


Steve Larocque
Beyond Agronomy 

Barley 180 Update



Topics

- Plant Density
- Nitrogen
- Plant Growth Regulators
- Fungicides
- Conclusions



Kiwi Sets World Record 2015

256 bu/ac!!!



Plant Density

$\text{Heads/m}^2 \times \text{grains/head} \times 10,000 \text{ m}^2/\text{ha} \times (\text{TKW} \div 1,000) \div 1,000,000 = \text{t/ha}$

$\underline{900} \times \underline{24} \times 10,000 \times (45 \div 1000) \div 1,000,000$

= 9.72 t/ha

= 180 bu/ac



Plant Density

80 N

- 25 ft/2 = 108 bu/ac
- 30 ft/2 = 111 bu/ac

160 N

- 25 ft/2 = 125 bu/ac
- 30 ft/2 = 114 bu/ac



Plant Density

Trial 1

- Density: 30 ft²
- Heads ft²: 85 vs. 58
- Kernels: 20 vs. 24 head
- Yield: 127 bu/ac vs. 107 bu/ac

Less kernels per head yet higher yielding. Yield coming from more heads per ft².

Trial 2

- Density: 30 ft²
- Heads: 92 ft² vs. 53 ft²
- Kernels: 22 vs. 26 head
- Yield: 141 bu/ac vs. 124 bu/ac

Nitrogen



Nitrogen

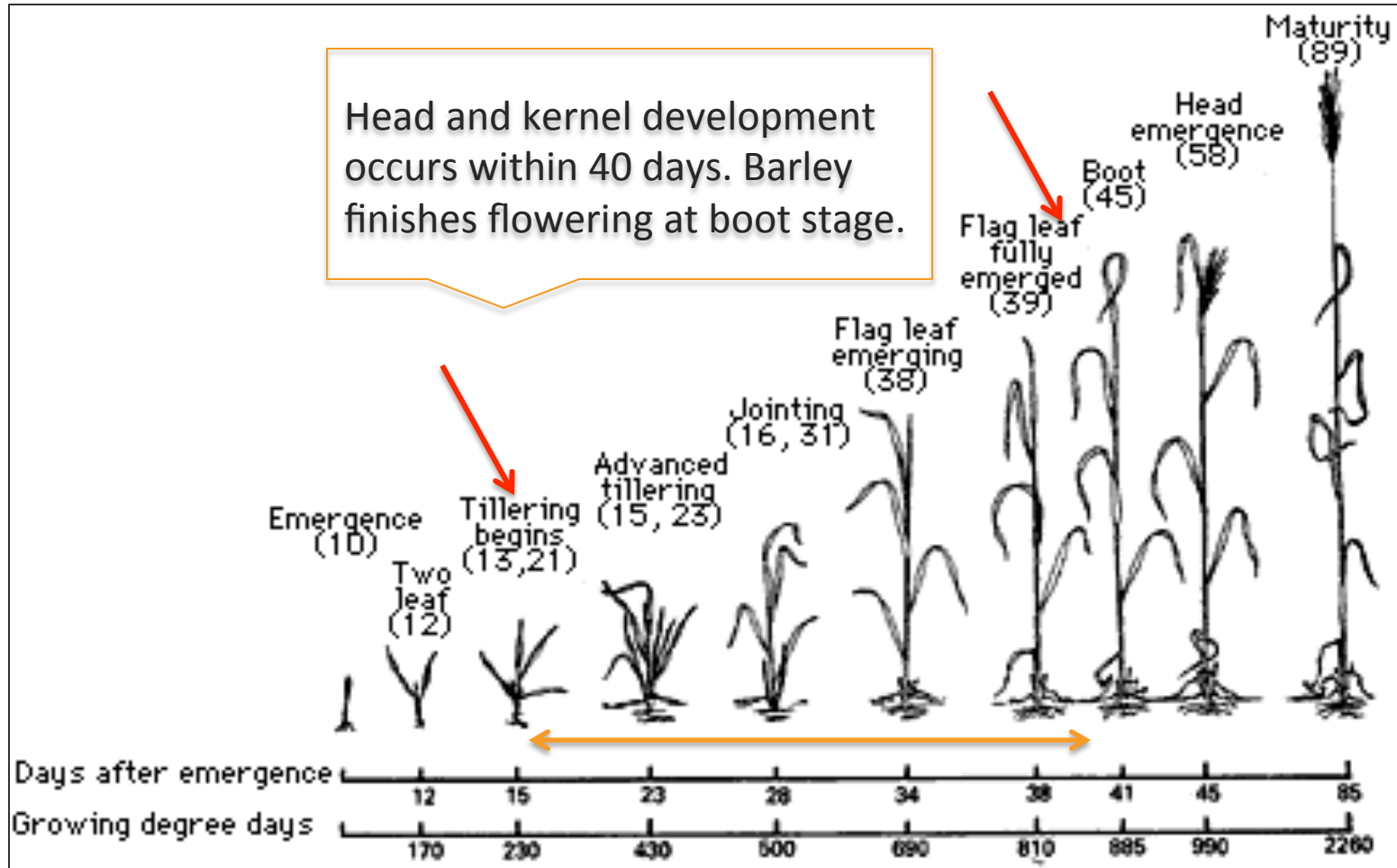
N banded prior to seeding

- Irricana: 188 bu/ac
- Vauxhaul: 190 bu/ac
- Carbon: 141 bu/ac

N banded + Topdress UAN

- Crossfield: 156 bu/ac
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Nitrogen



Source: Steve Wright and Mike Ottman

Up Front vs Split App Nitrogen

Barley 180 UAN data summary

	UAN (bu/ac)		ROI	UAN with PGR (bu/ac)		ROI
	Comparison	Difference	\$/ac	Comparison	Difference	\$/ac
2011 Crossview Farms	146 vs 133	13	\$27.77	157 vs 133	24	\$66.13
2012 Crossview Farms	115 vs 102	13	(\$0.82)	122 vs 102	20	\$33.13
2012 Kenett Farms	95 vs 95	0	(\$57.55)	105 vs 95	10	(\$6.35)
2013 LUX Farms	118 vs 120	-2	(\$45.97)	120 vs 120	0	(\$56.17)
2013 Crossview Farms	106 vs 108	-2	(\$59.30)	114 vs 108	6	(\$42.50)
		4	(\$27.17)		12	(\$1.15)



Plant Growth Regulators

Terpal[®]

 **Moddus[®]**



Cycocel[®] Extra

Nothing is registered!!!

Plant Growth Regulators

Ethrel PGR- barley data summary	Variety	Yield Increase (bu/ac)			ROI \$/ac	
		PGR	check	difference		
2011 Crossview Farms	Xena	157	146	11	\$30.20	
2012 Crossview Farms	Xena	107	102	5	\$6.20	
2012 Crossview Farms	Xena	122	115	7	\$14.20	
2012 Kenett Farms	Formosa	96	95	1	-\$9.80	
2012 Kenett Farms	Formosa	105	95	10	\$26.20	
2013 LUX Farms	Copeland	123	120	3	-\$1.80	
2013 LUX Farms	Copeland	120	118	2	-\$5.80	
2013 Crossview Farms	Xena	116	108	8	\$18.20	
2013 Crossview Farms	Xena	127	123	4	\$2.20	
2013 Crossview Farms	Xena	114	106	8	\$18.20	
2013 Crossview Farms	Xena	123	117	6	\$10.20	
2014 Crossview Farms	Xena	114	108	6	\$10.20	
2014 Crossview Farms	Xena	128	120	8	\$18.20	
2014 Crossview Farms	Xena	128	114	14	\$42.20	
2014 Crossview Farms	Xena	137	119	18	\$58.20	
2014 Kenett Farms	Kindersley	129	115	14	\$42.20	
2014 Kenett Farms	Kindersley	128	115	13	\$38.20	
2014 Kenett Farms	Kindersley	125	113	12	\$34.20	
2014 Kenett Farms	Champion	118	102	16	\$50.20	
			Average	9	\$22.20	2.6:1

Assumptions:	feed barley	\$4.00/bu
	custom spraying	\$7.50/bu
	Ethrel 33 ac/jug	\$6.30/ac



Neck Break



Neck Break:



Fungicides



Fungicides

Fungicide- barley data summary	Variety	Yield Increase			ROI \$/ac	
		fungicide	check	difference		
2013 Crossview Farms	Xena	123	108	15	\$42.56	
2013 Crossview Farms	Xena	127	116	11	\$26.56	
2013 Crossview Farms	Xena	117	106	11	\$26.56	
2013 Crossview Farms	Xena	123	114	9	\$18.56	
2014 Crossview Farms	Xena	120	108	12	\$30.56	
2014 Crossview Farms	Xena	128	114	14	\$38.56	
2014 Crossview Farms	Xena	119	114	5	\$2.56	
2014 Crossview Farms	Xena	137	128	9	\$18.56	
2014 Kenett Farms	Kindersley	115	110	5	\$2.56	
2014 Kenett Farms	Kindersley	115	110	5	\$2.56	
2014 Kenett Farms	Kindersley	121	125	-4	-\$33.44	
2014 Kenett Farms	Champion	130	118	12	\$30.56	
				Average	9	\$17.23

2.1:1

Assumptions:

Feed barley

\$4.00/bu

Quilt

\$9.94/ac

303 ml/ac

33 ac/jug

Custom spraying

\$7.50/ac



Conclusions

- Top yields: 157, 146, 141 bu/ac
- Plant density 24-30 ft²
- Greatest ROI from PGR's & Fungicides
- Focus on head numbers
- Nitrogen on early



Thank you

Cooperators

Allen Jones, Airdrie

Spencer Hilton, Strathmore

Gordon Ellis, Olds

Ed Miller, Carbon

Peter Stahl, Morrin

Mike Reynolds, Three Hills

Grant Budgeon, Crossfield

Kennett Farms, Crossfield

Support

ACIDF

Alberta Barley Commission

ARECA



Thank you

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