

Iris Yellow Spot Virus Control Through Stress Reduction

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Malheur Co. OR and Idaho
Onion Growers. Ontario,
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Oregon State
UNIVERSITY

OSU

Acknowledgements:

IEOOC

Onion Seed Companies

Irrrometer Co.

Western SARE

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**Objective: MANAGE STRESS ON ONION
AS A MEANS TO CONTROL THE
EXPRESSION OF IRIS YELLOW SPOT
VIRUS**

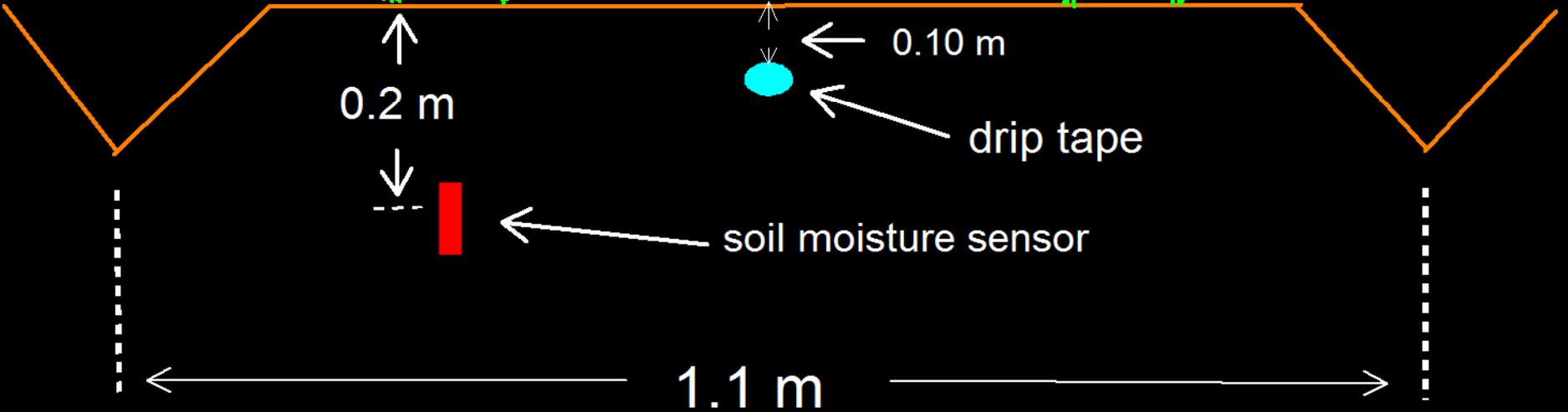
- 1. Irrigation system**
- 2. Water Stress**
- 3. N Level**
- 4. Varieties**

Treat ment	Irrigation system	Irrigation criterion^a	Irrigation intensity
		cb	Inches/ irrigation
1	Drip	10	0.12
2	Drip	15	0.24
3	Drip	20	0.48
4	Drip	30	0.48
5	Drip	15/ 25	0.24/ 0.48

Treat ment	Irrigation system	Irrigation criterion^a	Irrigation intensity
		cb	Inches/ irrigation
6	Sprinkler	20	0.48
7	Drip/ optional sprinkler	20	0.48
8	Furrow	20-25	16.0
9	Furrow/ optional sprinkler	20-25	16.0



Watermark Soil Moisture Sensor
Irrrometer Co.



0.2 m

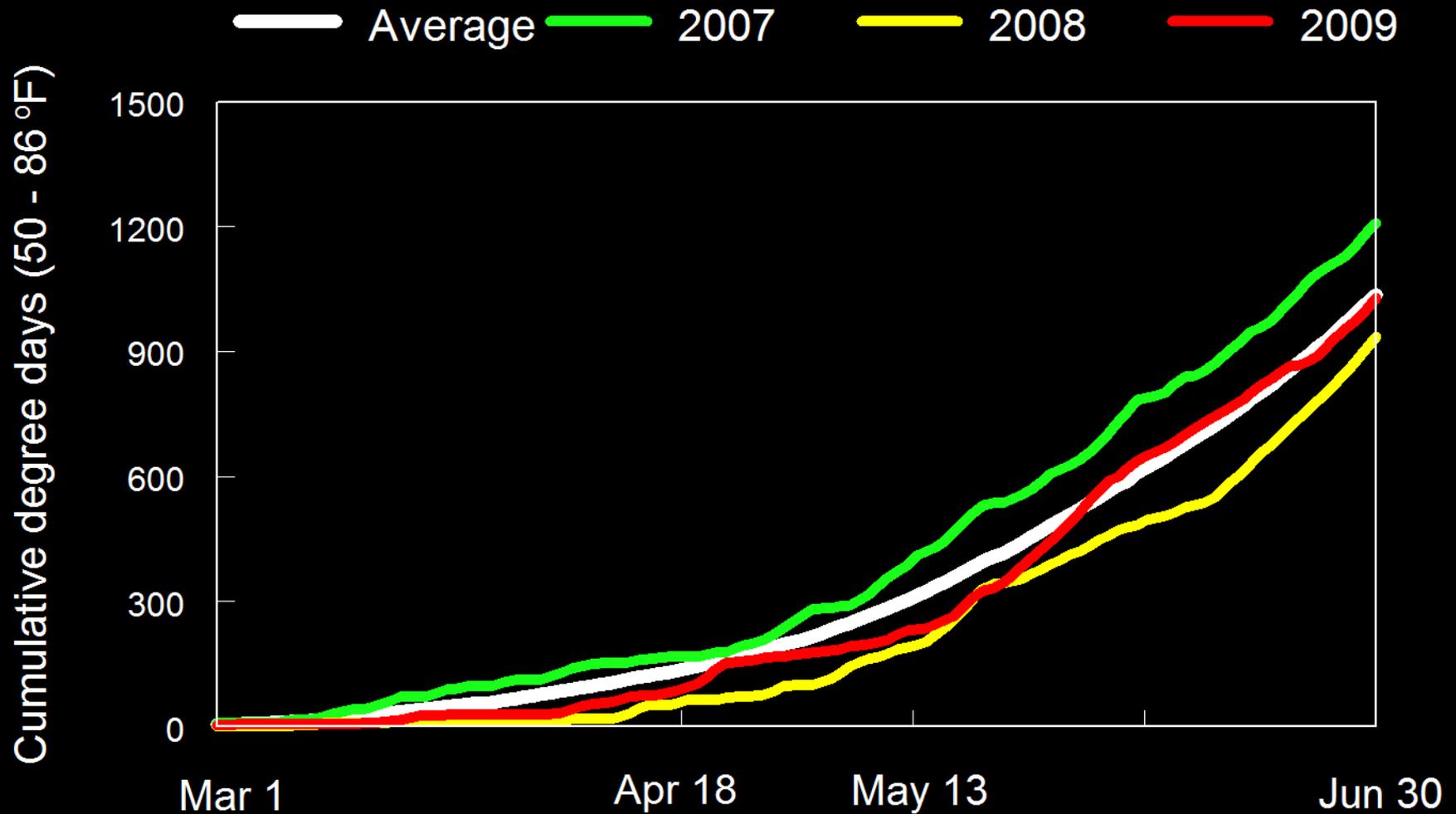
0.10 m

drip tape

soil moisture sensor

1.1 m

Growing Degree Days During the First Half of the Growing Season, OSU, Ontario, 2009





Treatments

4 replicates of all 9 irrigation systems = 36 fields!!

Straw and non-strawed

100 and 200 lb N/acre

4 varieties



Joaquin



Evolution



Vaquero



Charismatic





Furrow
25 cb

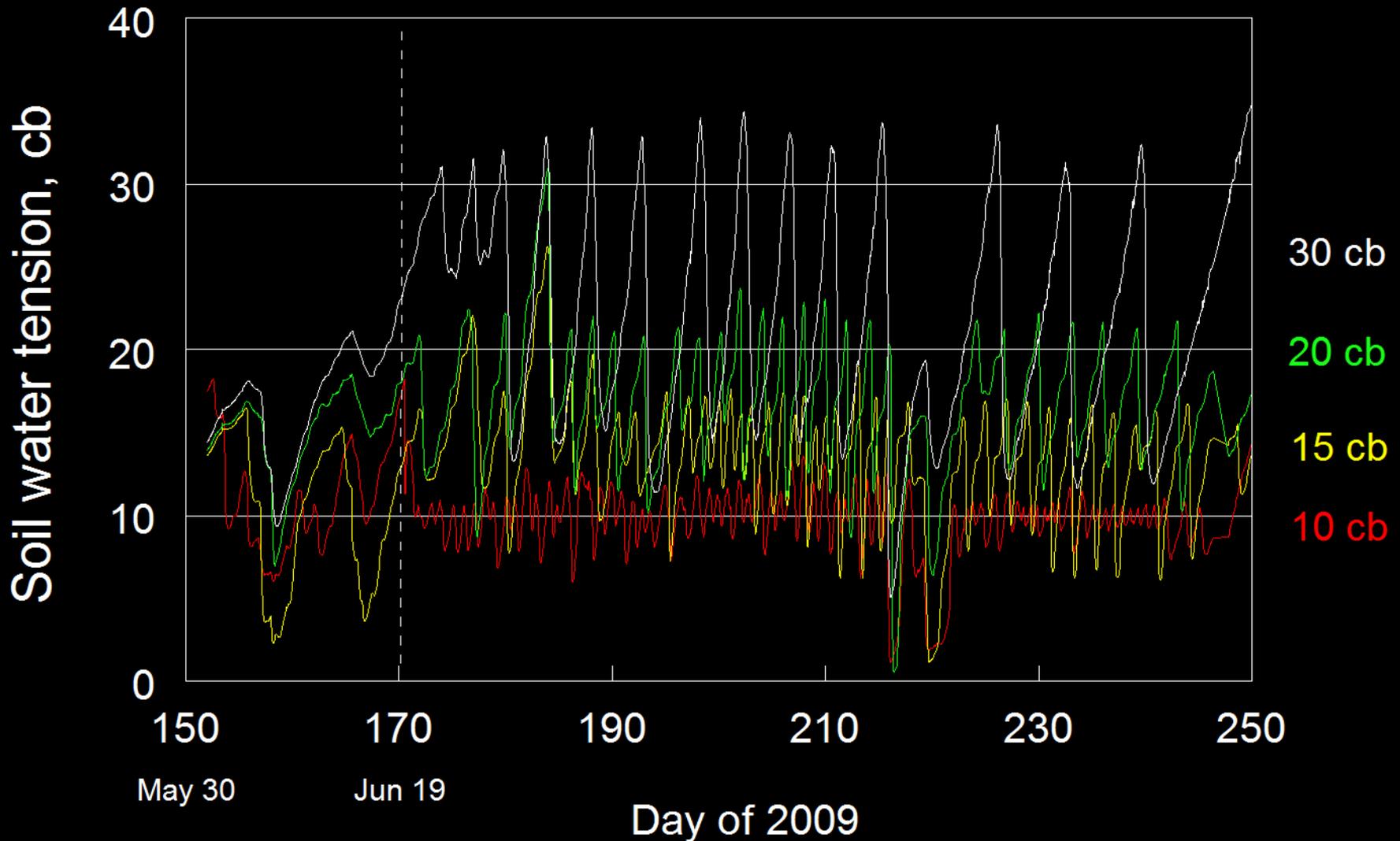


A photograph of a field of green onions. The plants are densely packed and have long, green, blade-like leaves. Some plants in the foreground show their bulbous roots. A wooden stake is planted in the ground, supporting a white rectangular sign with black text. In the background, another similar sign is visible on a wooden stake. The ground is sandy and appears to be a field or nursery.

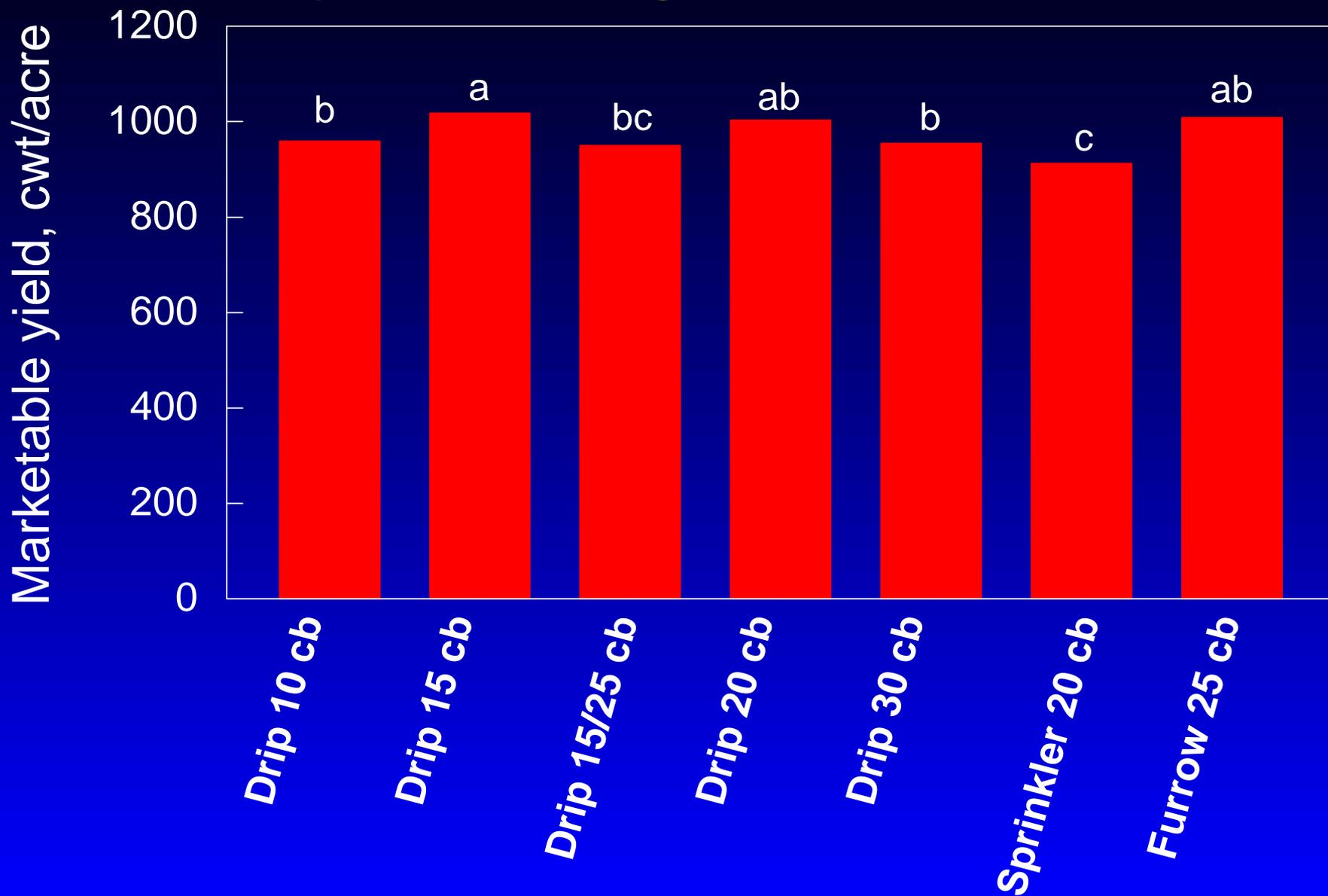
Drip
20 CB

Oscillation of Soil Water Tension by Drip Irrigation

Criteria, OSU, Ontario, IYSV Trial 2009



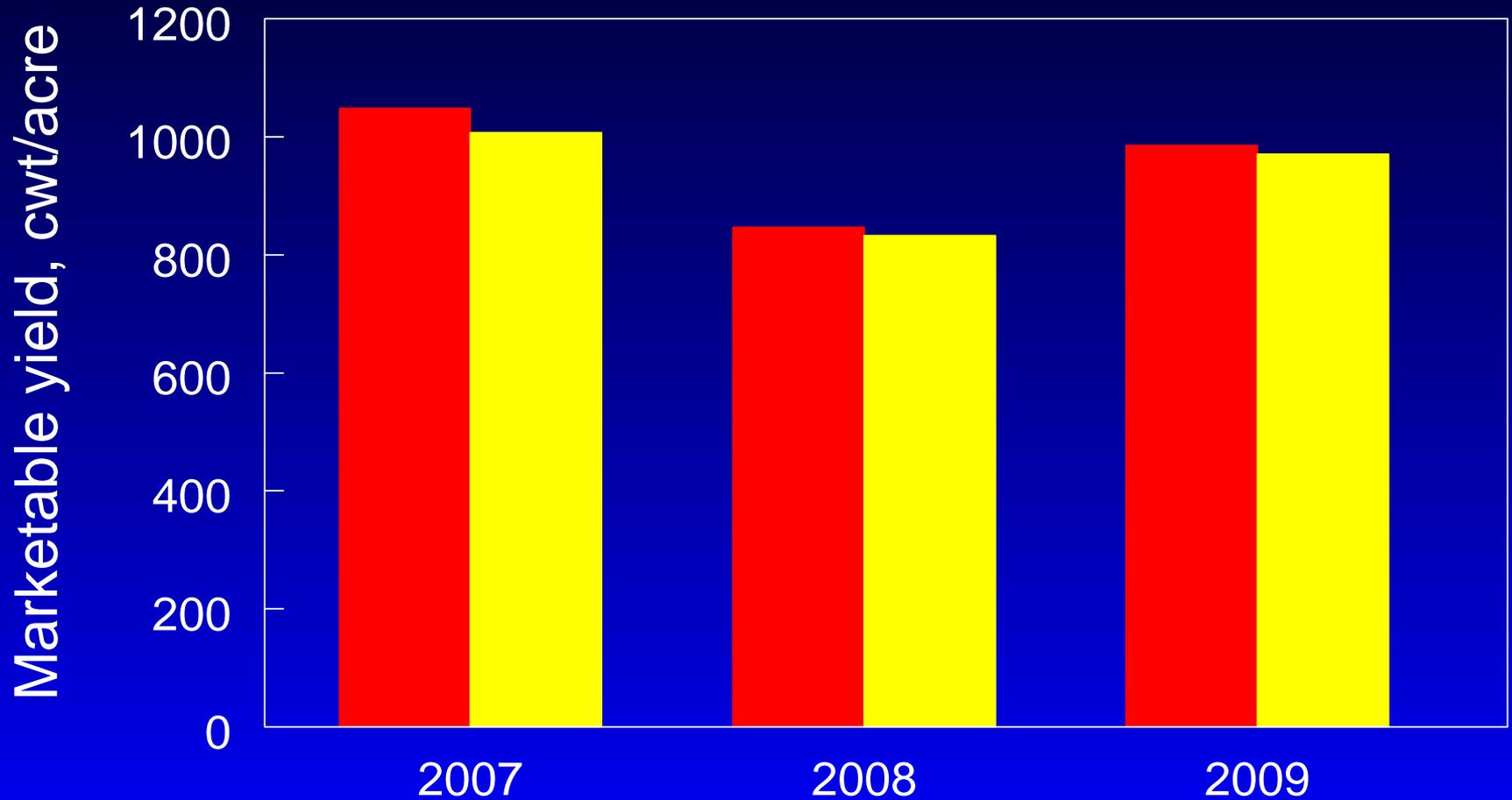
Marketable Yield as Affected By Irrigation System and Irrigation Criteria, OSU, 2009



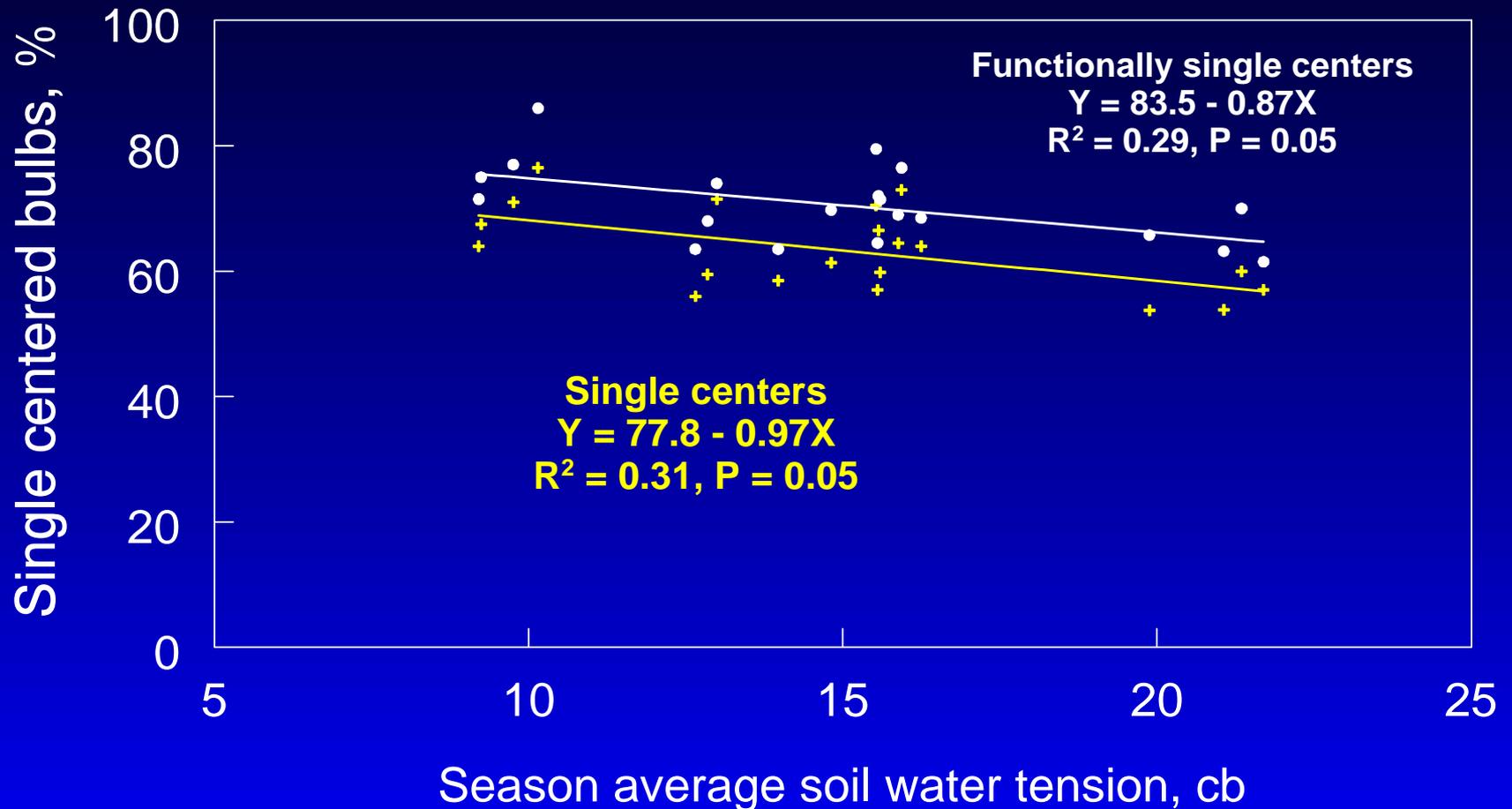
Marketable Yield Response to N Fertilizer Rate, IYSV Trial 2009

Marketable yields averaged over varieties and irrigation treatments

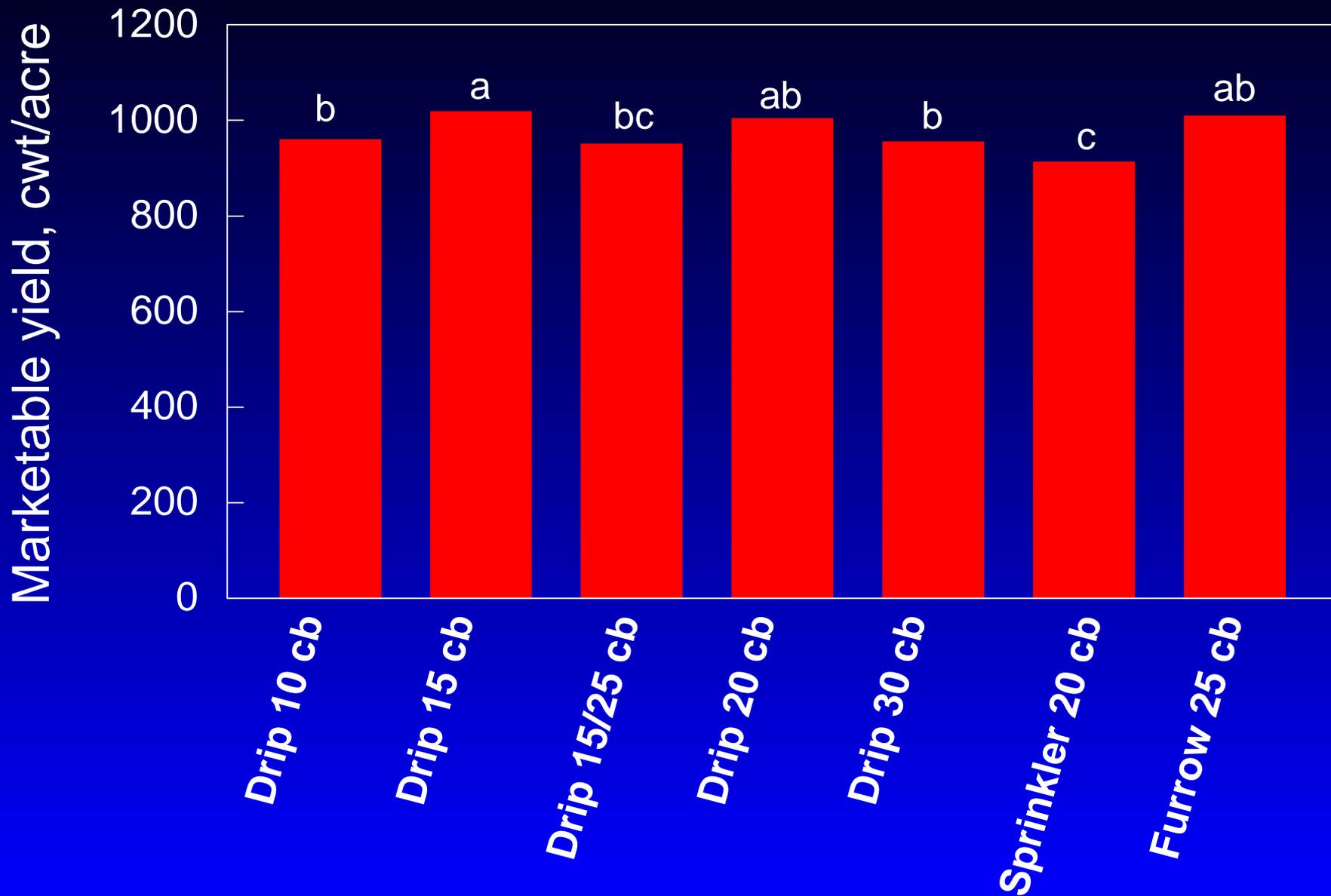
100 lb N/acre 200 lb N/acre

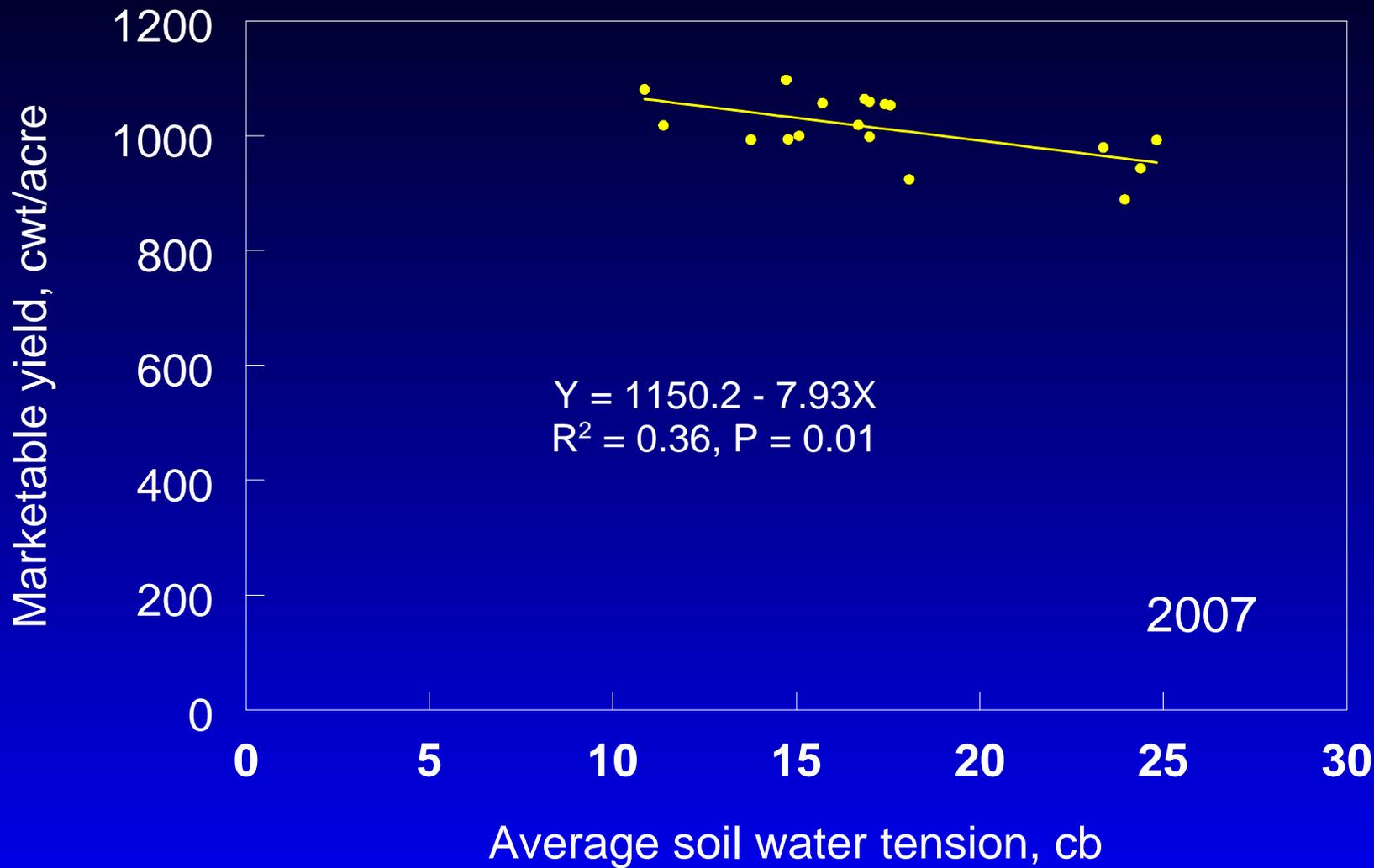


Single Centered Bulbs as a Function of the Drip Irrigation Criteria, OSU, Ontario, IYSV Trial 2009



Marketable Yield as Affected By Irrigation System and Irrigation Criteria, OSU, 2009

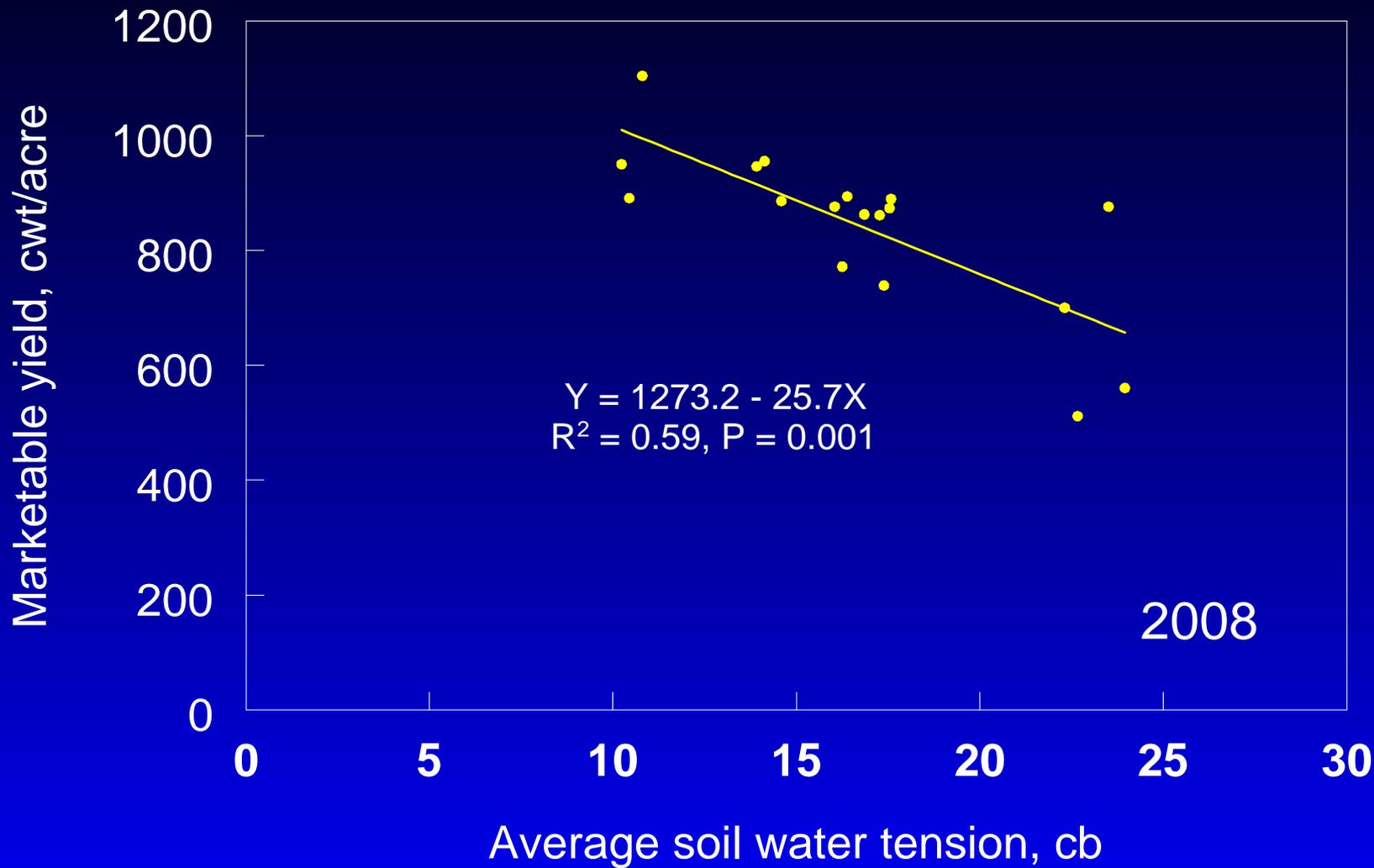




Drip
15 CB

Drip
30 CB





A photograph of a field of green onions. The plants are densely packed and have long, narrow green leaves. In the foreground, a wooden stake holds a white rectangular sign with black text. The sign reads "Drip" on the top line and "20 CB" on the bottom line. The ground is sandy and light-colored. In the background, another wooden stake with a white sign is visible, and a small red flag is also present. The overall scene is brightly lit, suggesting a sunny day.

Drip
20 CB

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