

Nitrogen Fertilizer Recommendations for Soft White and Hard Red Spring Wheat

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MT Fertilizer Tax Committee

Hard Red

Soft White



High protein
(discounted; protein <14%)

Low protein
(discounted; protein <8.5-10.5%>)

Market price varies year-to-year
Can we minimize N for protein?

Focus on Yield?, especially with the
availability of 'Egan'

Focus on Yield?

Goal

Measure and compare yield and protein performance of contrasting market classes

Specific objectives

Fertilizer recommendation

Hard Red

Egan

McNeal

Solano

Vida

Soft White

Alpowa

Alturas

Penewawa

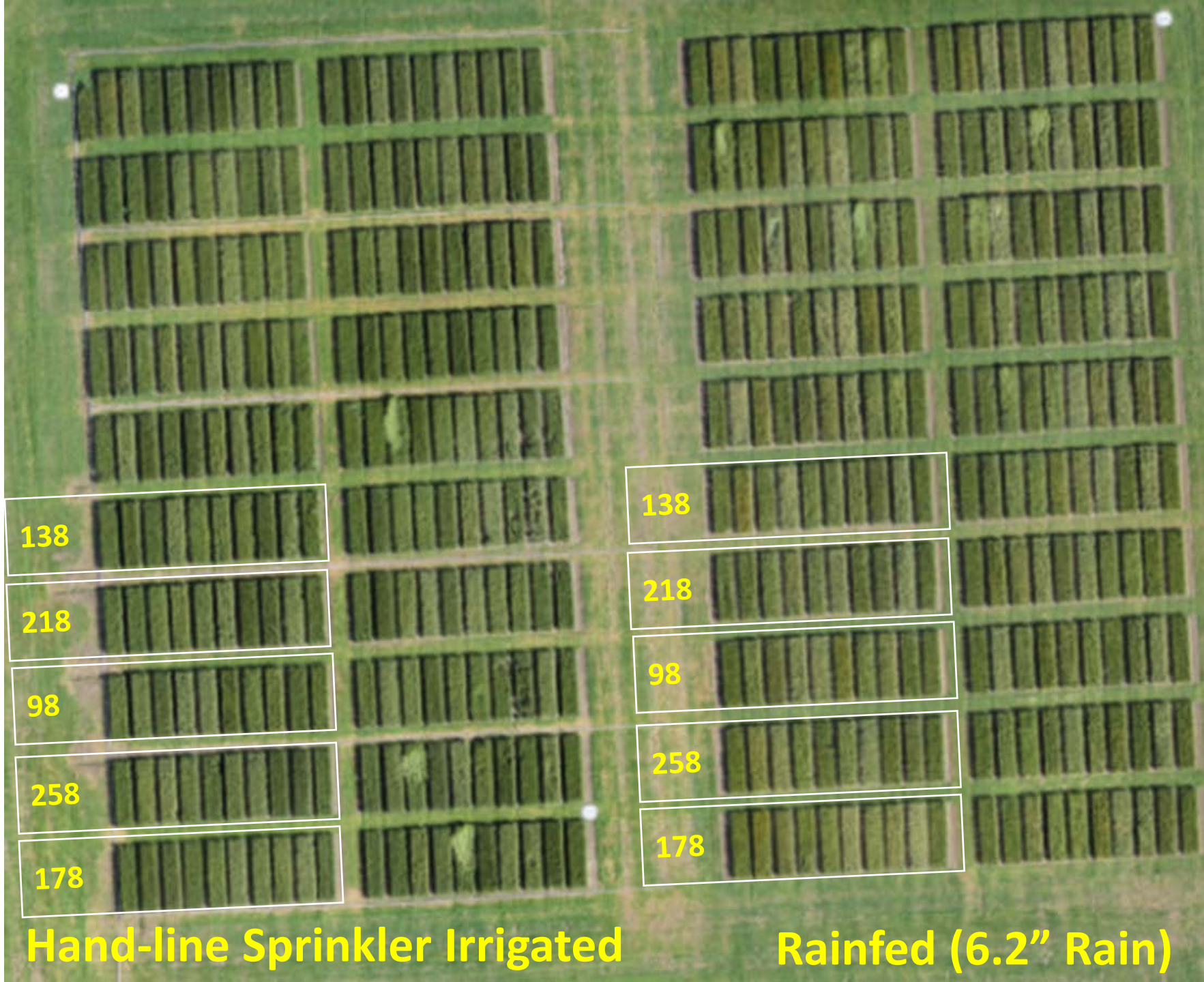
UI-Stone

Planted: 22 Apr

25 seeds/ft²

TOTAL IRR: 5.7"

(6/10: 1"; 6/23: 1.3";
6/30: 1"; 7/15: 1.3";7/22: 1")

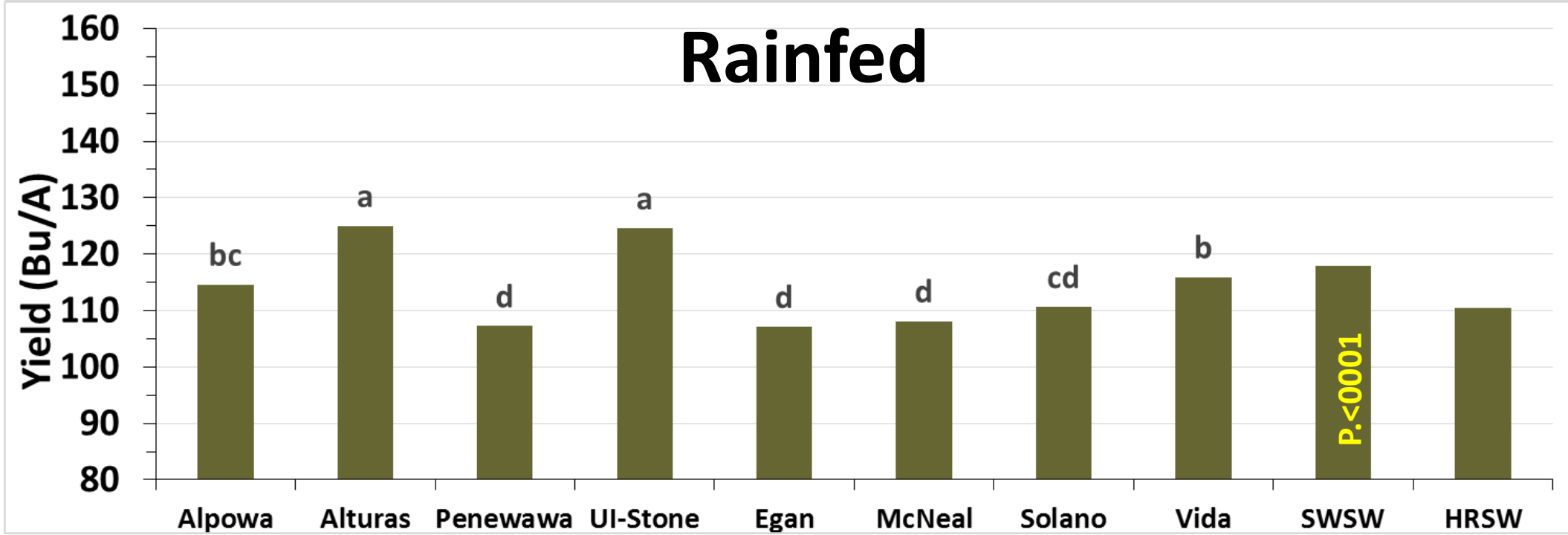
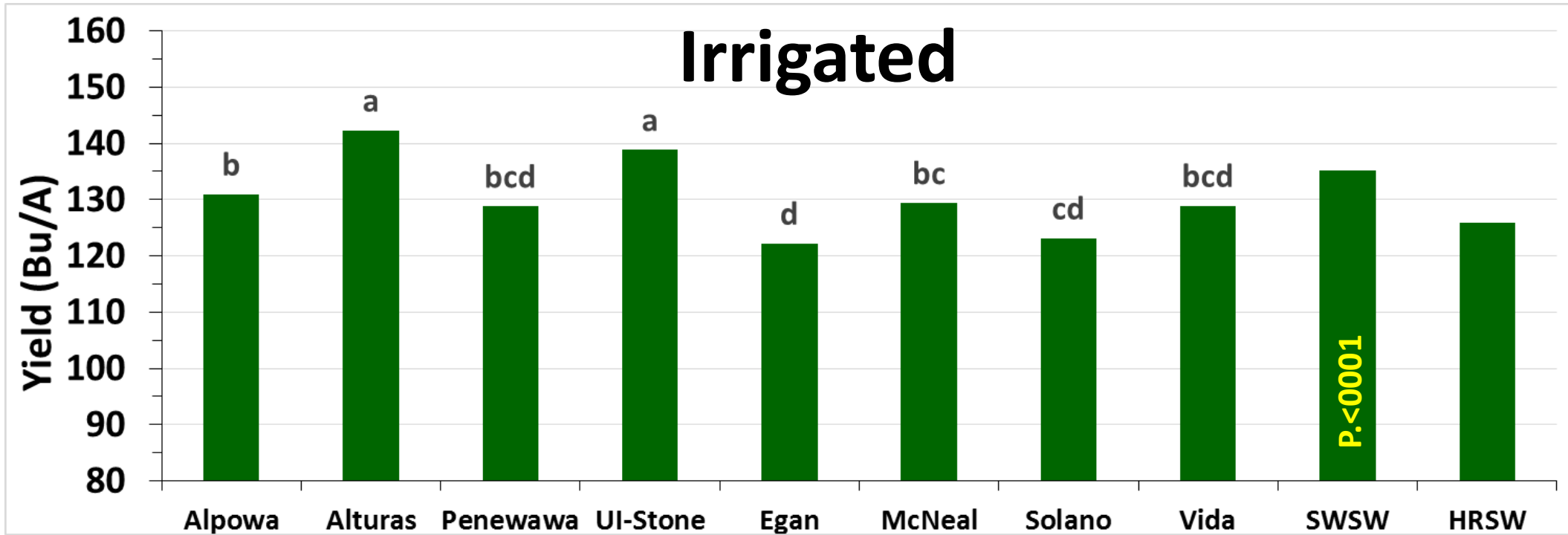


Hand-line Sprinkler Irrigated

Rainfed (6.2" Rain)

Yield (Bu/A)

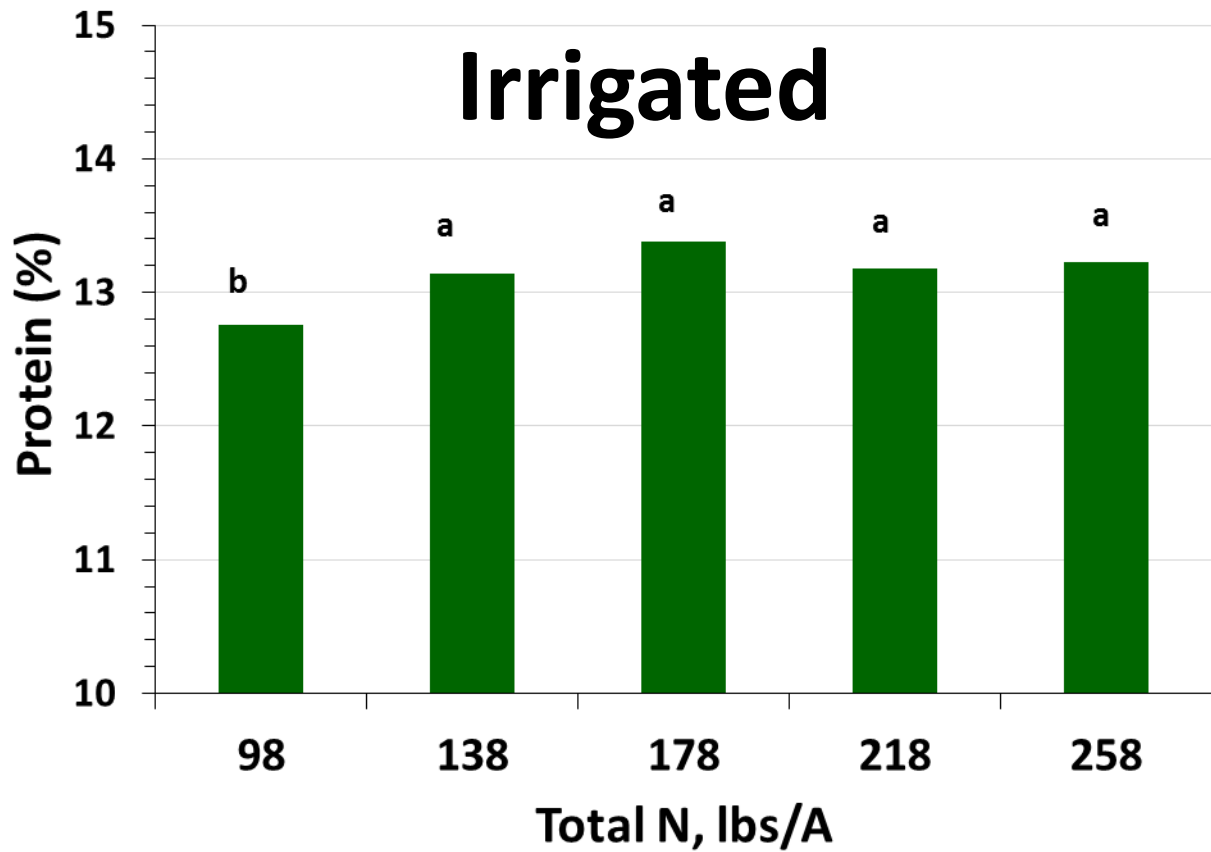
<u>Effects</u>	<u>Irrigated</u>	<u>Rainfed</u>
Nitrogen	: 0.6953	0.4605
Variety	: <.0001	<.0001
Nitrogen x Variety	: 0.1062	0.9205



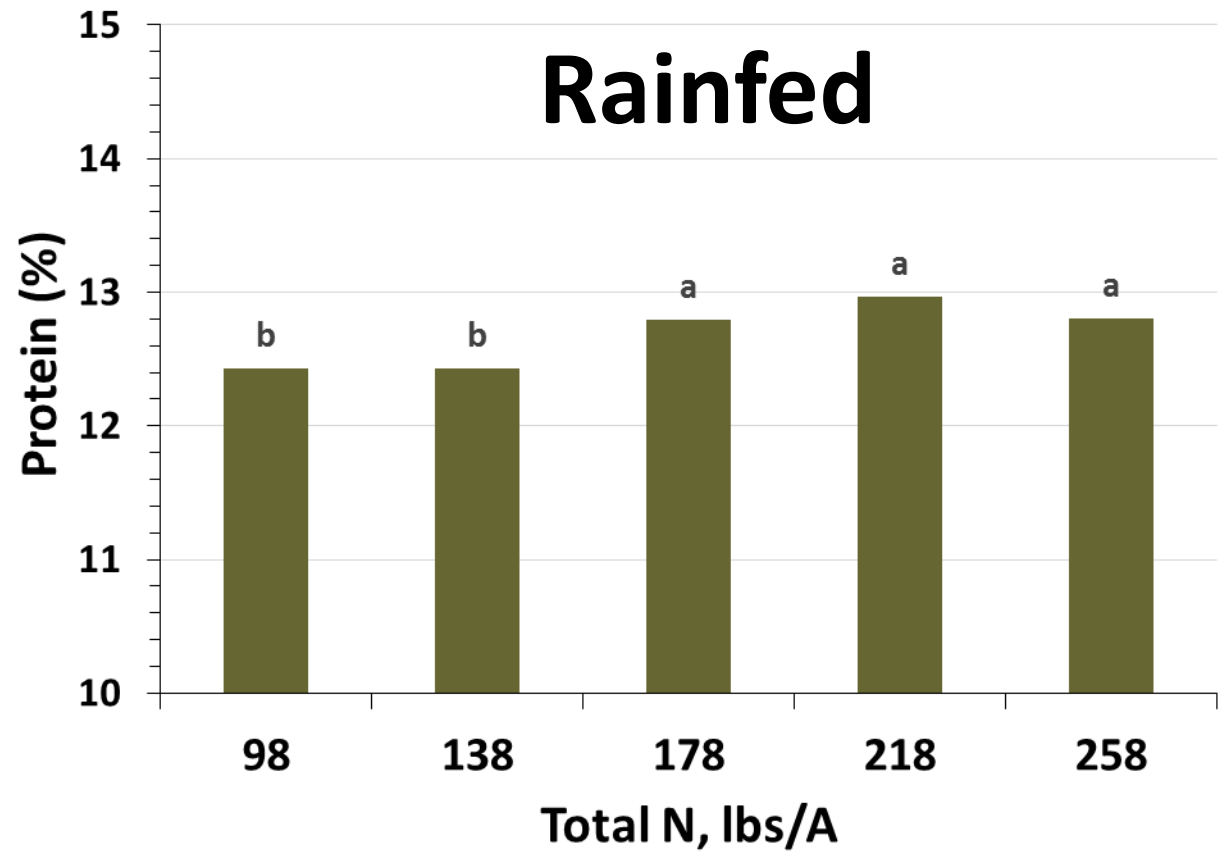
Protein

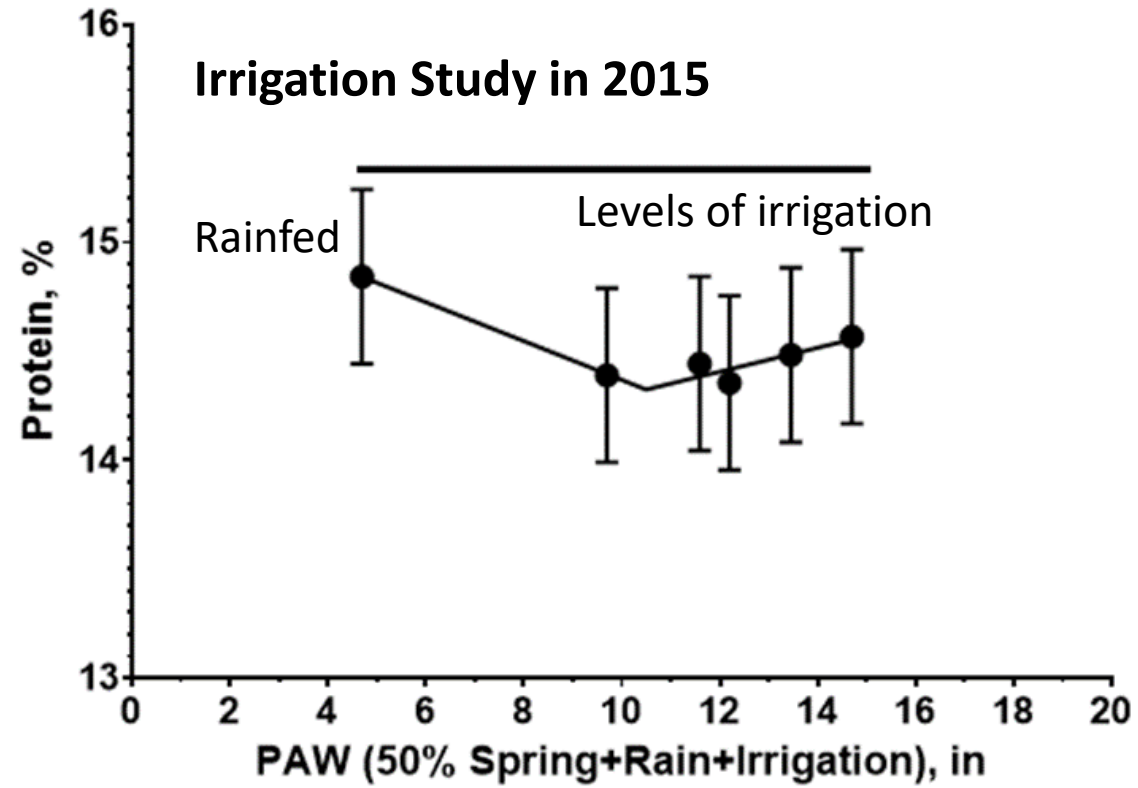
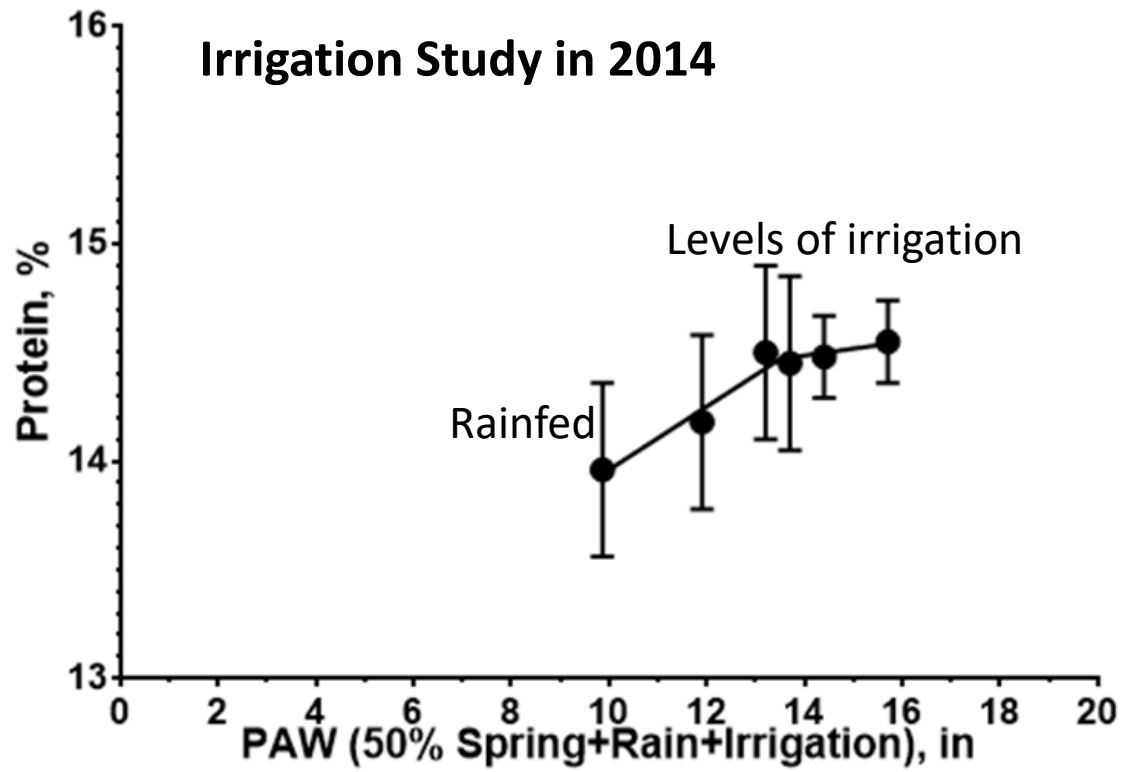
<u>Effects</u>	<u>Irrigated</u>	<u>Rainfed</u>
Nitrogen	: 0.041	0.0055
Variety	: <.0001	<.0001
Nitrogen x Variety	: 0.7361	0.8236

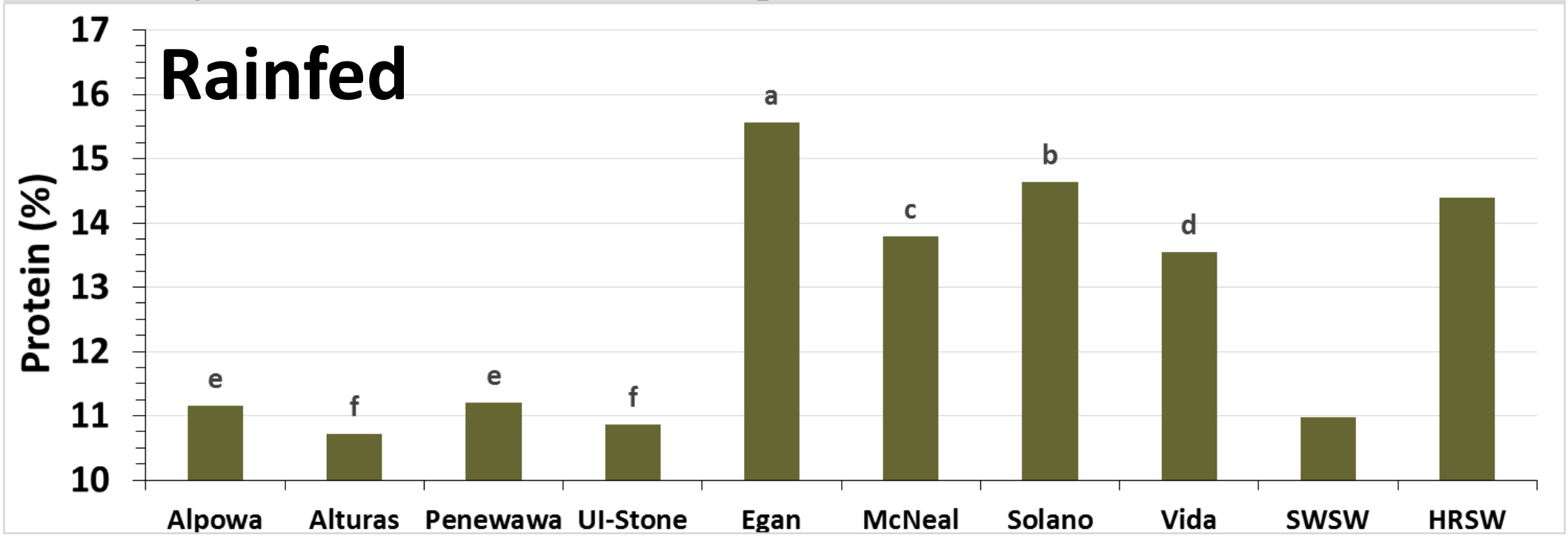
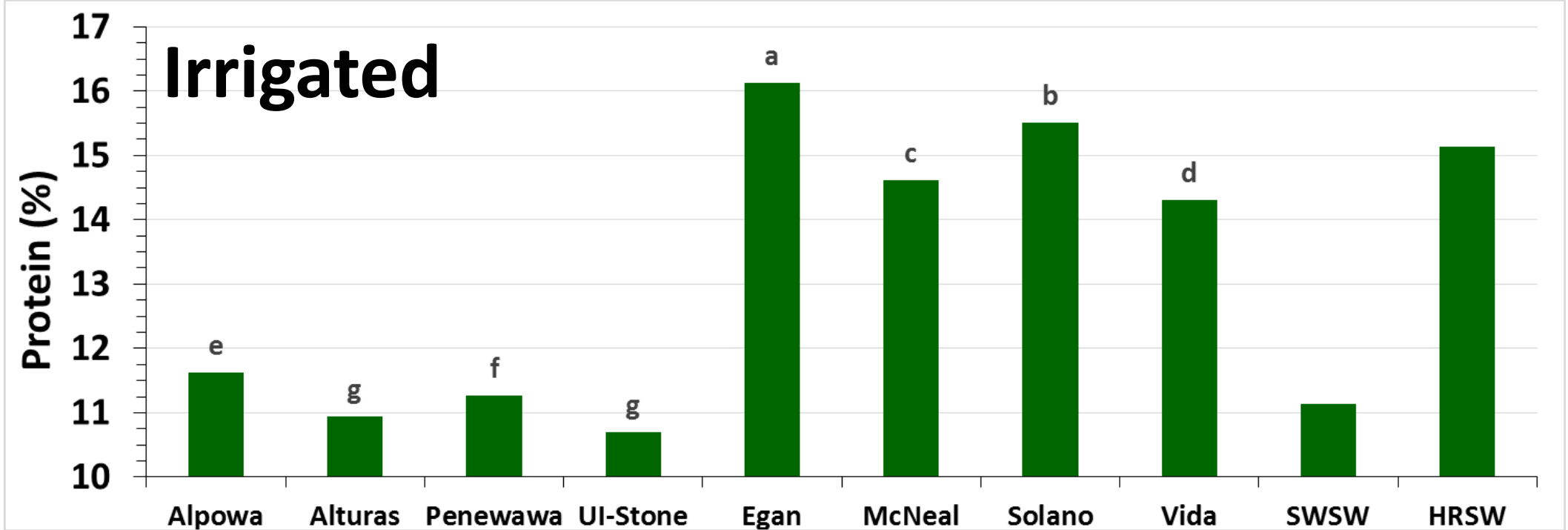
Irrigated



Rainfed







Yield for HRSW
(Rainfed)

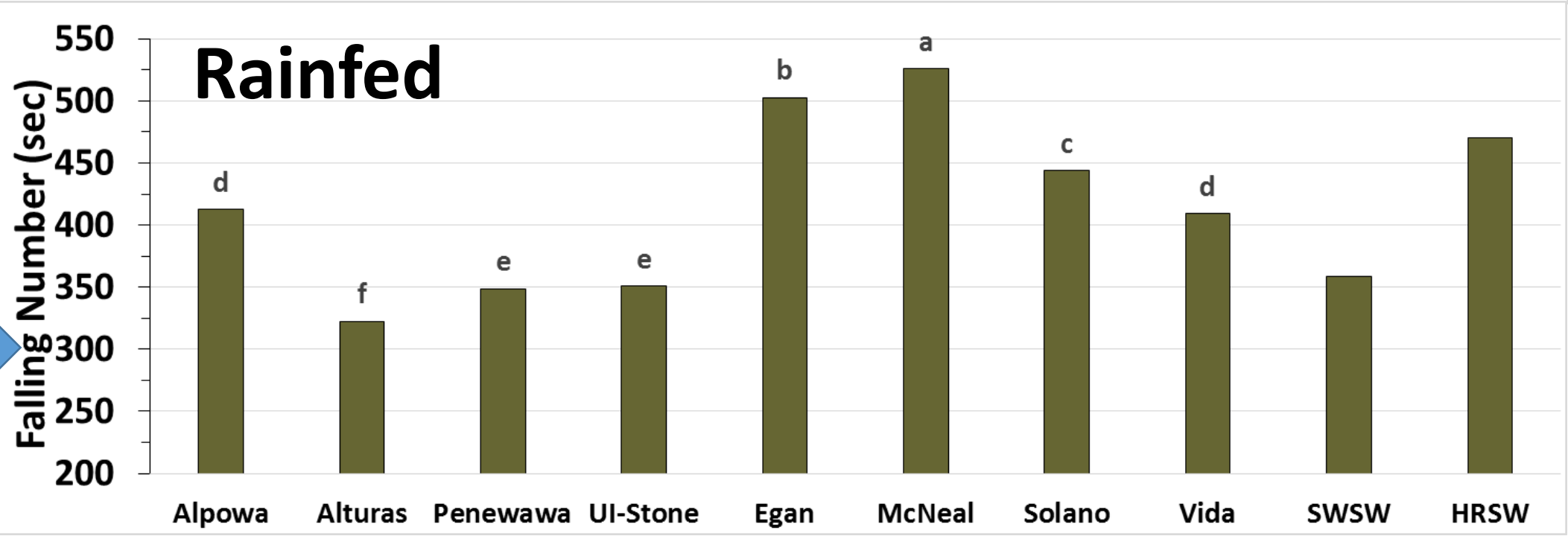
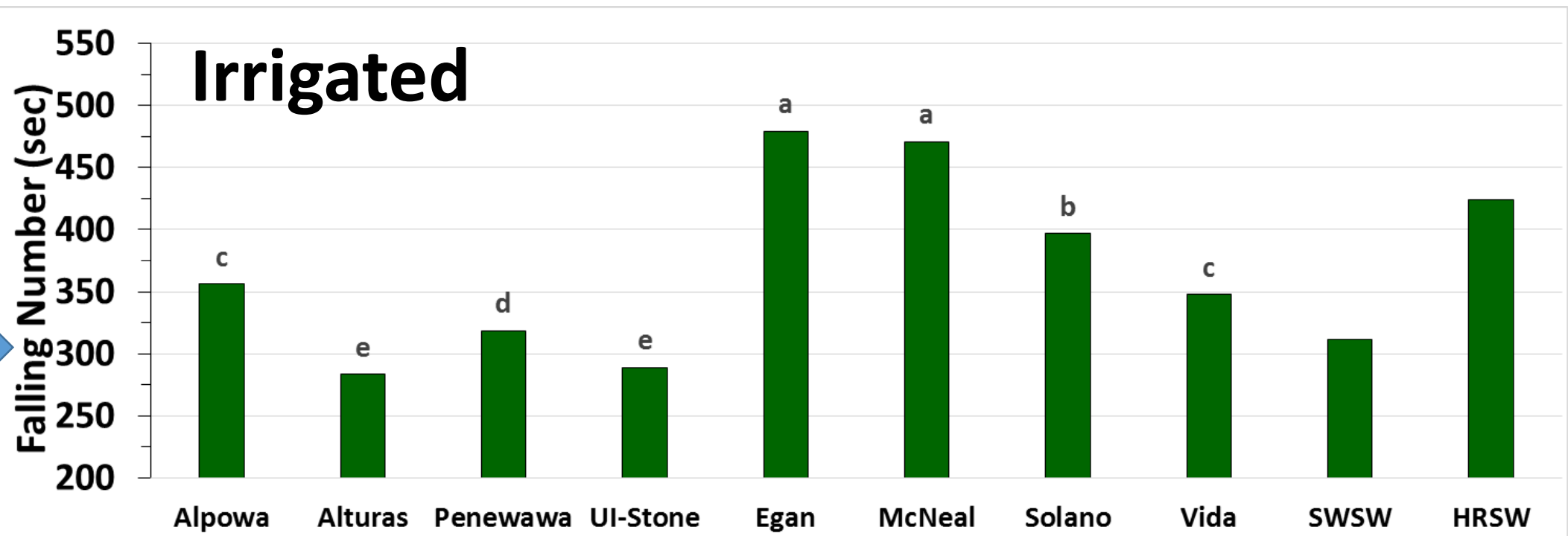
Yield for
HRSW
(IRRIGATED)

Protein for
HRSW
(IRRIGATED)

■ 98 □ 138 ▨ 178 ≡ 218 ☒ 258 lbs N/A

Yield for SWSW
(IRRIGATED OR
Rainfed)

Protein
for HRSW
(Rainfed)

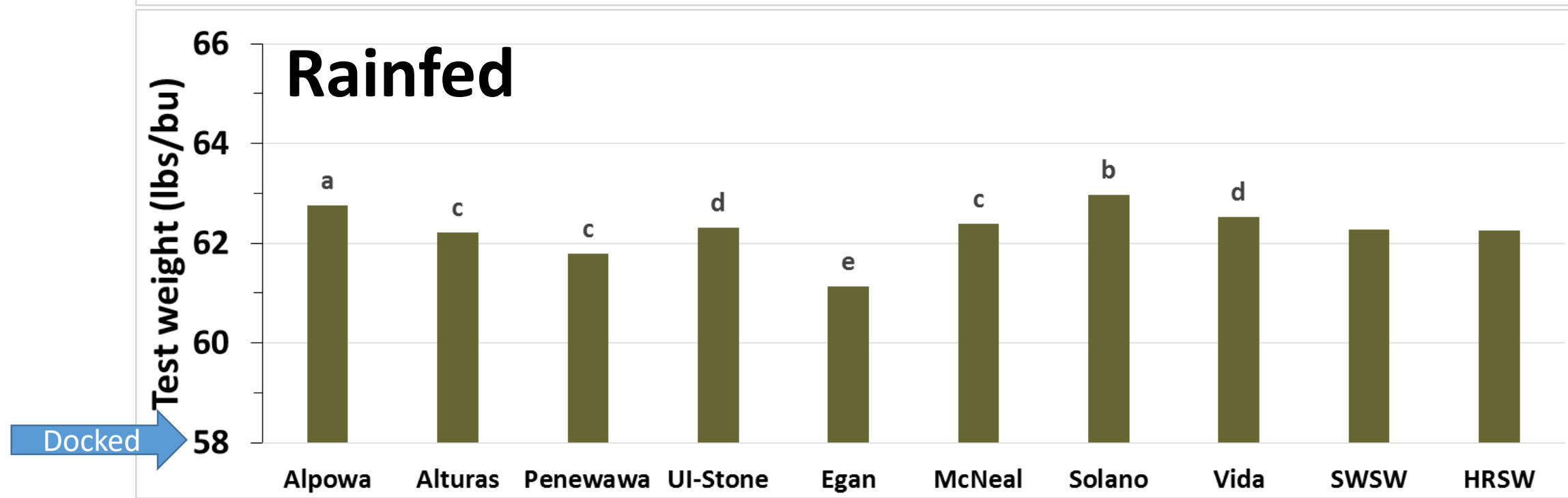
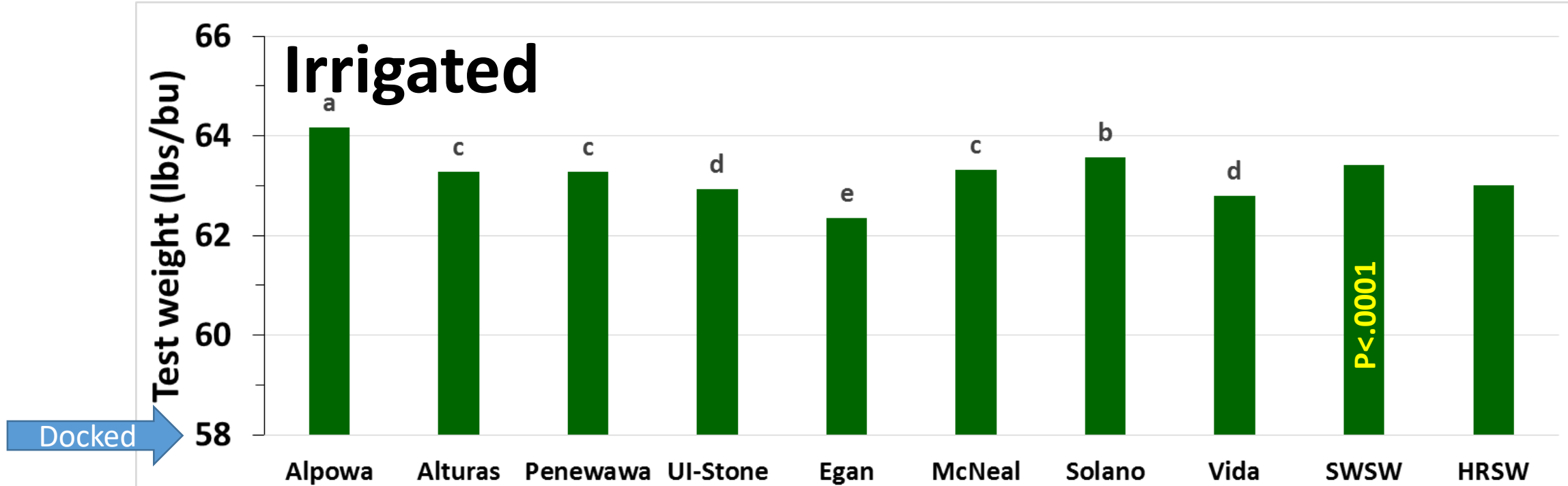


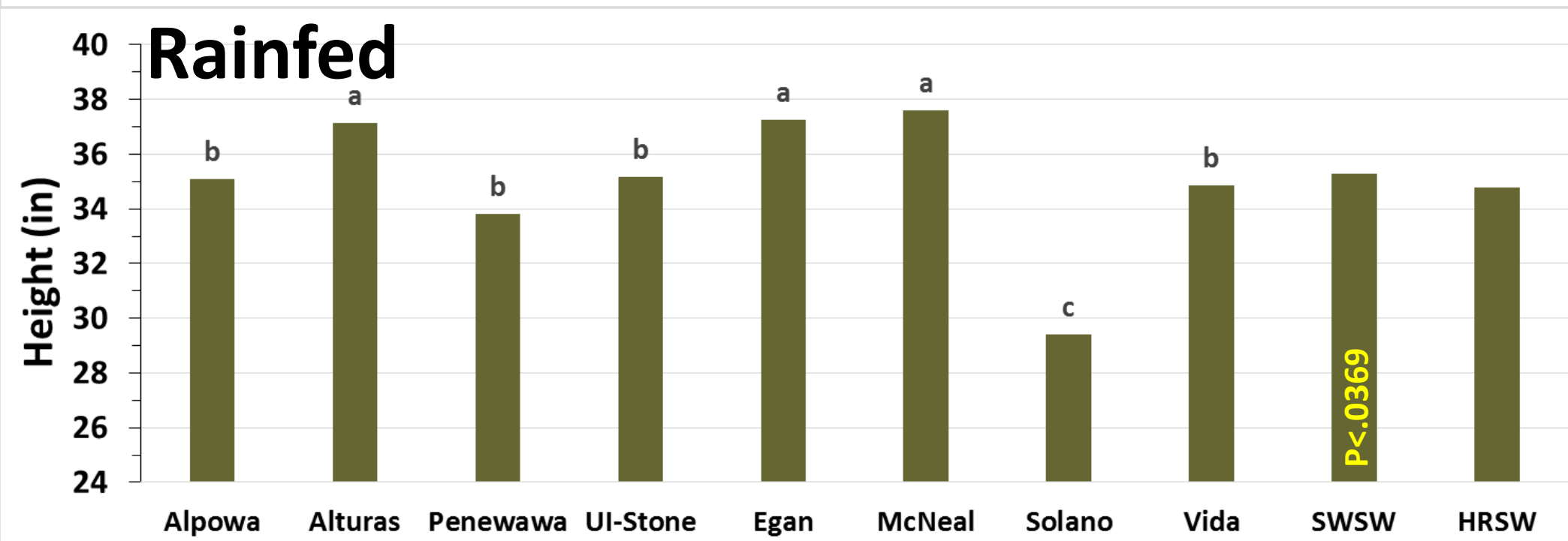
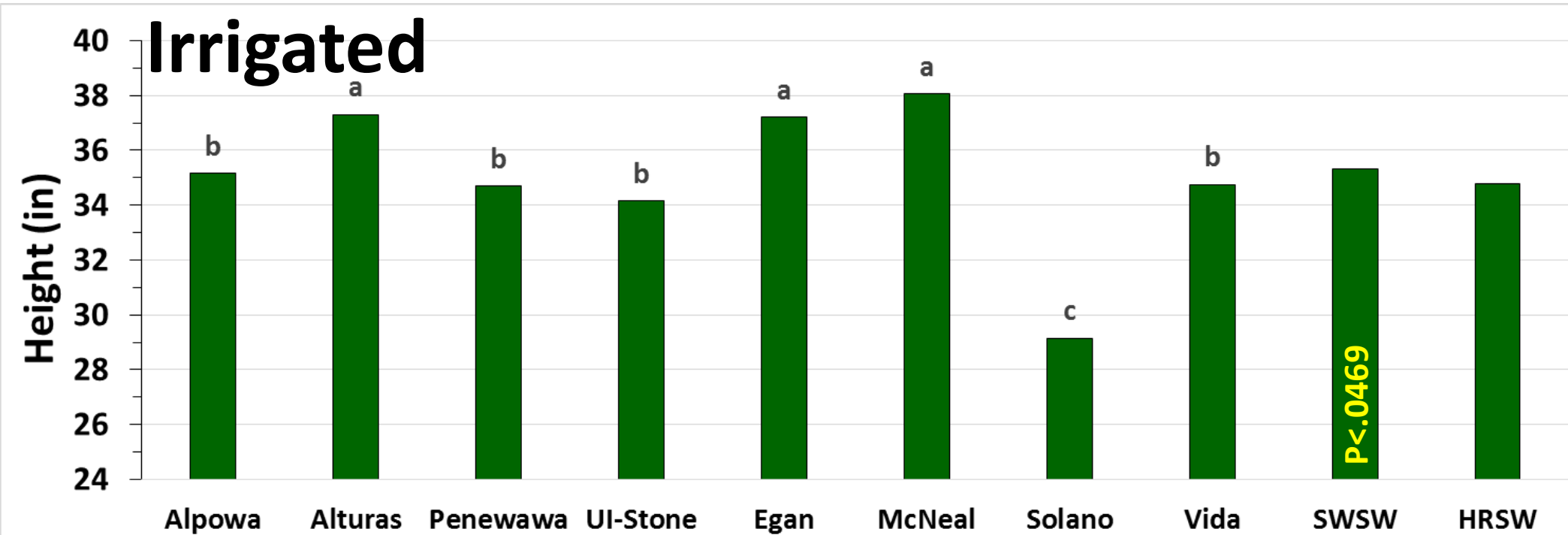
Docked

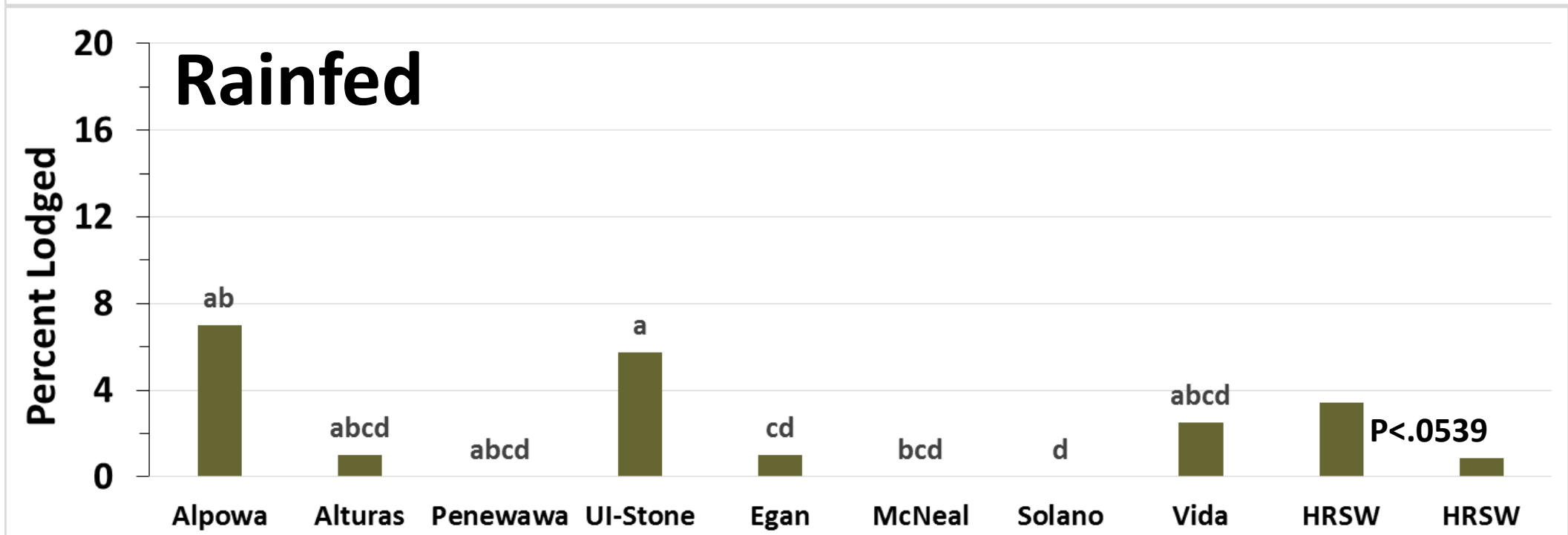
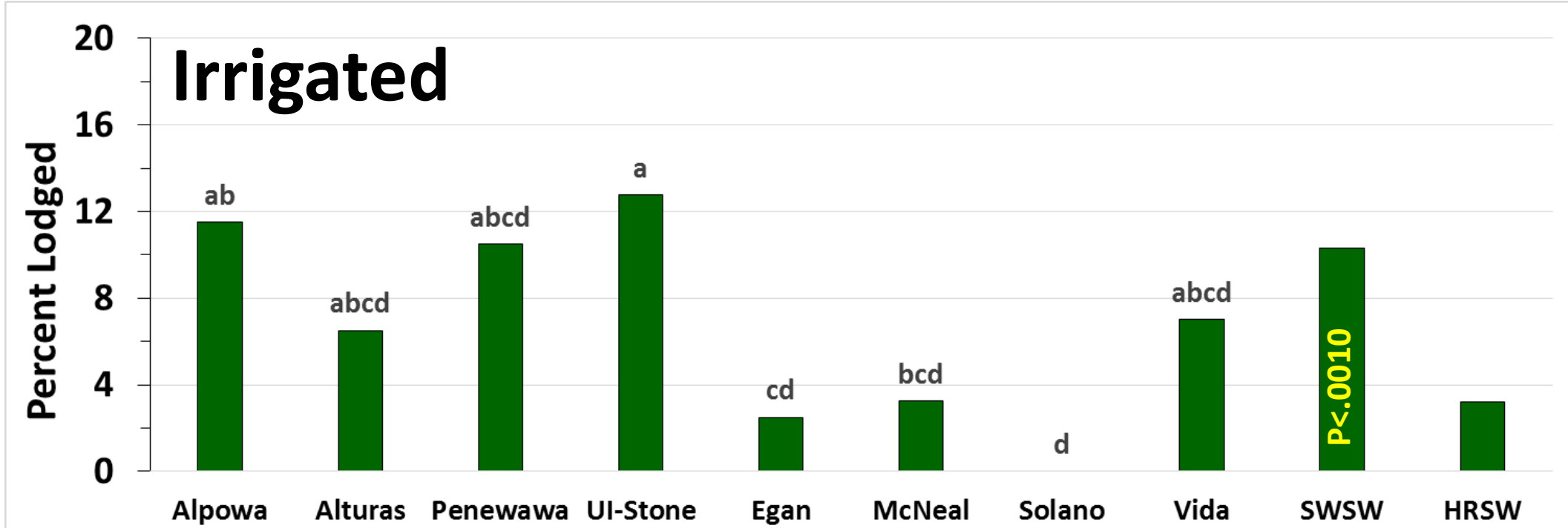
Docked

Docked

Docked







Wheat Class	\$/bu	\$ Protein	\$FN
SWSW	3.53	-0.05 (<8.5-10.5>)	-0.25 per 25 sec (FN<300)
HRSW	5.13	0.06 per .25 (> 14); -0.12 per 0.25 (<14)	-0.25 per 25 sec (FN<330)

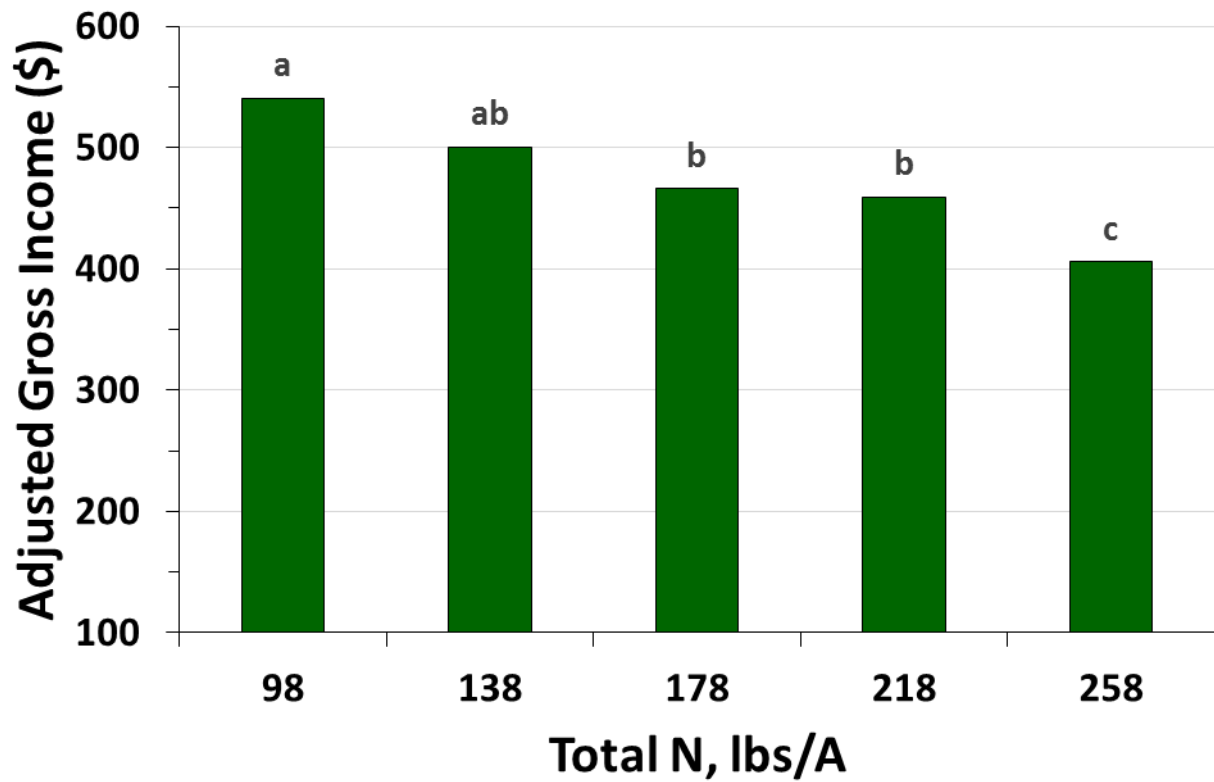
Irrigation cost : \$3/acre-inch

Nitrogen nutrient cost: \$0.52/lb N

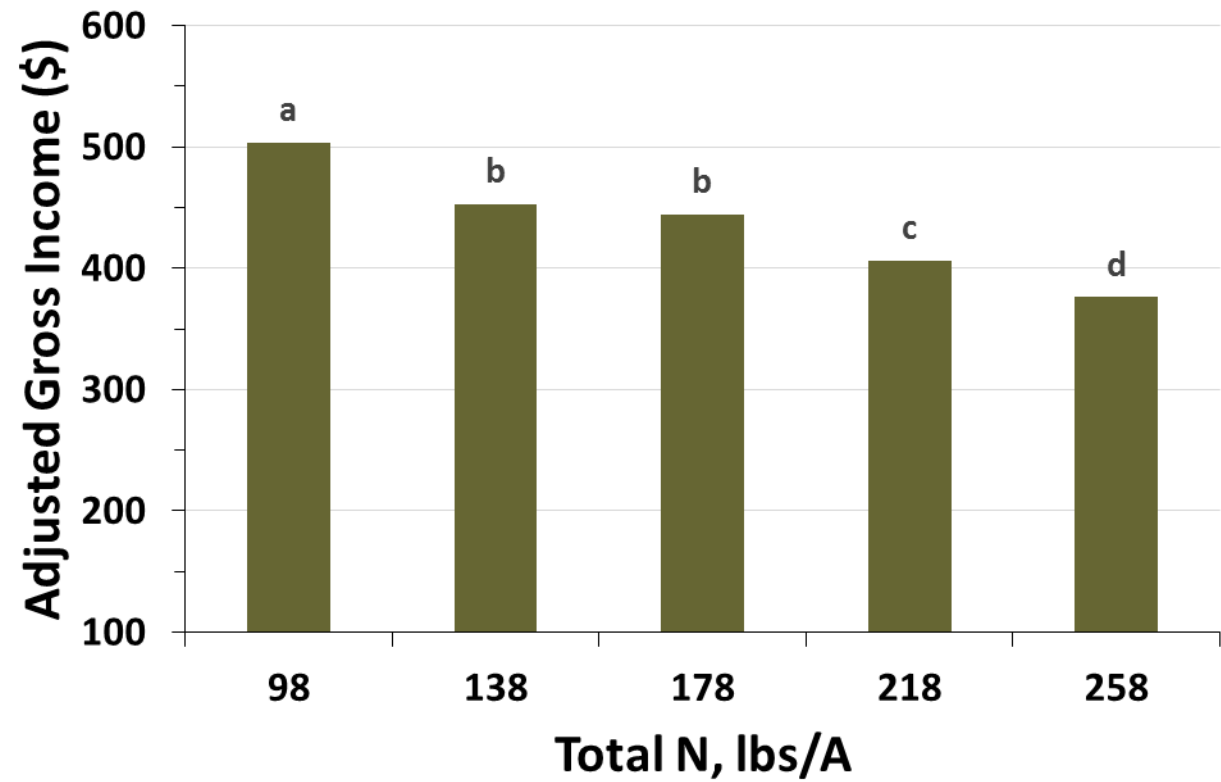
Adjusted Gross Income

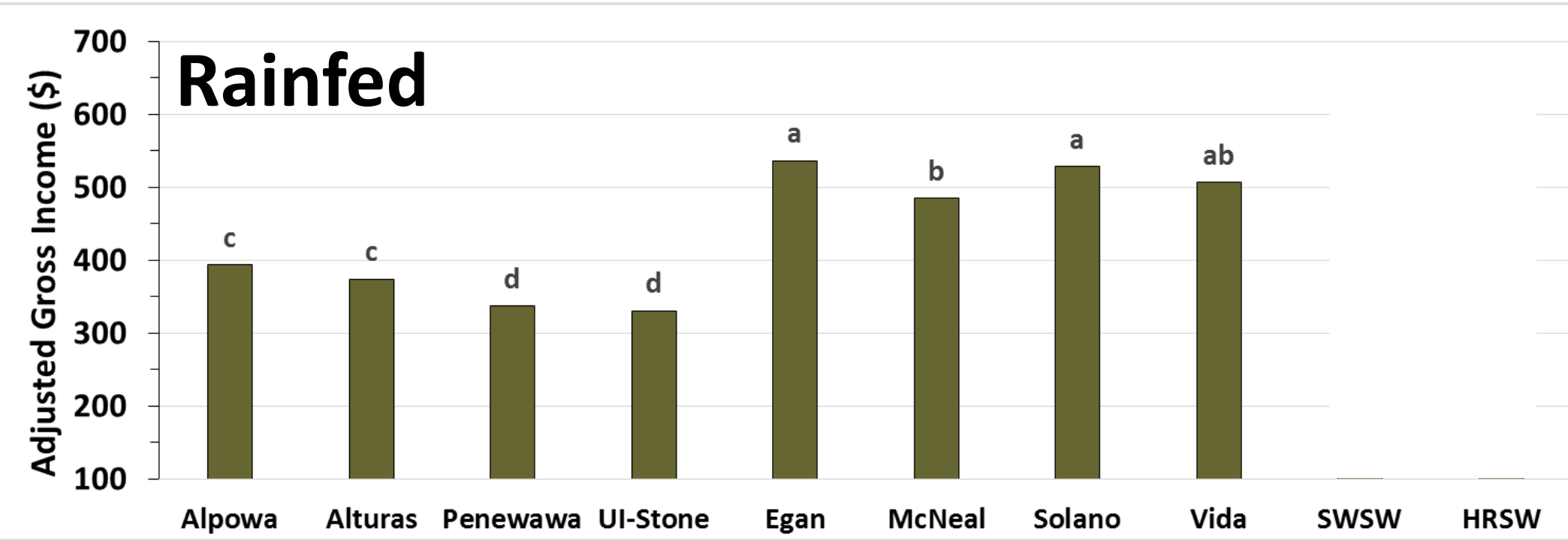
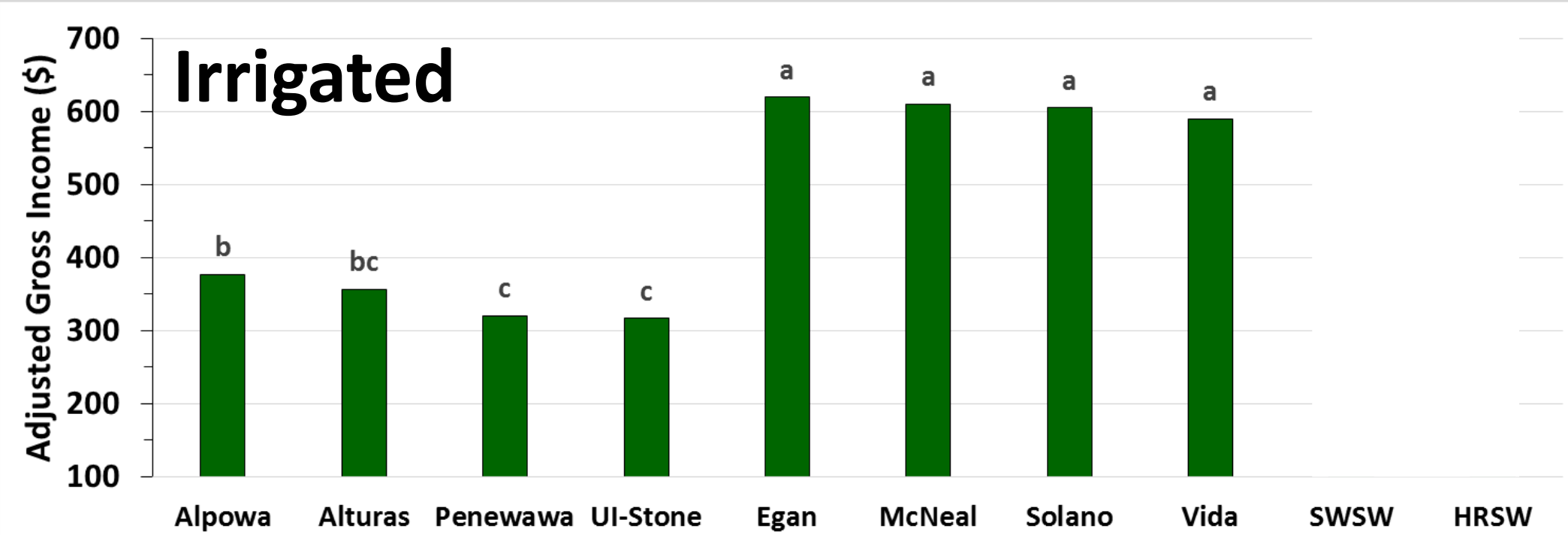
<u>Effects</u>	<u>Irrigated</u>	<u>Rainfed</u>
Nitrogen	: 0.0004	<.0001
Variety	: <.0001	<.0001
Nitrogen x Variety	: 0.1054	0.8312

Irrigated



Rainfed





Based on 1-yr (2016) data alone

	IRRIGATED					RAINFED				
Market Class	N Treatments (lb/A)					N Treatments (lb/A)				
	98	138	178	218	258	98	138	178	218	258
SWSW										
Yield	√					√				
Protein	√					√				
Adj Gross \$	√					√				
HRSW										
Yield	√					√				
Protein		√						√		
Adj Gross \$	√	√				√				

Discussion