

# Sweet Corn Hybrid Tolerance to Herbicides

Chris Boerboom and Tim Trower  
University of Wisconsin - Madison

# Potential Sweet Corn Herbicides

Mesotrione – Callisto, Camix, Lumax

Foramsulfuron – Option

Dicamba + diflufenzopyr – Distinct

# Hybrid tolerance to mesotrione

## Treatments

### PRE

Dual II Magnum + atrazine	2 pt/a + 1.5 pt/a
Lumax	3 qt
Lumax	6 qt

### POST

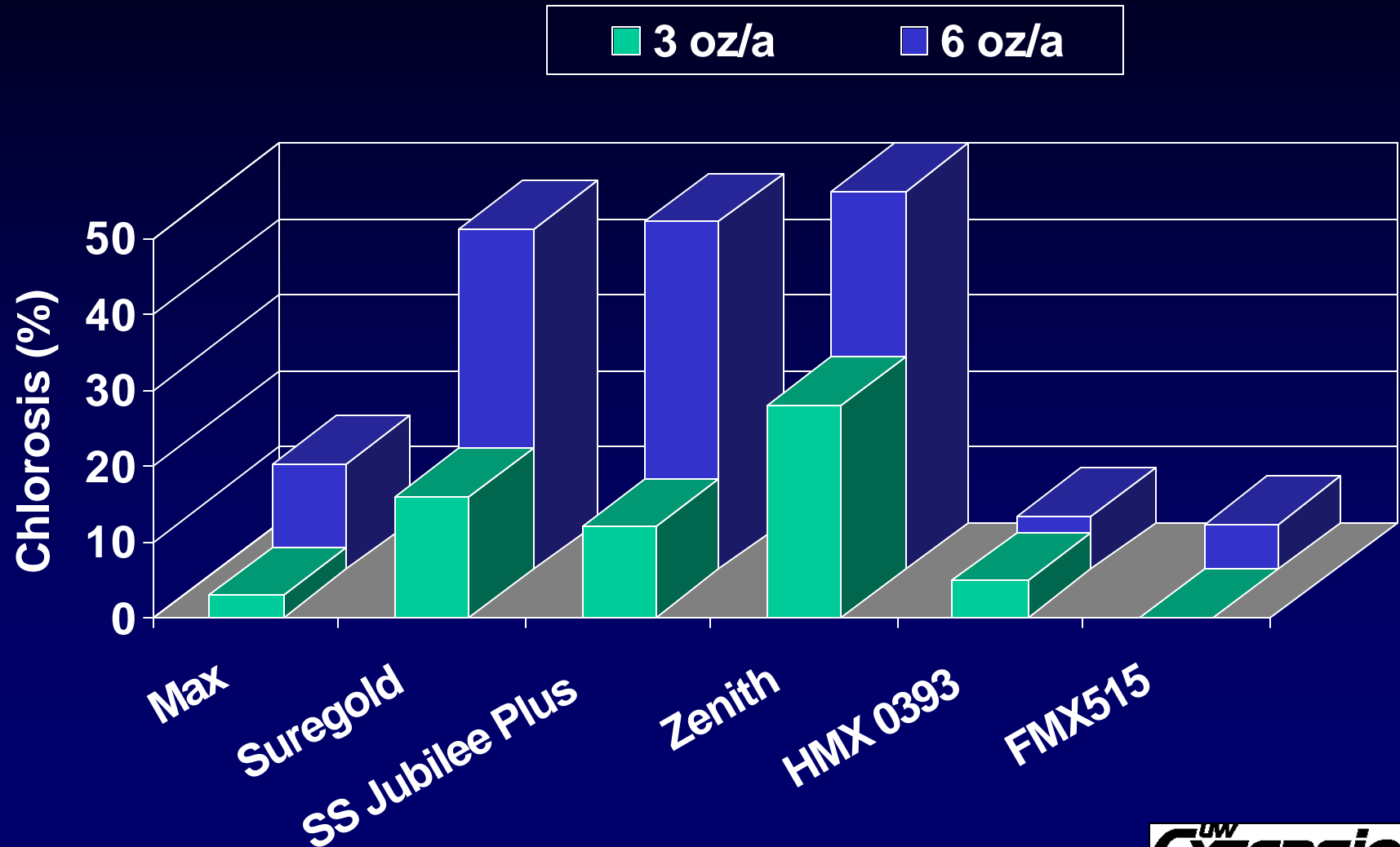
Dual II Magnum + atrazine	2 pt/a + 1.5 pt/a
followed by	

Callisto + atrazine + COC	3 oz/a + 8 oz/a + 1%
Callisto + atrazine + COC	6 oz/a + 8 oz/a + 1%

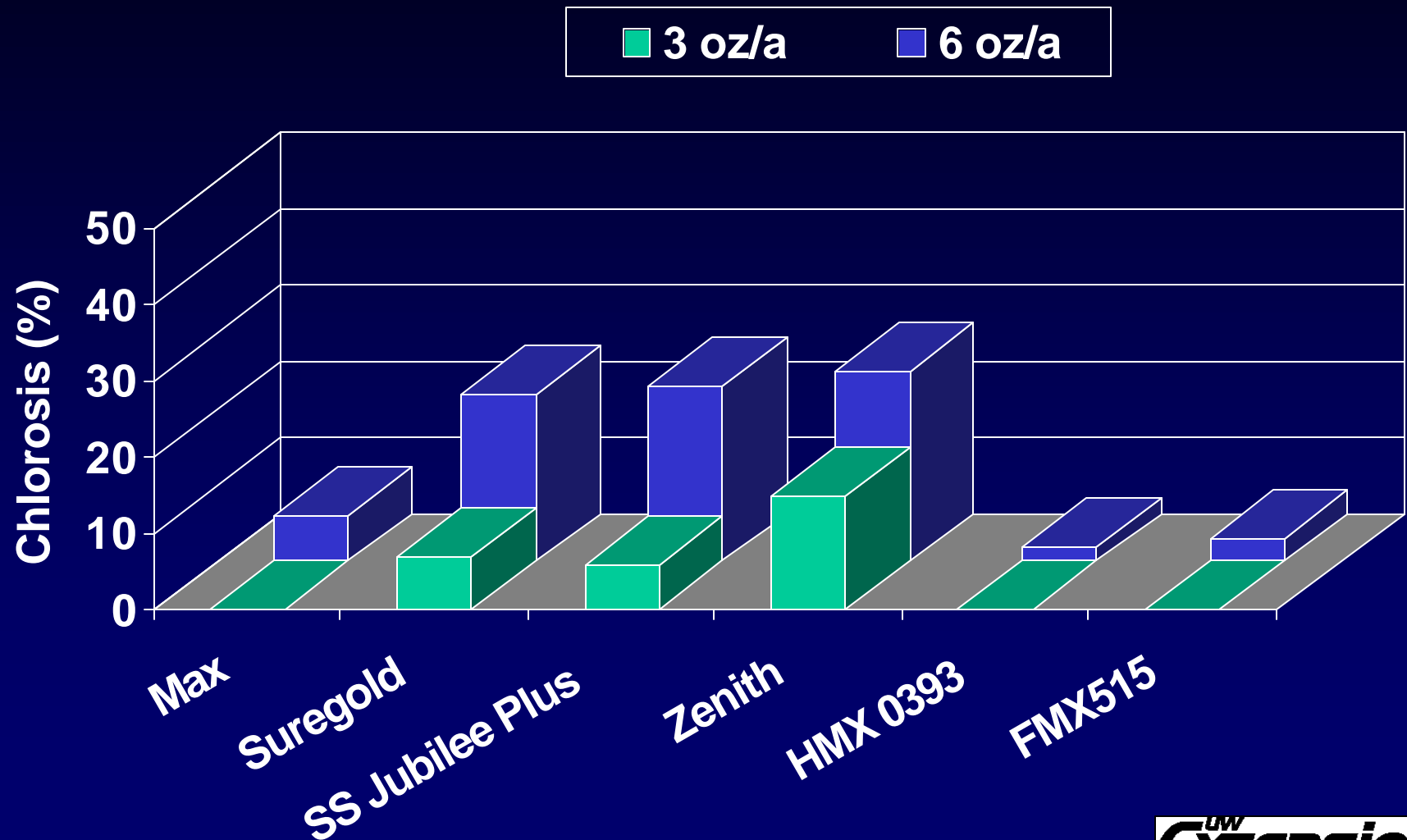
### Hybrids

Max, Suregold, SS Jubilee Plus, Zenith, HMX 0393, FMX516

# Chlorosis 5 days after post Callisto + atrazine + COC

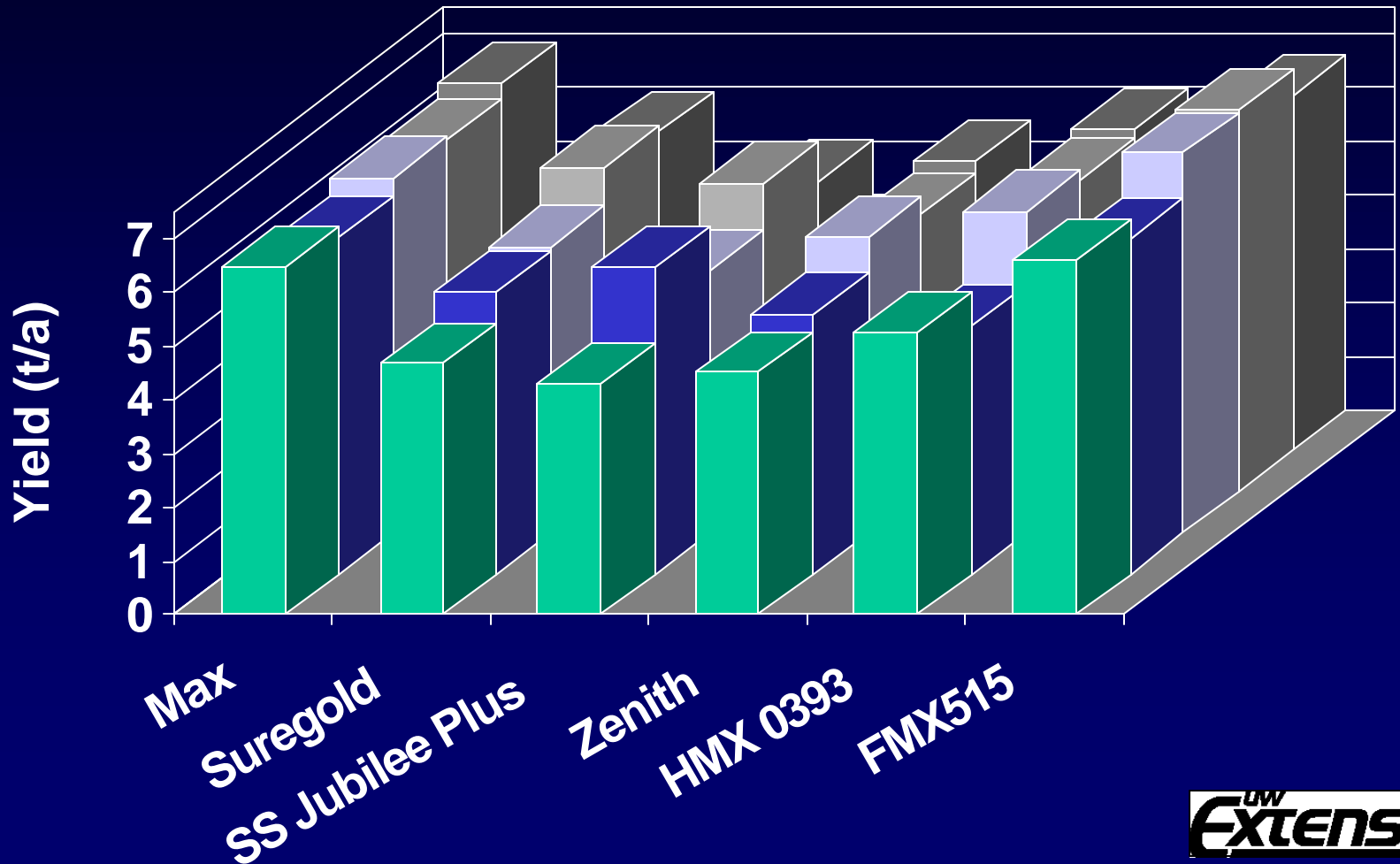


# Chlorosis 18 days after post Callisto + atrazine + COC



# Sweet corn yields after mesotrione treatments

Check Lumax 1x Lumax 2x Callisto 1x Callisto 2x



# Effect of adjuvants on sweet corn tolerance to post Callisto

## Treatments

Callisto + 1% COC 3, 6, 9 oz/a

Callisto + 1% COC + 2.5% UAN 3, 6, 9 oz/a

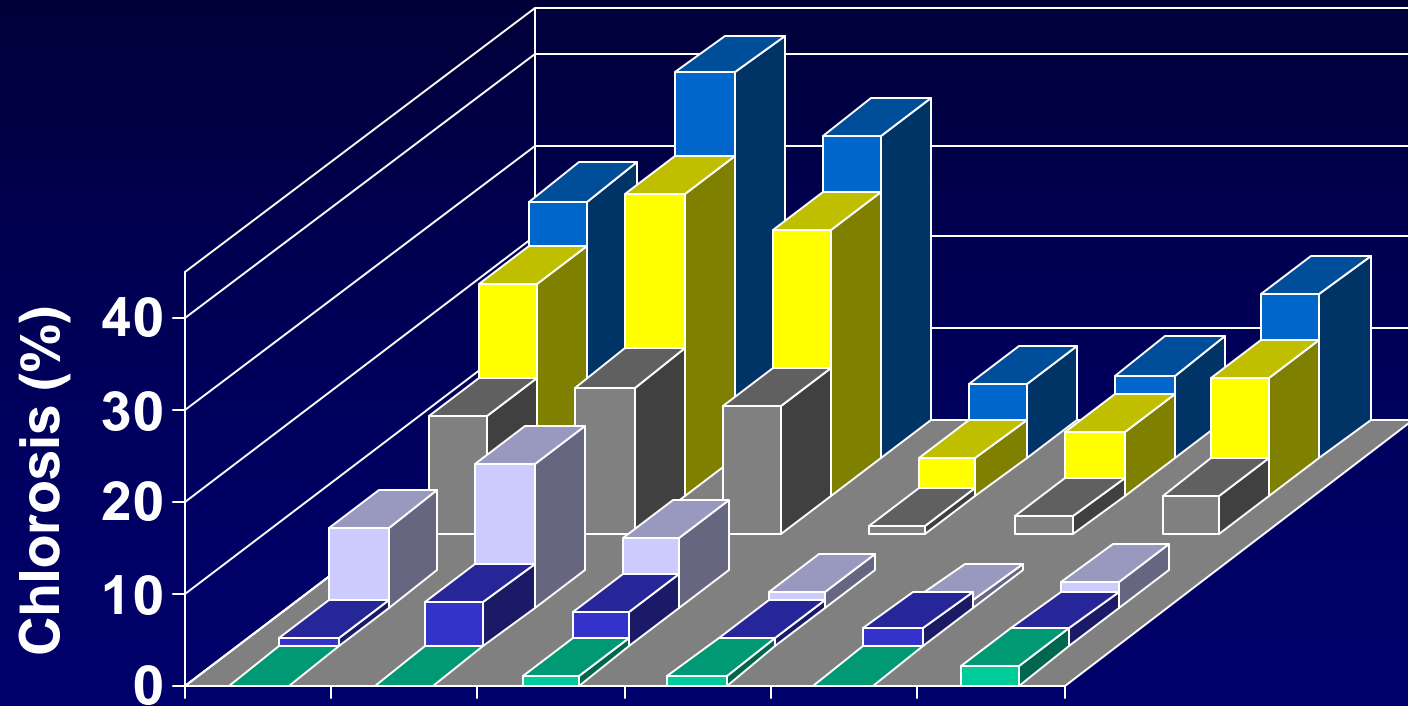
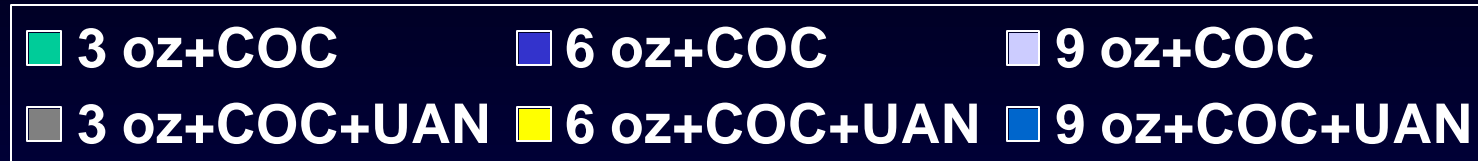
Applied at V2 stage

## 6 hybrids

- 3 tolerant
- 3 sensitive

3 planting dates

# Chlorosis of sweet corn hybrids at 4 to 6 days after V2-applications (3 experiments)



SS Jubilee  
Dynamo  
GH1861  
610  
GH2547  
Bonus



# Mesotrione Summary

- Preemergence Lumax did not cause injury
- Differential Callisto tolerance occurred among hybrids
- UAN significantly increased postemergence injury
- Postemergence injury did not reduce yield

# Tolerance of sweet corn to Option

## Treatments

Option	1.5 oz/a
+ Permit	0.67 oz/a
+ Callisto	3 oz/a
+ Distinct	2 oz/a

Permit 0.67 oz/a

Callisto 3 oz/a

Distinct 2 oz/a

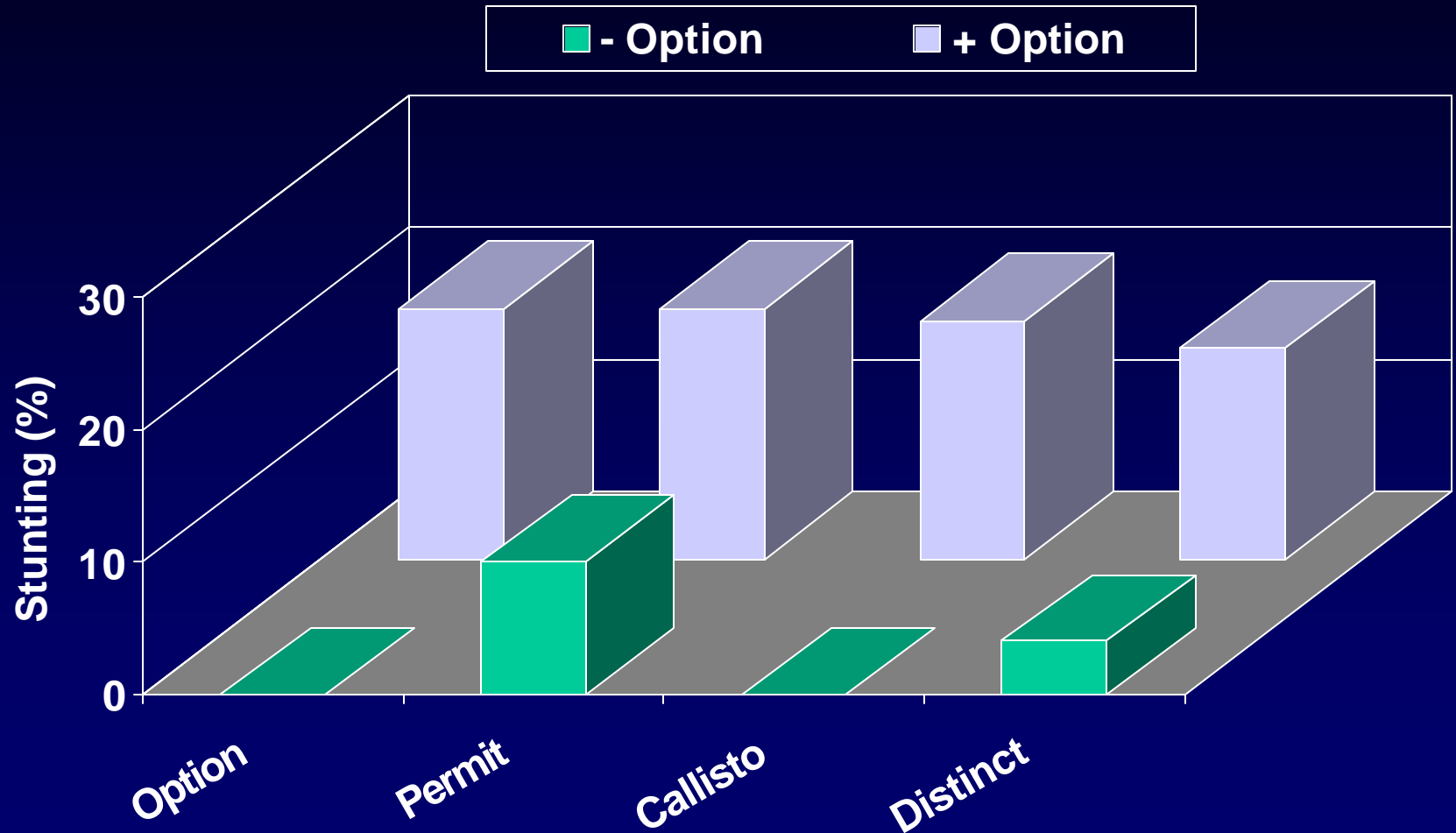
All treatments included 1.5 pt/a MSO + 2 qt/a UAN

## Hybrids

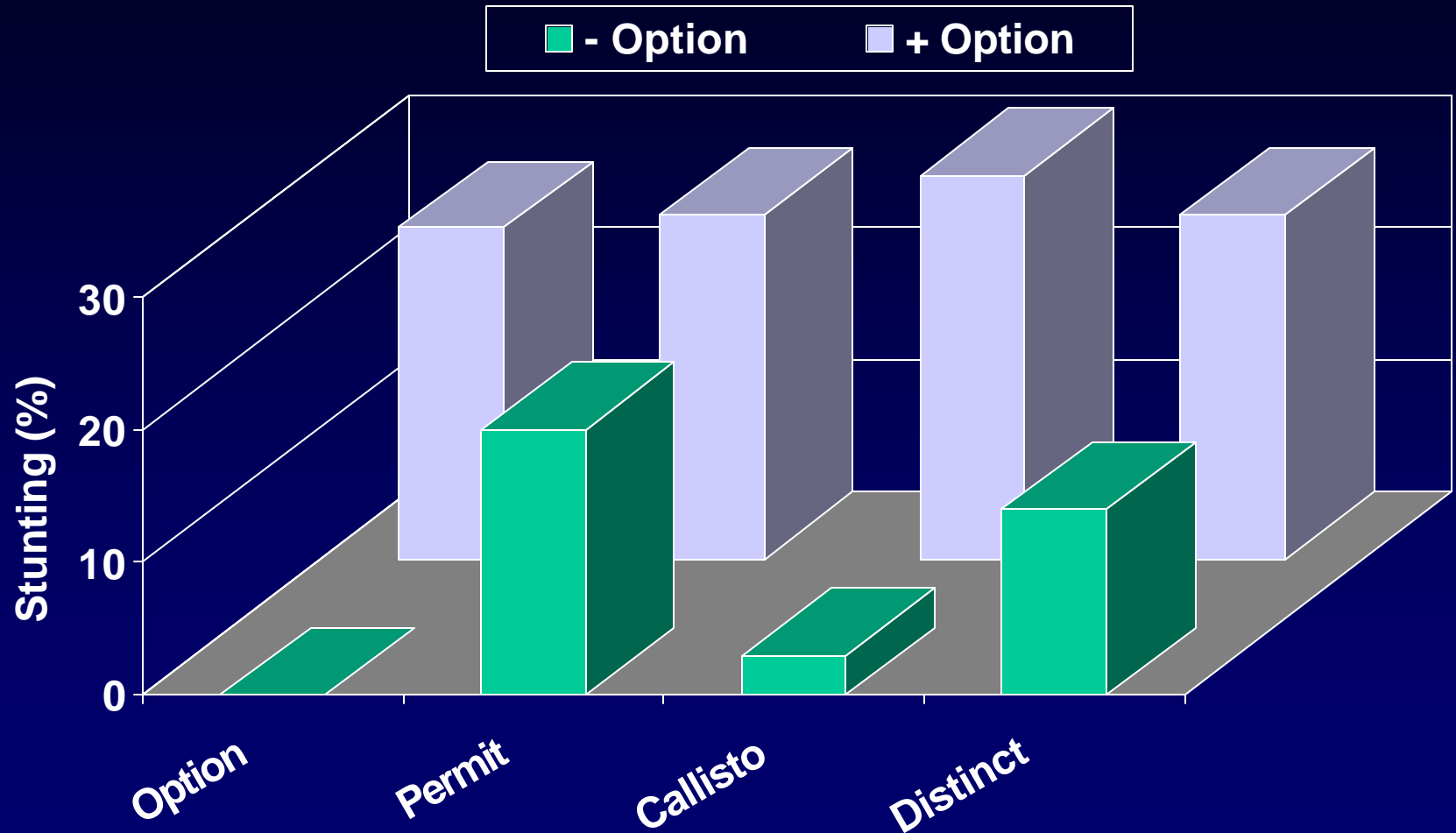
Legacy

SS Jubilee

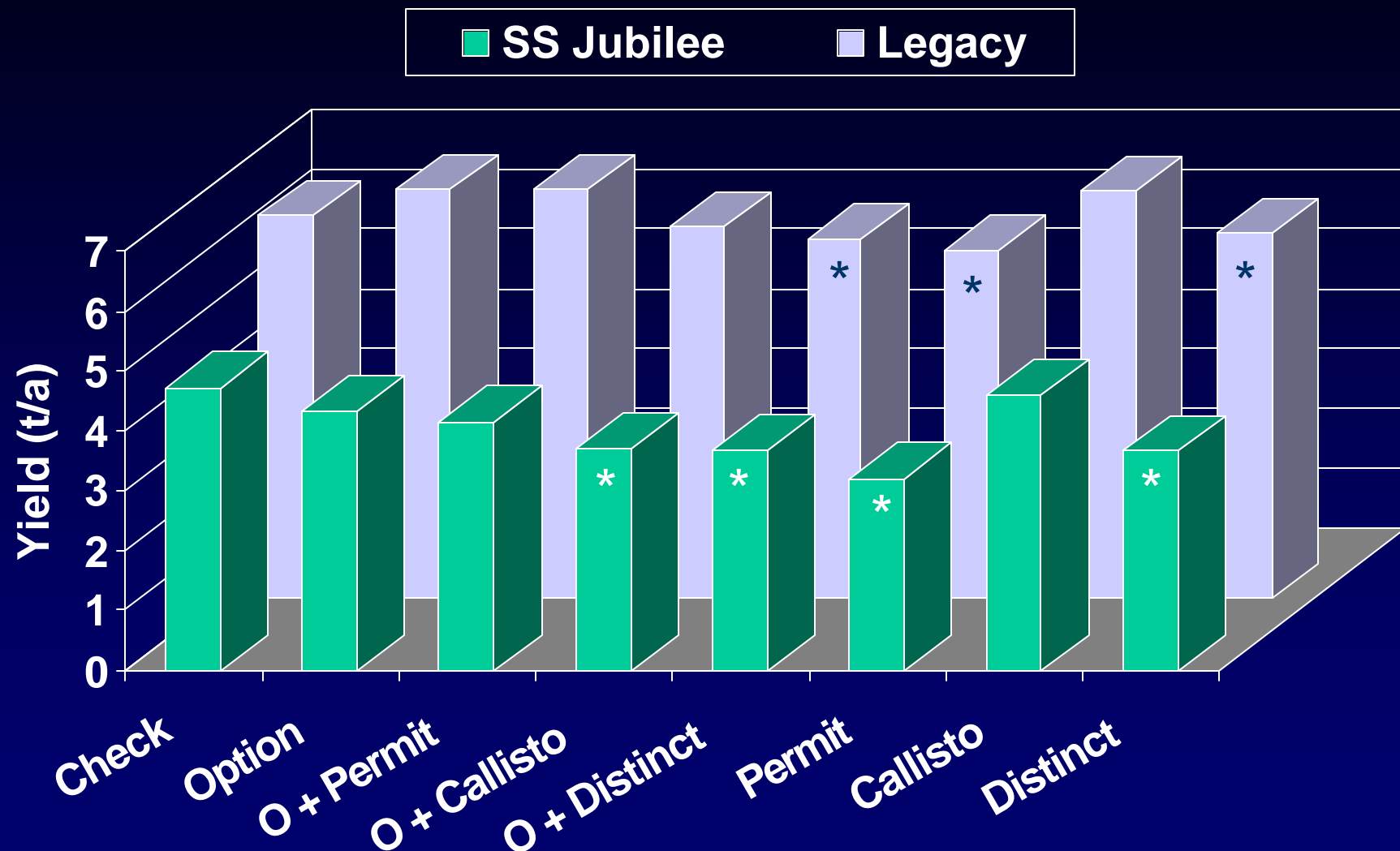
# Legacy stunting 5 days after application



# SS Jubilee stunting 5 days after application



# Sweet corn yields following Option treatments



\* Significantly less than highest yield for the hybrid

# Option Summary

- Option caused significant stunting
- Stunting to SS Jubilee was greater than to Legacy
- Adding Permit, Callisto, or Distinct did not increase stunting at 5 days
- Option's safener may be reducing stunting from Permit and Distinct

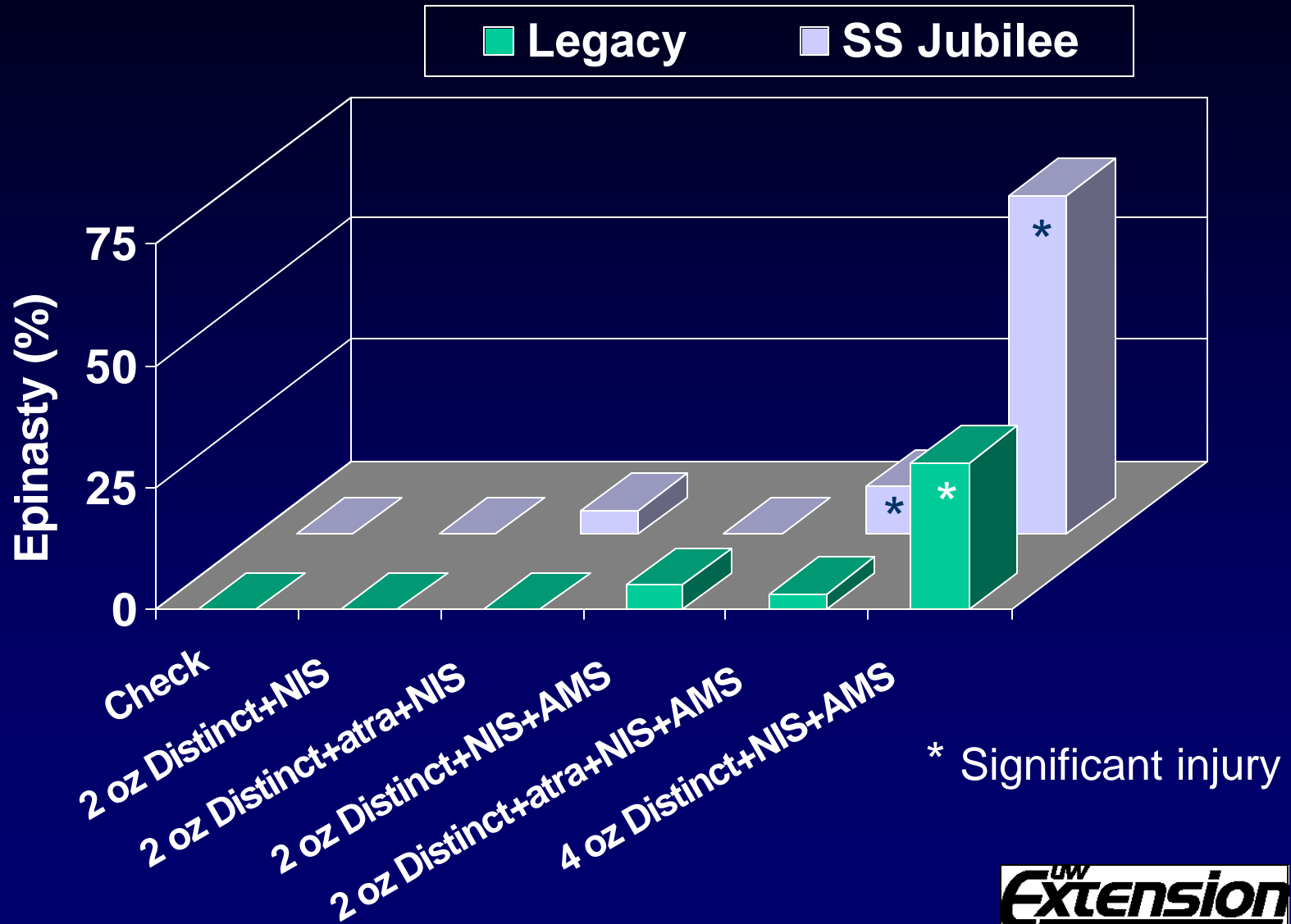
# Tolerance of sweet corn to Distinct

## Treatments

Distinct + NIS	2 oz/a + 0.25%
Distinct + atrazine + NIS	2 oz/a + 1.5 pt/a + 0.25%
Distinct + NIS + AMS	2 oz/a + 0.25% + 1 lb/a
Distinct + atrazine + NIS + AMS	2 oz/a + 1.5 pt/a + 0.25% + 1 lb/a
Distinct + NIS + AMS	4 oz/a + 0.25% + 1 lb/a

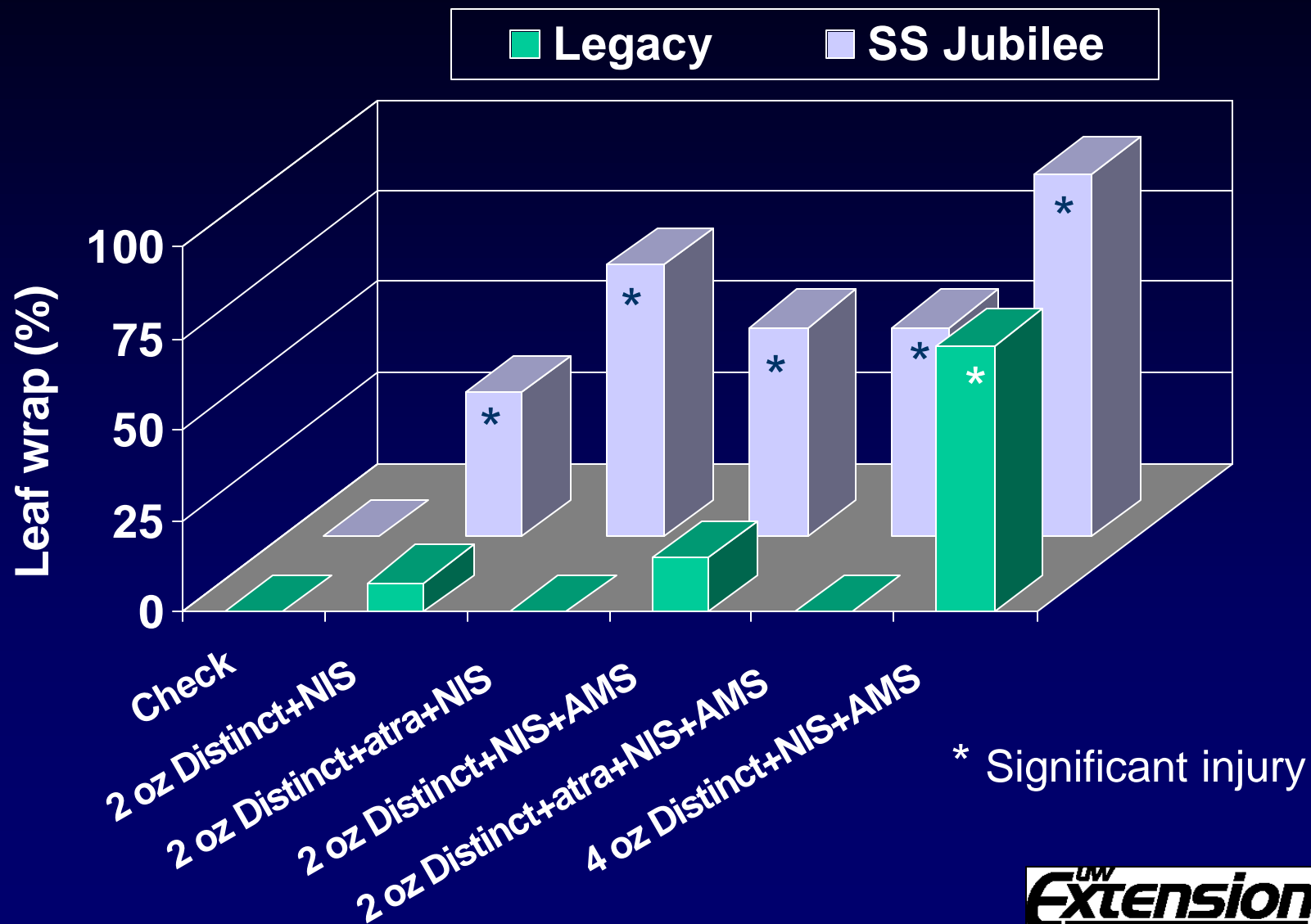
Hybrids: Legacy and SS Jubilee

# Epinasty 5 days after treatment with Distinct





# Leaf wrap 22 days after treatment with Distinct



# Distinct Summary

- 4 oz/a Distinct caused significant injury to two hybrids
- Most Distinct treatments at 2 oz/a did not significantly injury Legacy, but many injured SS Jubilee
- Postemergence injury did not reduce yield