

Long-term barley supply issues, transportation costs, and climate change underscore the need to develop alternative growth habit types of barley suited to alternate production areas. If there is not winter injury, winter barley will nearly always yield more malting quality grain per acre than spring barley. The challenge is to understand the genetics of low temperature tolerance and growth habit in order to realize this potential. (Oregon AMBA proposal, 2011)



Informal survey – 11 U.S. programs doing *something* with winter barley

Question	Average	Range
Percent effort on winter barley	35	2 - 100
Of winter barley effort, % on malt	57	0-100
Number of own test sites	3	1 - 6
Number of cooperator tests	3	0 - 7



CO, ID (2), MN, NE, OH, OR, VA, WA

Question	Average	Range
# yield trial plots	1K	30 – 4K
# head rows	4K	0 – 10K
Varieties released	2	0 - 7
Malt varieties released	0.2	0 - 2
Varieties expected	1	0 - 4
Malt varieties expected	.09	1
Biggest constraint	Winterhardiness	Markets, money, winterhardiness
% winter currently	40	0 - 100
% winter projected	58	10 - 100



Quality



OR81 – Yes (great extract, enzymes, yield, and beta-glucans)

OR818 – Yes (comparable to Charles except much better yield)

OR915 – No (Better yield than Charles but significantly lower extract and slightly higher beta-glucans)

OR813 – Yes (Good moderate enzymes, lower extract than Charles but great yield and lower beta-glucans than Charles)

OR91 – No (Amazing yield but lower extract and higher beta-glucan than Charles)

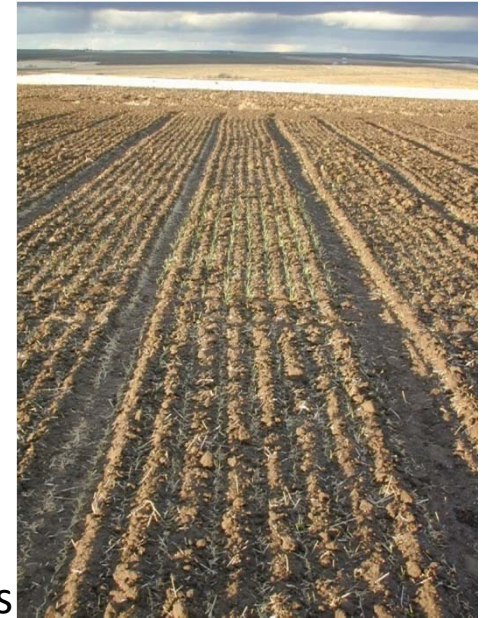
OR92 – Yes (Amazing yield with slight lower extract, comparable enzymes and lower beta-glucans than Charles)

OR97 – Yes (Better yield than Charles with lower extract and beta-glucans)

OR98 – No (Lower extract, higher beta-glucans than Charles)



68 test sites
30,000 plots



11 programs
4 FTE; 2 FTE malt
\$470,000



Currently
21 varieties
2 malt varieties

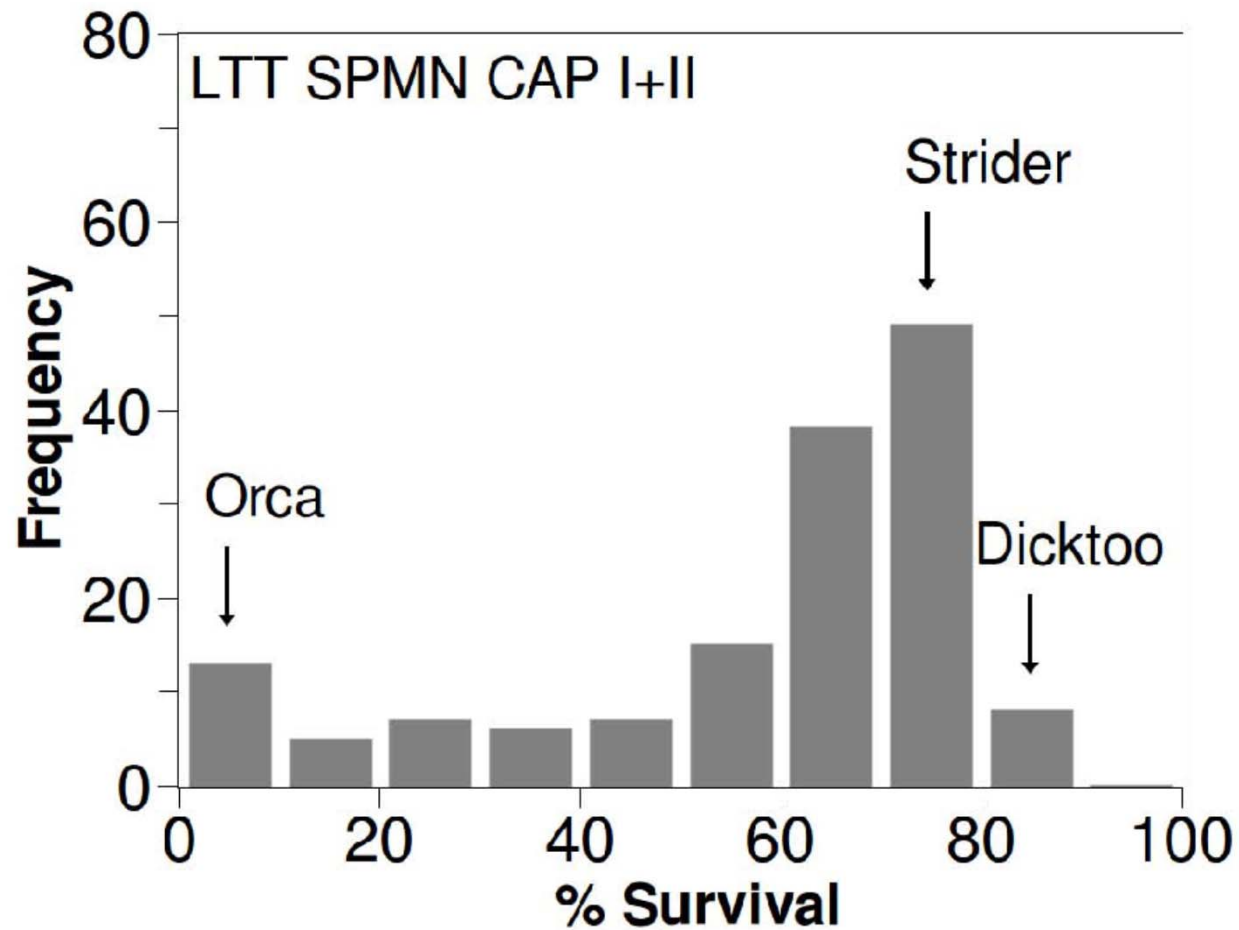


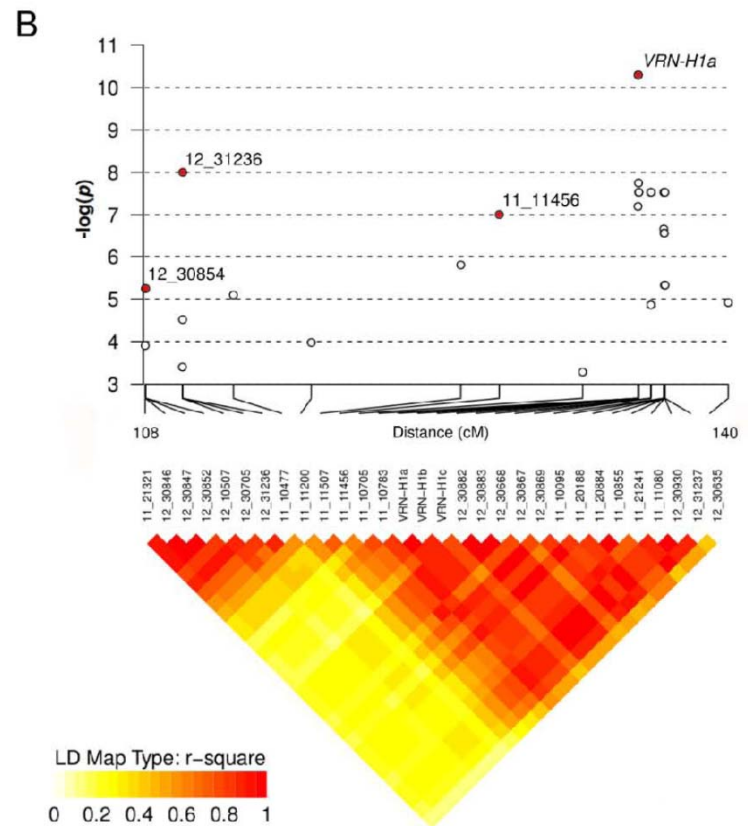
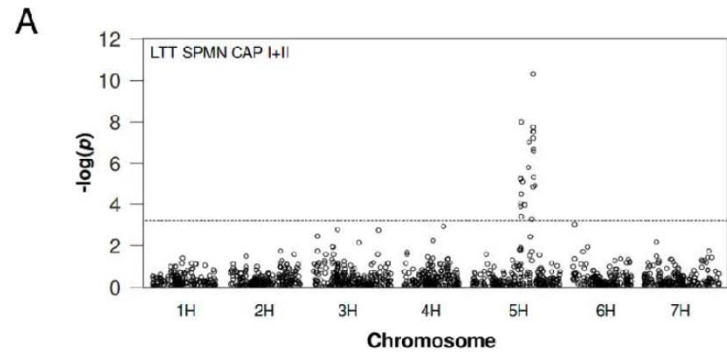
Coming
12 varieties
1 malt variety

40% of acreage

Winterhardiness

VonZitzewitz et al. CAP I, II. Submitted. The Plant Genome





Promote Innovate Coordinate



Thanks to
BARI, AMBA, GWM, OGC (OWC)

NABRW
A celebration of (winter) barley
Corvallis, Oregon
June 6,7,8 2011

