



Joint Performance Trials Results for Younger Cohorts

UMHDI “1st Gen” selections
(Badgersett-derived
50:50 American x European hybrids)

planted by fall 2019
after six to eight field seasons

with Grimo’s Northern Blais as the
check



West Madison, Wisconsin JPT

Lat. 43°N (Zone 5a)

Plano Silt Loam, 0-6 % slope



Seedling

Frank

The Beast

Aldara

Grand
Traverse

Northern
Blais

Marion Andrew

Selections planted in spring 2017, photo 2024

Photo: Jason Fischbach

**St. Paul Minnesota JPT
Lat. 45° N (Zone 4b
Waukegan silt loam,
4-6% slope, eroded glacial ridge top**



Photo Dec 2025, Lois Braun

**Staples
Minnesota
JPT
Lat. 46°N
(Zone 4a)**

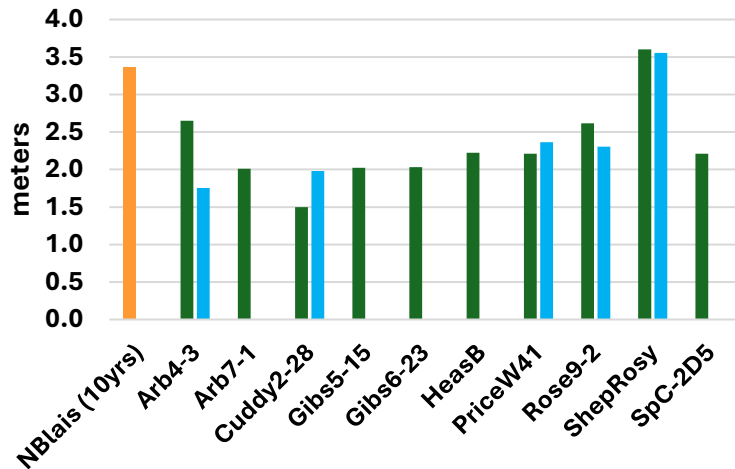
**Verndale
Sandy Loam,
0% slope**



Photo fall 2023, staff of Central Lakes Community College

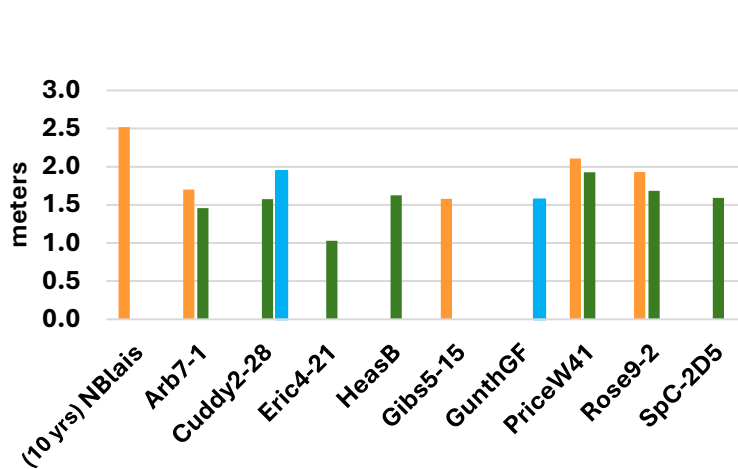
West Madison

Height



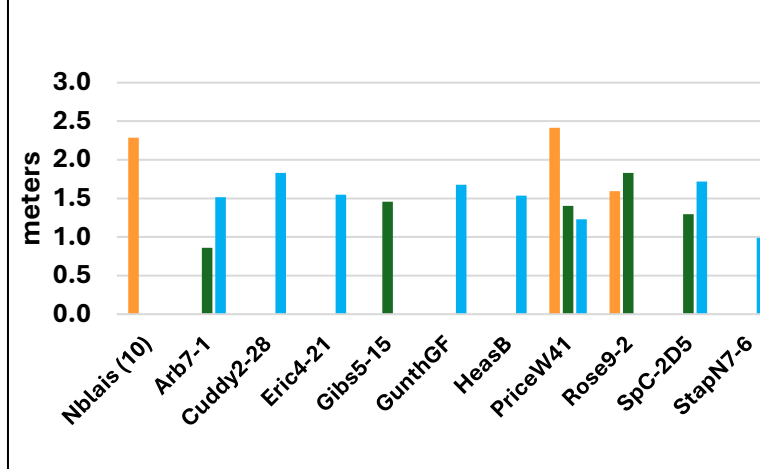
St Paul

Height

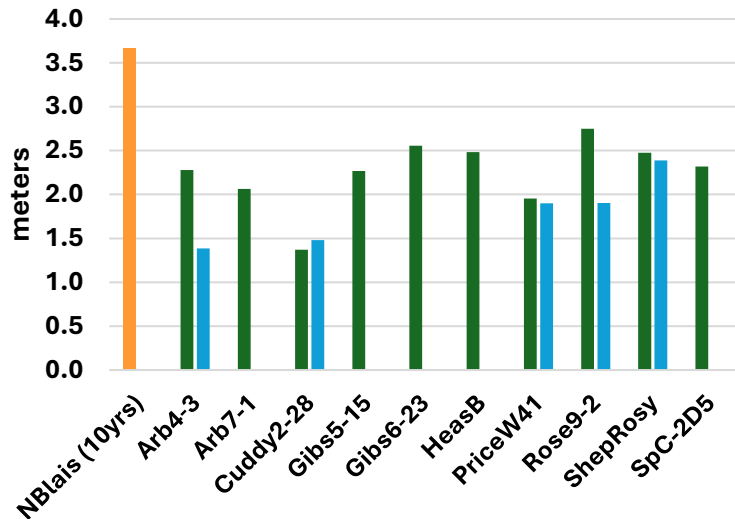


Staples

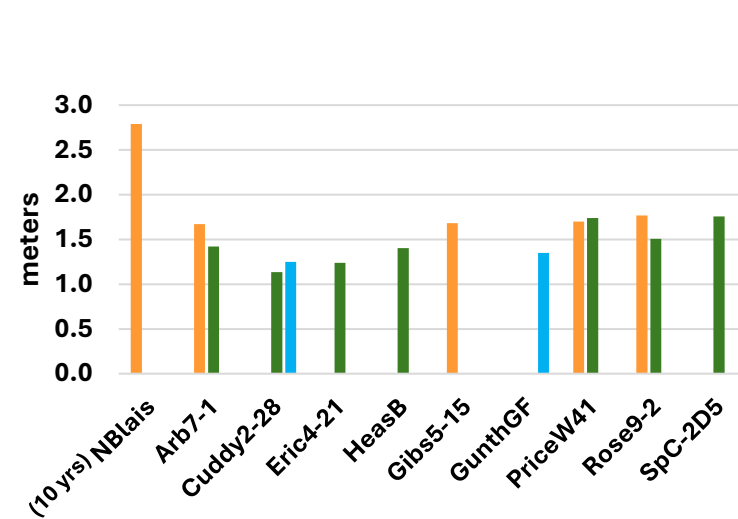
Height



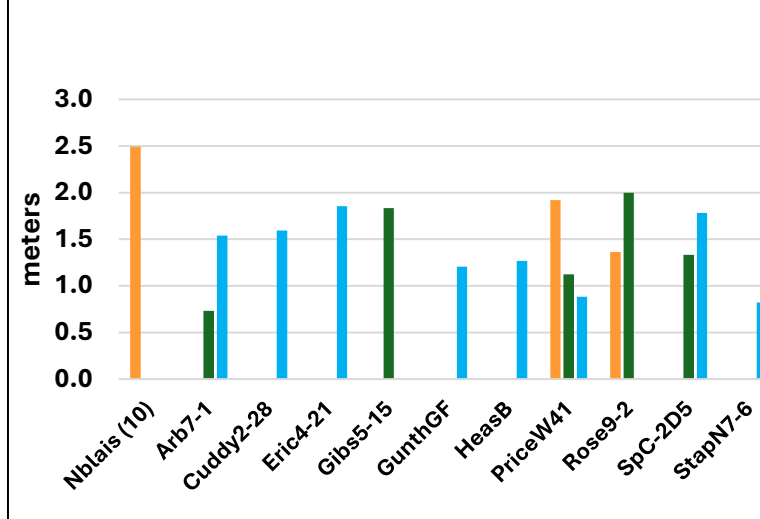
Width



Width



Width



8 to 10 years old 7 years old 6 years old

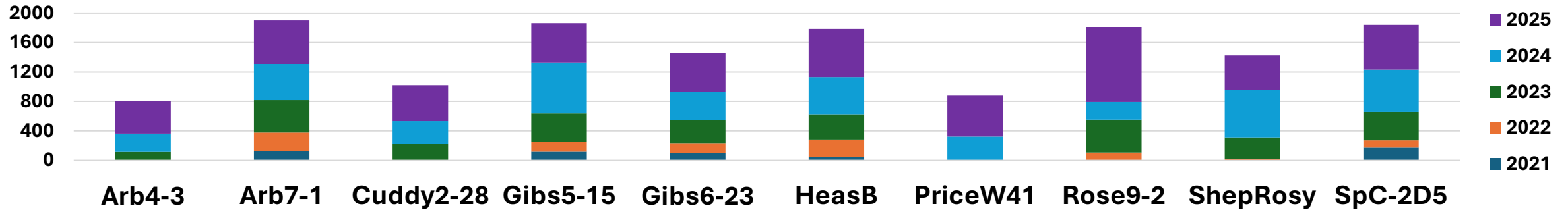
Kernel Yield of 7-year-old plants

Not displayed:

N. Blais (10 yrs old) cumulative 5 yr yield 6054 g plant⁻¹

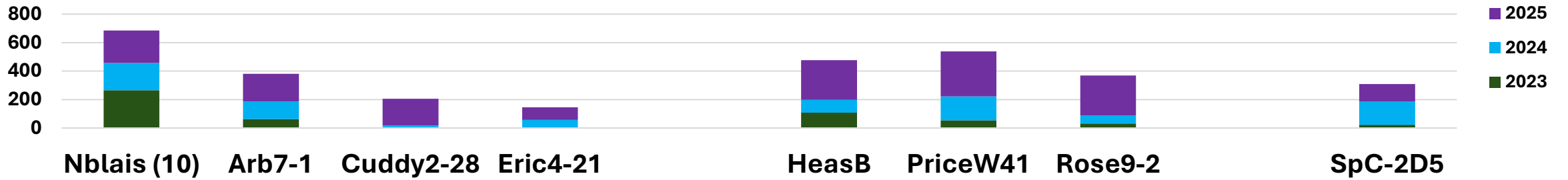
West Madison

Only N. Blais was significantly more productive than the others.



St. Paul

Only N. Blais was significantly more productive than the others.

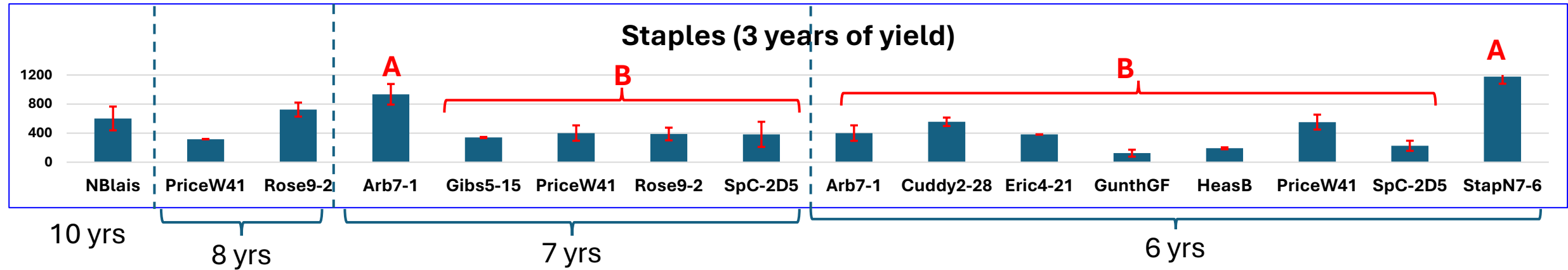
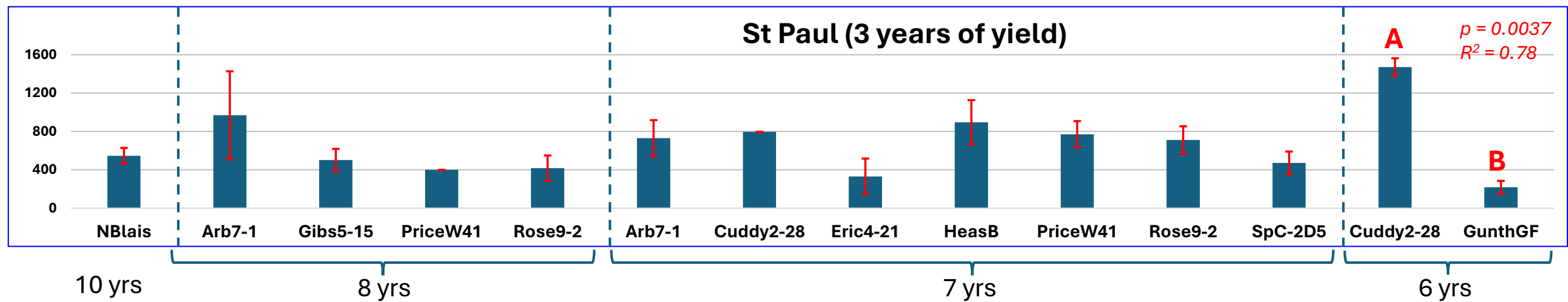
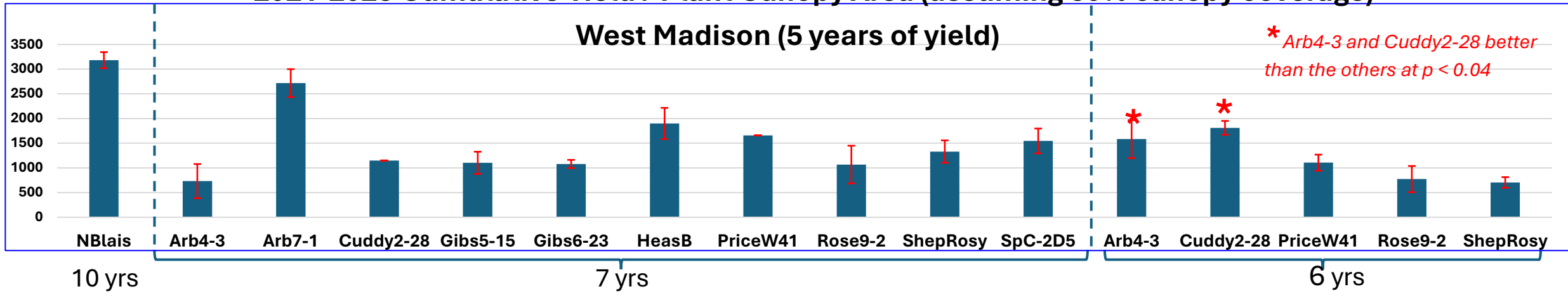


Staples

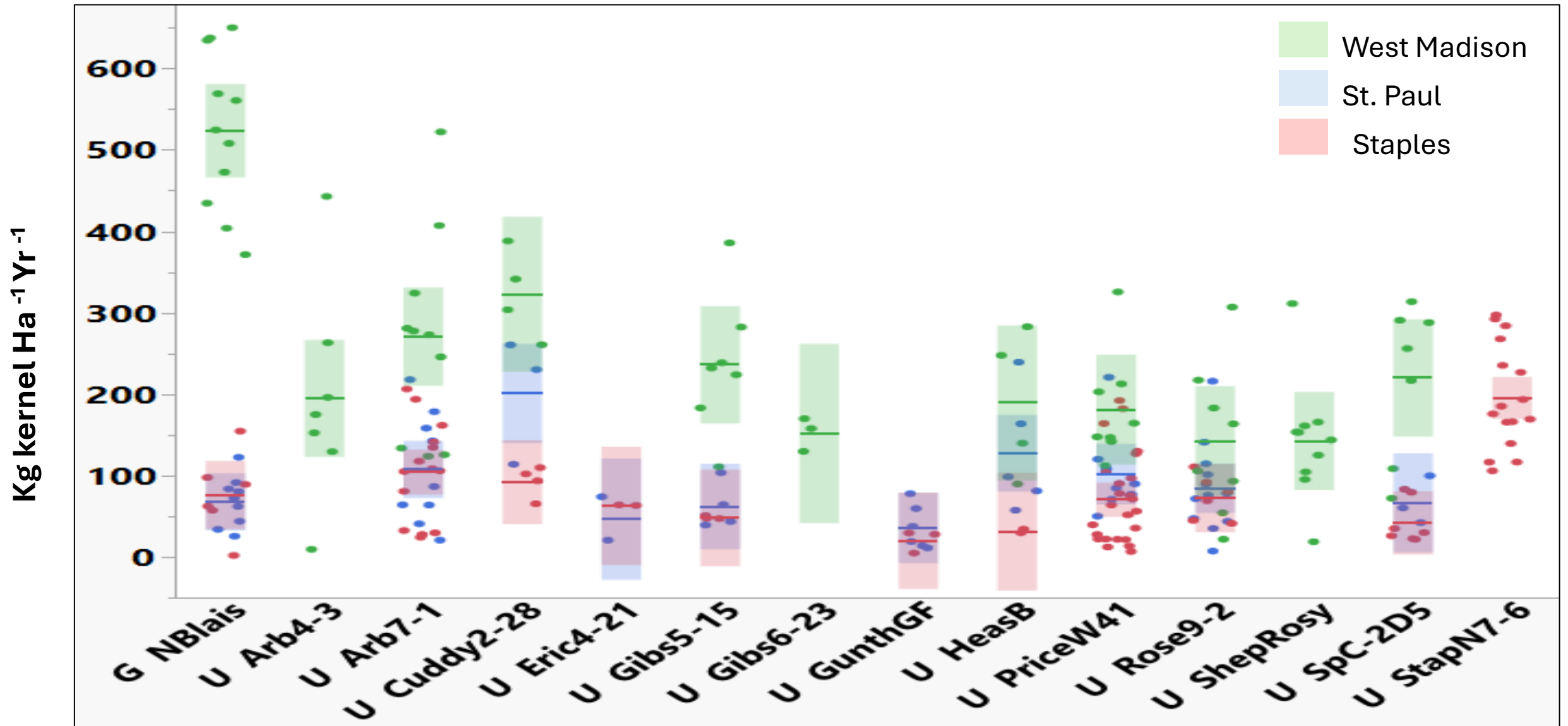
*Within 7 yr cohort:
p = 0.0009
R² = 0.43*



2021-2025 Cumulative Yield / Plant Canopy Area (assuming 50% canopy coverage)



Cumulative Kernel Yield divided by Canopy Area divided by Age of Plant



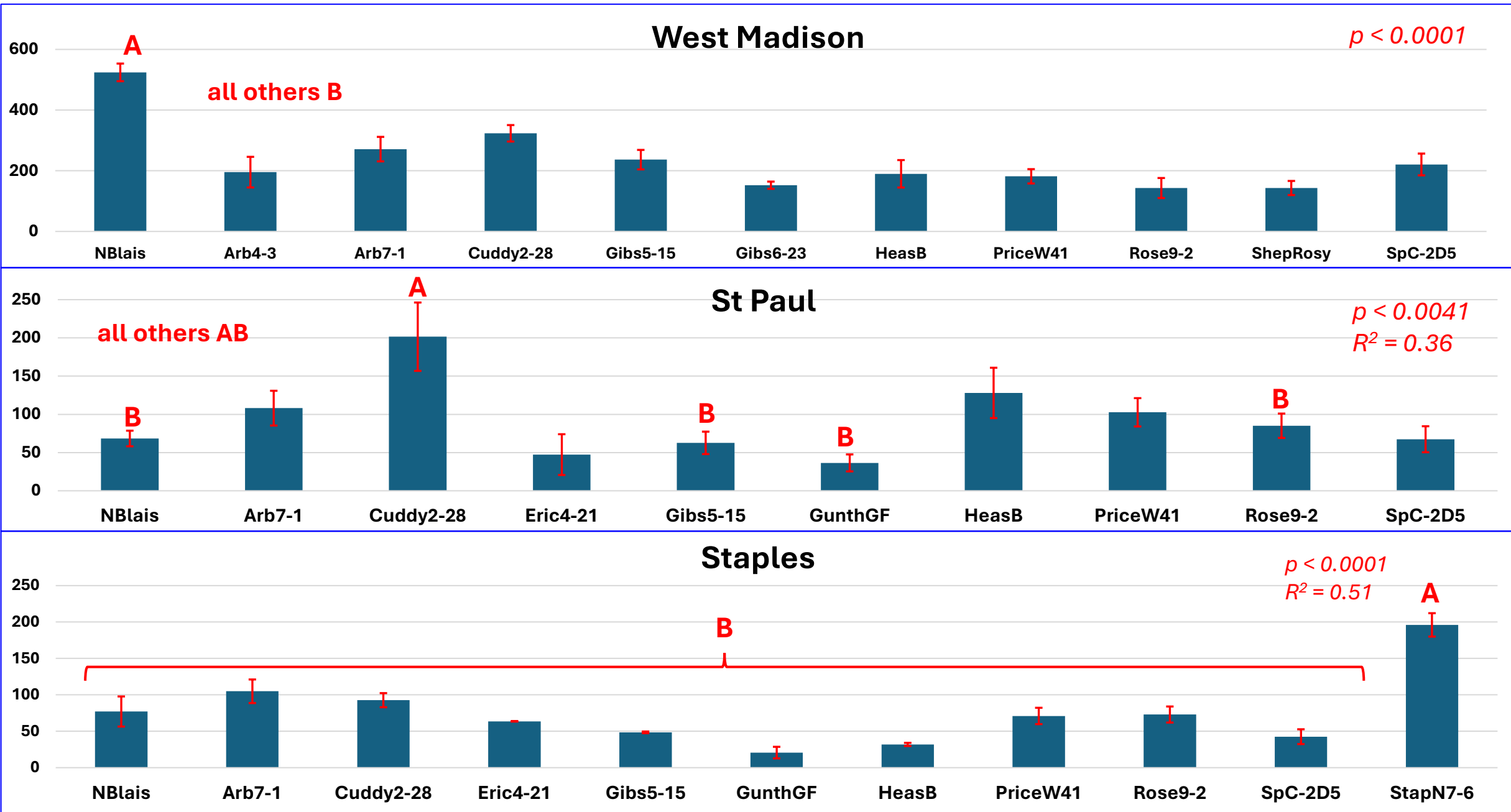
Canopy area at 50% canopy coverage.

Age of plant = # of field seasons since propagation

G = Grimo

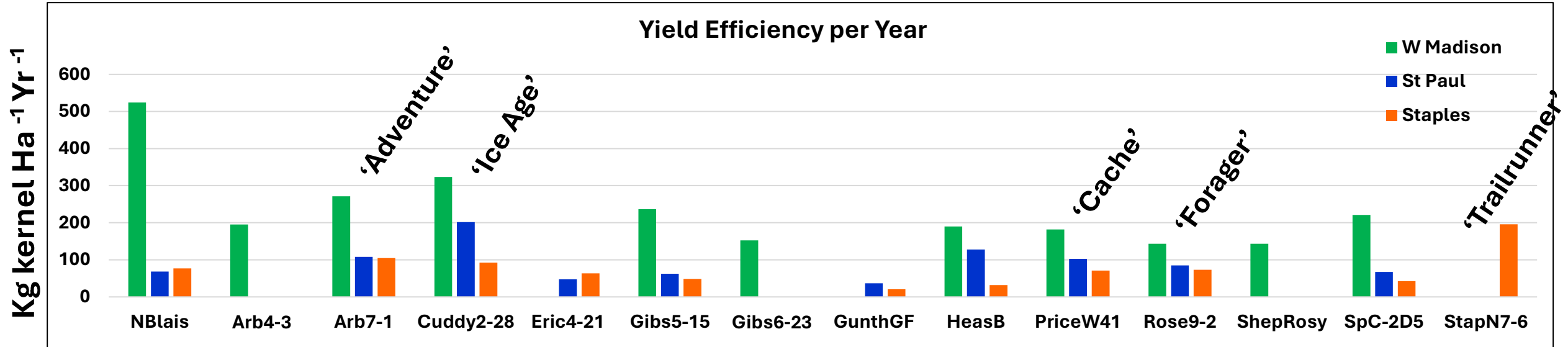
U = UMHDI

Cumulative Kernel Yield Divided by Canopy Area divided by Age of Plant



All Three Sites

Yield Efficiency per Year



Same data as last figure, easier to read

Conclusions:

- Production is best at West Madison
- N Blais is still the best at West Madison, but N. Blais is not so good further north.
- Cuddy ('Ice Age') is best in St. Paul
- StapN7-6 ('Trailrunner') is best at Staples
- Almost all of the other selections looked good at one or more of the sites except for GunthGF.
- We may yet deselect some of these based on poor nut quality, or pest problems.
- It really is too early to draw really strong conclusions.
- The UMHDI plants do have potential and their advantage is stronger the further north you go.

Nut Quality

averages of all three sites, from best to worst

Single Kernel Weight (g kernel⁻¹)

Marion	1.10	A
ShepRosy	0.97	B
Aldara	0.92	BC
NBlais	0.88	BC
SpC-2D5	0.85	CD
StapN7-6 (Trailrunner)	0.78	DE
Rose9-2 (Forager)	0.72	EFG
Eric4-21	0.67	GH
Gibs5-15	0.66	GH
PriceW41 (Cache)	0.65	GH
Arb4-3	0.63	HI
GunthGF	0.63	HI
Eric4-21	0.62	IJ
Arb7-1(Adventure)	0.57	IJ
HeasB	0.51	IJ
Cuddy2-28 (Ice Age)	0.51	IJ
Gibs6-23 (too small!)	0.41	J

$p_{\text{genotype}} < 0.0001$

% Kernel

Rose9-2 (Forager)	46%	A
ShepRosy	42%	AB
Arb7-1 (Adventure)	42%	B
Aldara	41%	B
Cuddy2-28 (Ice Age)	40%	BC
SpC-2D5	39%	BC
Arb4-3	39%	BCD
Gibs6-23	38%	DEF
PriceW41 (Cache)	37%	CDE
Marion	37%	CDE
NBlais	36%	DEF
StapN7-6 (Trailrunner)	35%	EFG
HeasB	35%	EFG
GunthGF	34%	EFG
Eric4-21	32%	F
Gibs5-15	32%	F
Eric4-21	32%	FG

$p_{\text{genotype}} < 0.0001$

Site Effects

Single Kernel Weight (g)

W.Mad	0.76	A
St. Paul	0.73	B
Stap	0.66	C

$p_{\text{site}} < 0.0001$

% Kernel

W.Mad	39%	A
St. Paul	38%	B
Stap	35%	C

$p_{\text{site}} < 0.0001$