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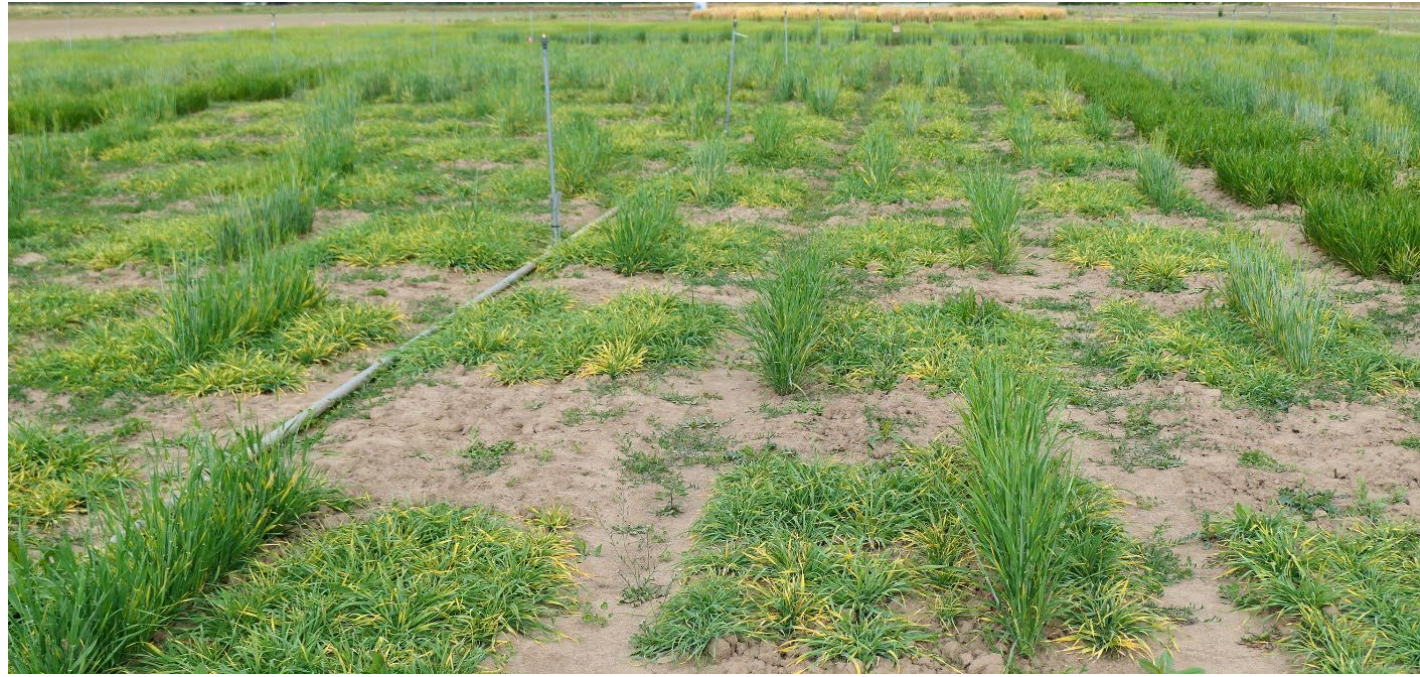
Covered Golden Promise

Barley has so much to contribute in terms of meeting the challenges of climate change and achieving more resilient agroecosystems. We argue that the contributions of barley could be maximized by shifting to a new growth habit (facultative) and caryopsis morphology (naked) - and by adding value through a phenotype that has seldom been targeted for selection (flavor). The anticipated outcome is a versatile crop that could rise above and beyond barley’s long-term 4th place position in the pantheon of cereals. There will be some serious obstacles along the way – including threshability, embryo damage, and smuts - but we believe judicious application of current and future breeding tools will be effective in achieving the goal, and/or in identifying other promising alternatives along the way. Meanwhile, covered barley will be rockin’ steady and paying the bills.



Naked (Golden) Promise

The triad of traits



Facultative



Naked



Flavorful



Food



Feed



Beverage

Naked barley - the multi-use nexus crop

The ants at the picnic



Smuts



Threshability



Embryo loss

Challenges

Not so simple as a quick edit



Golden Promise and Naked Promise mutants



Naked malts – a new frontier



Naked Malting Trial
Corvallis, 2022

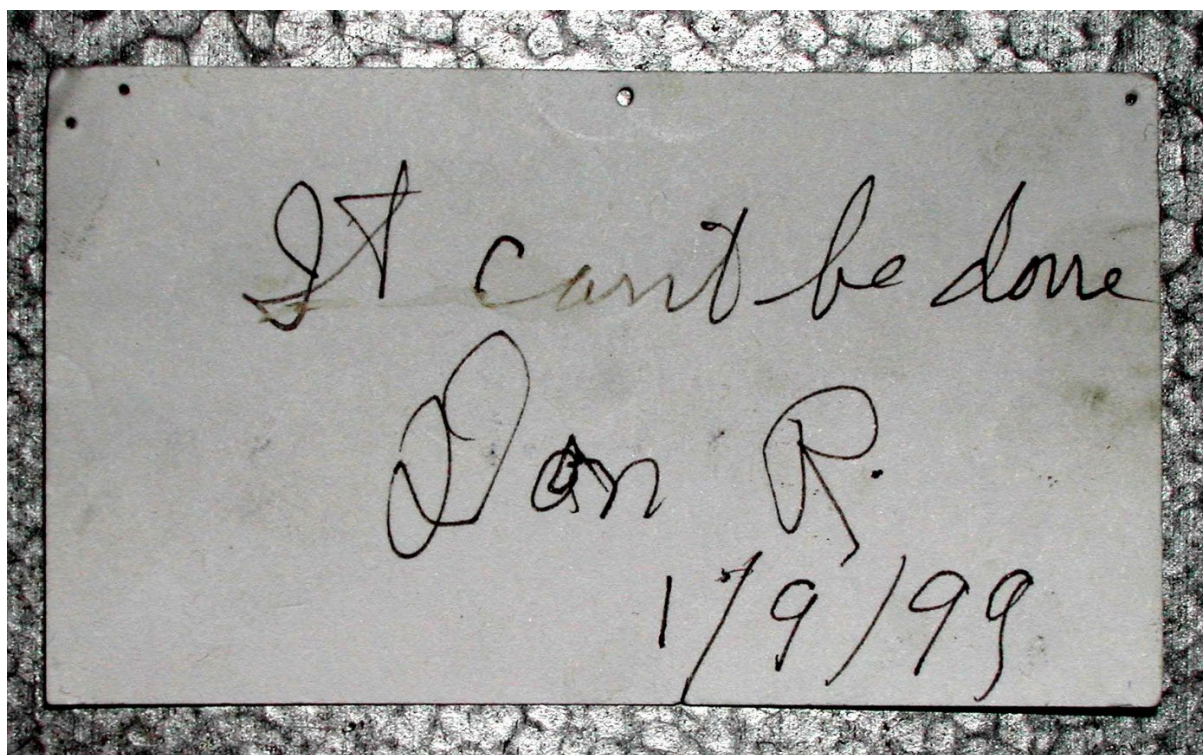
Line	Malt Extract	Beta glucan	Diastatic power	Alpha amylase	FAN	Grain protein	Soluble protein	S/T	Pedigree
	%	ppm	⁰ ASBC	20 ⁰ units	ppm	%	%	%	
DH180670	87.3	184	132	74.9	320	12.7	6.78	53.4	DH120304/1-4
DH180676	85.3	181	219	66.4	247	14.38	5.99	41.7	DH120304/DH140322
VT190079	85.9	152	149	70.3	205	12.4	5.35	43.1	VA15H-73/Violetta
VT190714	86.4	66	167	79.4	236	12.1	5.47	45.2	VA15H-73/Violetta
VT190041	85.5	111	113	76.9	199	12.7	4.74	37.3	VA15H-73/Flavia
Buck	86.4	380	95	44.5	163	9.4	3.89	41.4	Strider/Doyce
Thunder	82.8	52	120	77	266	9.7	5.38	55.5	Wintmalt/Charles

Naked malts compared to Thunder (covered). 2021 crop, Corvallis, OR.
Malting was conducted at Oregon State University and malt analyses were Performed at Hartwick Center for Craft Food and Beverage for all entries except DH180676, which was malted and analyzed at Rahr Malting Co.

Incentivized

Line	Yield	Test Weight	Plump	Height	Lodging	Scald	Stripe rust	Anthesis
	kg/ha	kg/hl	% 6/64	cm	%	%	%	after Jan 1
DH180670	5748	76.6	90.8	111	0	1	10	121
DH180676	5381	75.0	89.1	106	0	8	1	119
DH190079	5584	77.7	96.4	111	1	14	19	117
DH190714	5970	77.8	88.7	113	8	8	3	107
DH190041	5689	74.6	87.0	100	0	11	16	119
Buck	5110	70.7	38.1	115	0	19	0	130
Thunder	6562	67.3	95.8	102	11	31	10	117
Lightning	7351	68.5	96.0	117	6	4	10	123

Agronomic data. Naked Malting Trial. 2021 (Corvallis) and 2022 (Corvallis and Lebanon, OR).



It worked for covered winter malting barley, so why not facultative naked barley?