHZ51)/PHZ51'],1,[fly],'','','16R',15,10).

packing_plan(162,1,['16R0702:0000000','14SGEM:BGEM:23344','((Cateto Nortista - GIN I/PHB47 B)/PHB47)-(2n)-002-001-B'],1,[fly],'','','16R',15,10).