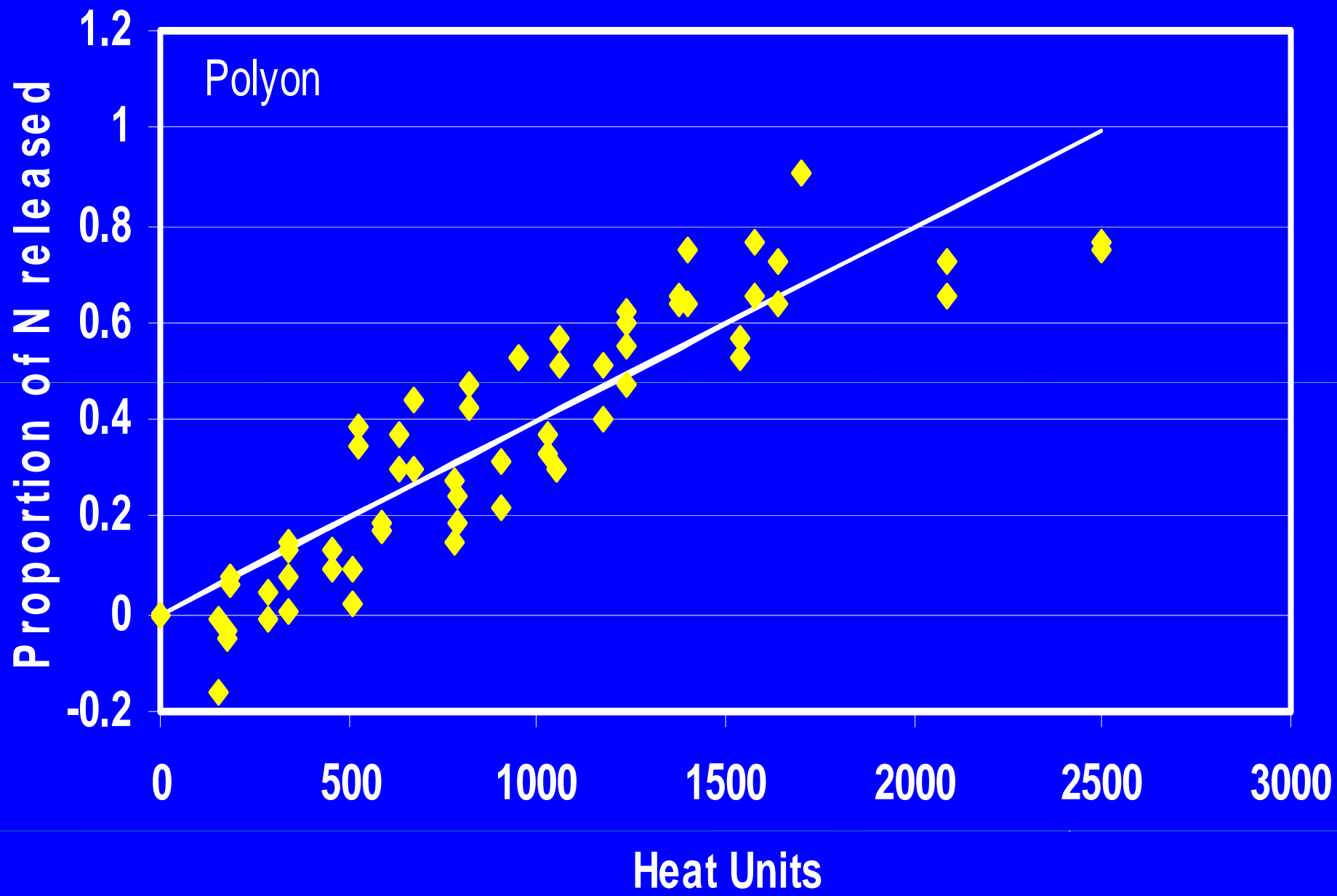


EVALUATION OF CONTROLLED RELEASE N FERTILIZERS IN DESERT VEGETABLES

Charles A. Sanchez

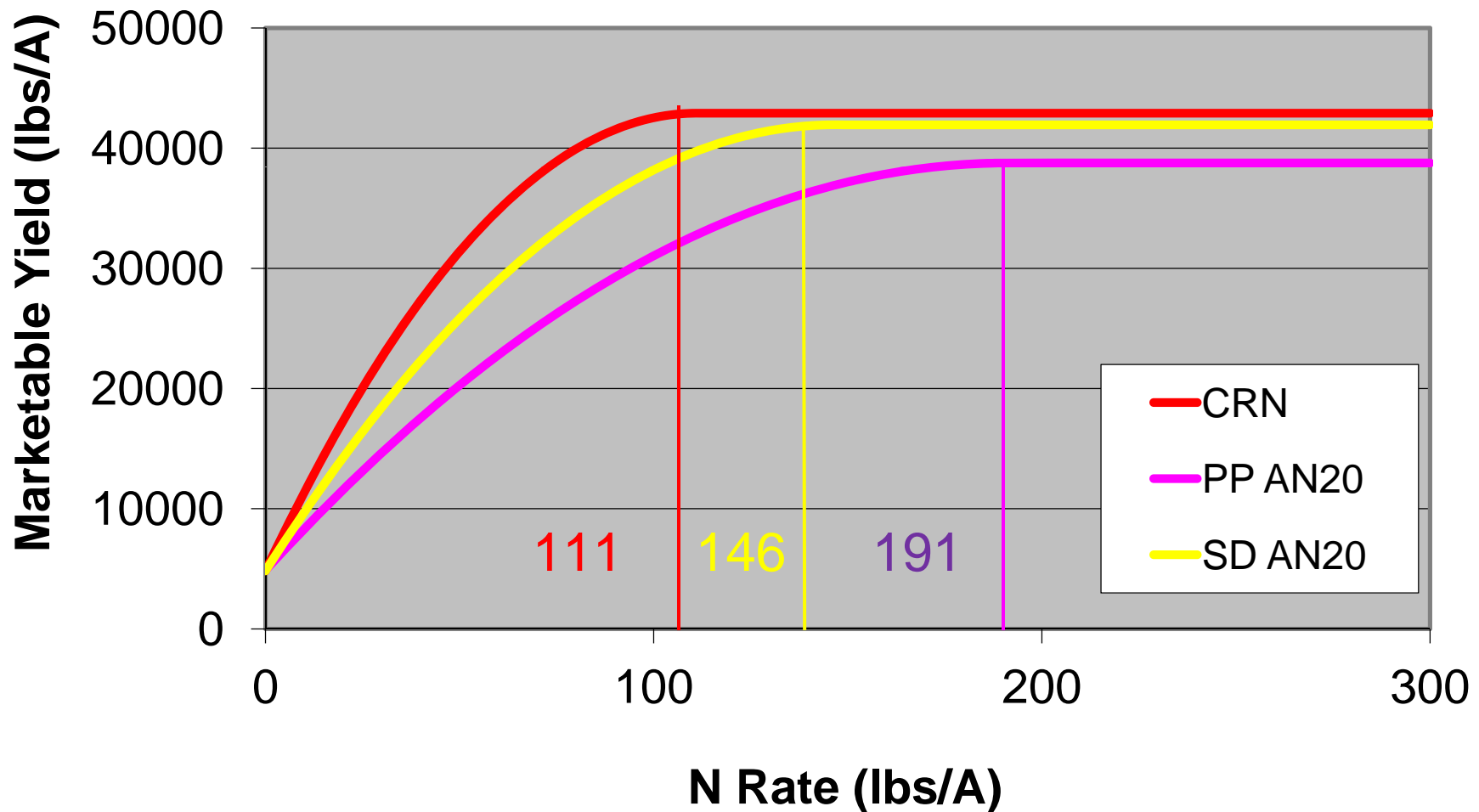
Maricopa Agricultural Center

University of Arizona

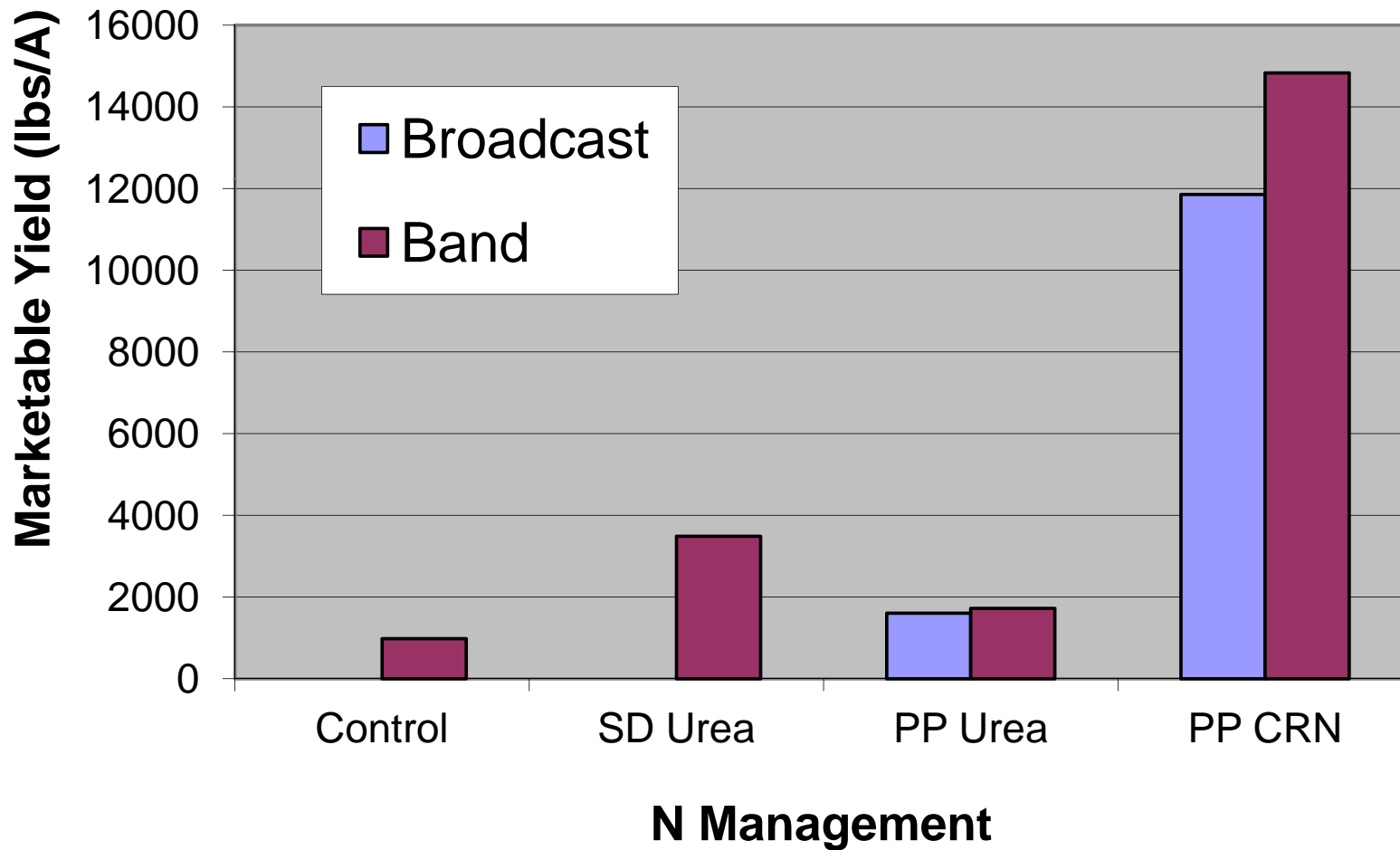




Response of lettuce to N management on clay loam



Response of Cauliflower to N Management on loamy sand. Urea applied at 285 lbs N/A and CRN applied at 241 lbs N/A



Summary of Responses to N management

Response	Crop	Frequency	Soil Texture
CRN=PP>SD	Lettuce	2	Clay
SD=CRN=PP	Lettuce	4	Clay loam
WR=CRN=PP	Cauliflower	3	Clay loam
	Broccoli	3	Clay loam
SD=CRN>PP	Lettuce	1	Clay loam
	Broccoli	2	Loamy sand
CRN>SD>PP	Lettuce	1	Clay loam
	Lettuce	4	Loamy sand
	Cauliflower	1	Loamy sand
CRN>SD	Lettuce	1	Loamy sand
	Lettuce	1	Clay loam
	Cauliflower	1	Loamy sand
	Cauliflower	1	Clay loam
	Carrot	1	Loam
	Sweet corn	1	Loam
	Tomato	1	Loamy Sand
	Watermelon	3	Loam and Loamy sand



EXPERIMENT- DEMONSTRATIONS 2012-2013



Head Lettuce 2012 (Yuma, AZ)

- Grower Demonstration Trial (3 treatments)
- Silty Clay Loam sprinkler/furrow irrigation 42" beds
- Wet date Oct 18, Harvested Jan 24
- Pre-plant applications Oct 16 incorporated by rotomulching



Marketable yield of iceberg lettuce to N management practice.

Treatment	Practice	Marketable Yield (MT/ha)
1	GSP 300 lbs A/ MAP 25 gal UN32 SD Water Run (5+20+10 gal UN32/A) Total N 246 lbs N/A	55.8
2	CRN#1 300 lbs/A MAP 112 lbs N as ESN 25 gal UN32 SD Water Run 5 gal UN32/A Total N 262 lbs N/A	47.9
3	CRN#2 300 lbs/A MAP 188 lbs N as ESN Water Run 5 gal UN32/A Total N 239 lbs N/A	45.2
LSD		4.9

Marketable yield of broccoli to N management practice

Treatment	Practice	Marketable Yield (MT/ha)
1	GSP 400 lbs MAP 25 g UN32 SD Water Run (15+15+30 gal UN32) Total N 345 lbs N/A	11.2
2	CRN#1 400 lbs/A MAP 149 lbs N as ESN 25 g UN32 SD Water Run 10 gal UN32 Total N 317 lbs N/A	11.1
3	CRN#2 400 lbs/A MAP 232 lbs N as ESN Water Run 10 gal UN32 Total N 311 lbs N/A	13.4
LSD		1.3





Spinach (Coachella, CA)



Treatment	Practice	N rate	Marketable Yield (MT/ha)
1	GSP	3-35-0 (25 lb N) td-AMS (63 lb N) td-AMS (63 lb N) Total = 151 lb N/ac	14.4
2	CRN#1	3-35-0 (25 lb N) pp-DUR-ST (100 lb N) td-AMS (32 lb N) Total = 157 lb N/ac	17.7
3	CRN#2	3-35-0 (25 lb N) pp-DUR-ST (150 lb N) Total = 175 lb N/ac	16.9
LSD			2.5

Romaine Hearts (Coachella, CA)



Treatment	Practice	N rate	Marketable Yield (MT/ha)
1	GSP	3-35-0 (25 lb N) sd-AN20 (105 lb N) sd-AN20 (105 lb N) Total = 235 lb N/ac	47.0
2	CRN#1	3-35-0 (25 lb N) pp-ESN (115 lb N) sd-AN20 (53 lb N) Total = 193 lb N/ac	52.5
3	CRN#2	3-35-0 (25 lb N) pp-ESN (165 lb N) Total = 190 lb N/ac	58.6
LSD			5.0

Summary of response in field demonstration during 2012-2013.

Crop	Soil Texture	Response
Iceberg Lettuce	Clay loam	GSP>CRN
Broccoli	Clay loam	CRN>GSP
Celery	Clay loam	CRN>GSP
Baby Lettuce	Clay loam	CRN>GSP
Spinach	Clay loam	CRN>GSP
Spinach	Loamy Sand	CRN>GSP
Romaine	Loamy Sand	CRN>GSP
Watermelon	Clay loam	GSP=CRN

Experiments and Demonstration for 2013-2014

Crop	Soil Texture	Type of Evaluation
Celery	Loam	Experiment
Onion	Loam	Experiment
Onion	Clay Loam	Experiment
Carrot	Loamy Sand	Demonstration
Spinach	Loamy Sand	Demonstration
Romaine	Loamy Sand	Demonstration
Broccoli	Clay Loam	Demonstration
Spinach	Loamy Sand	Demonstration
Spinach	Loamy Sand	Demonstration
Tomato	Loamy Sand	Experiment
Watermelon	Loamy sand	Experiment
Peppers	Loam	Experiment
Sweet Corn	Loam	Experiment

ACKNOWLEDGEMENT

We are very grateful for the financial support of
Agrium Advanced Technologies and J.R. Simplot
Inc.