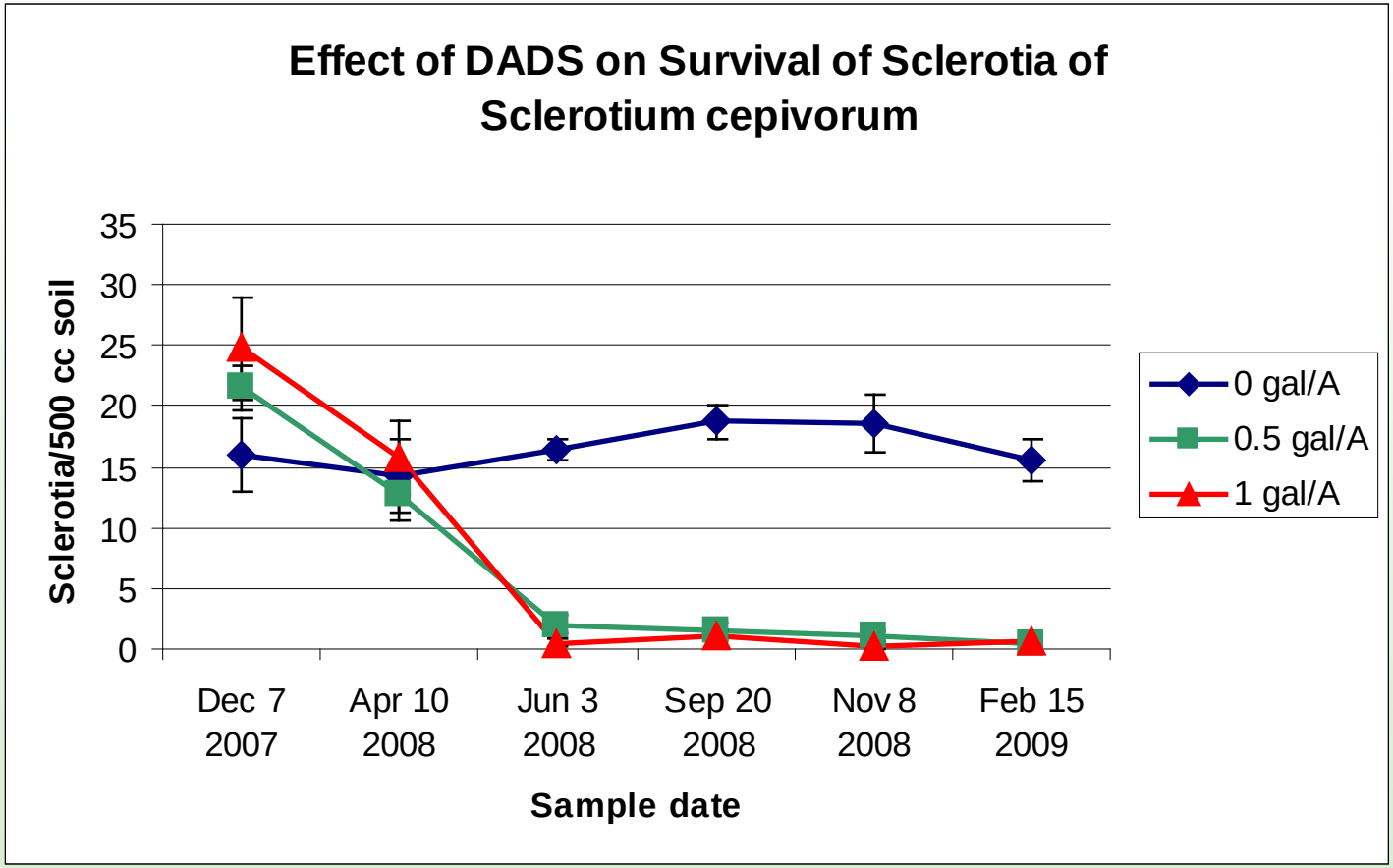
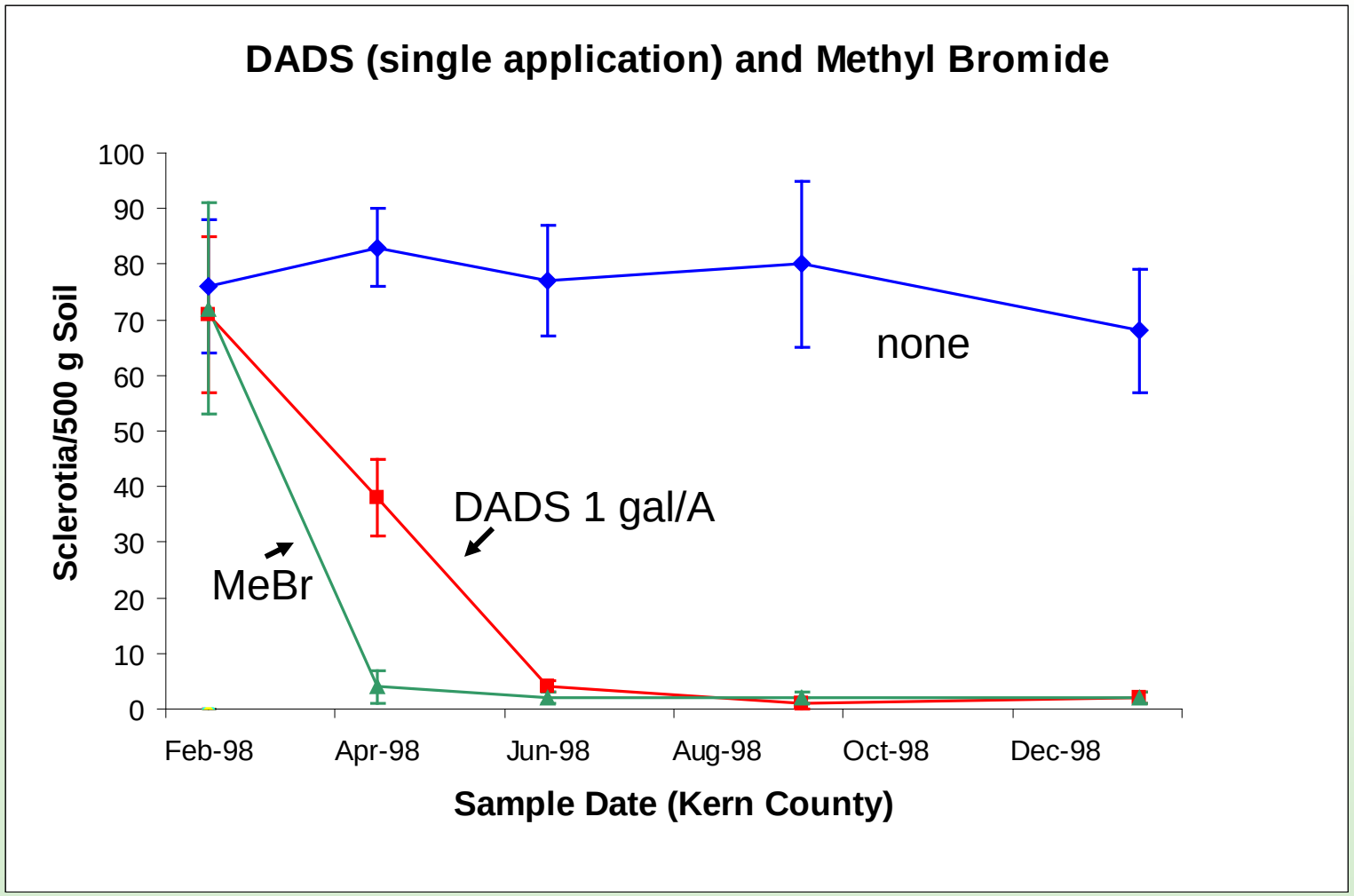
White Rot (*Sclerotium cepivorum*)
14,000+ infested acres in the
San Joaquin Valley

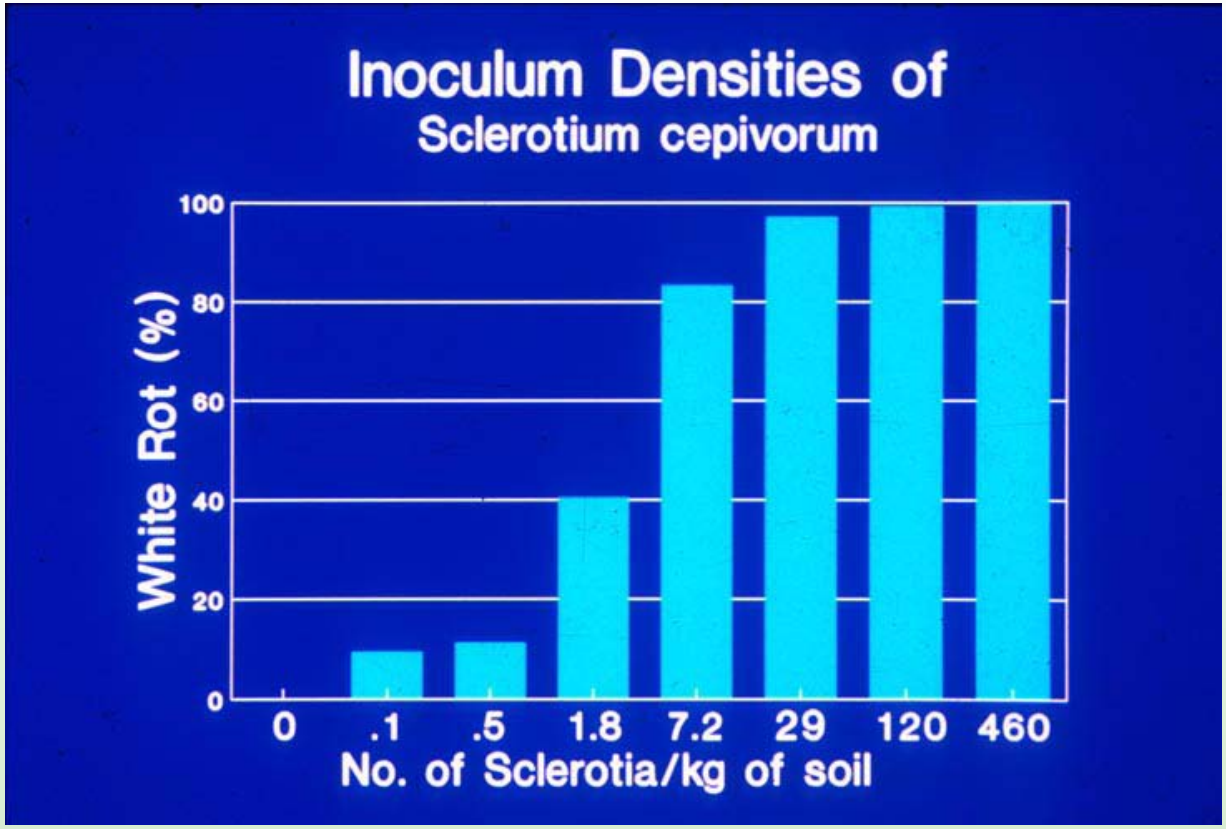
Mike Davis, UC Davis

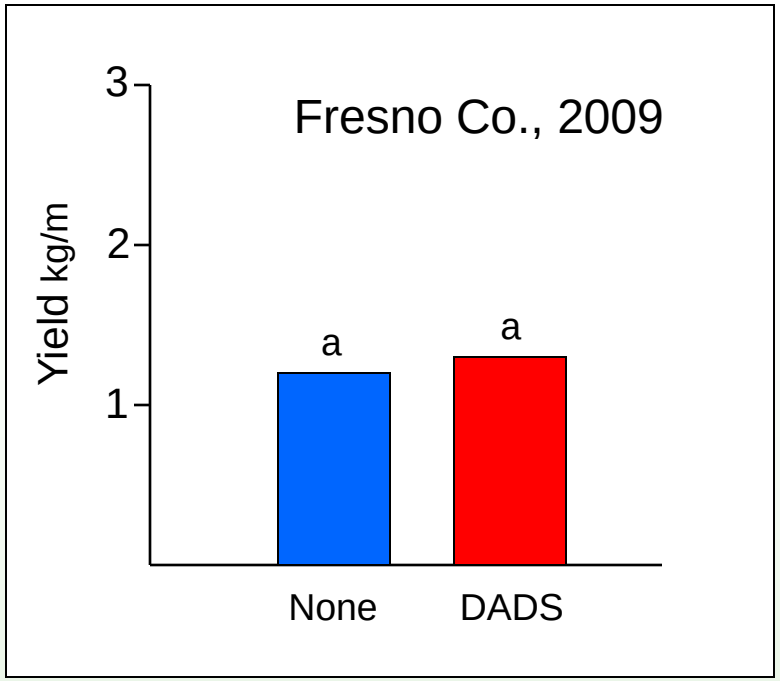
DADS (diallyl disulfide)

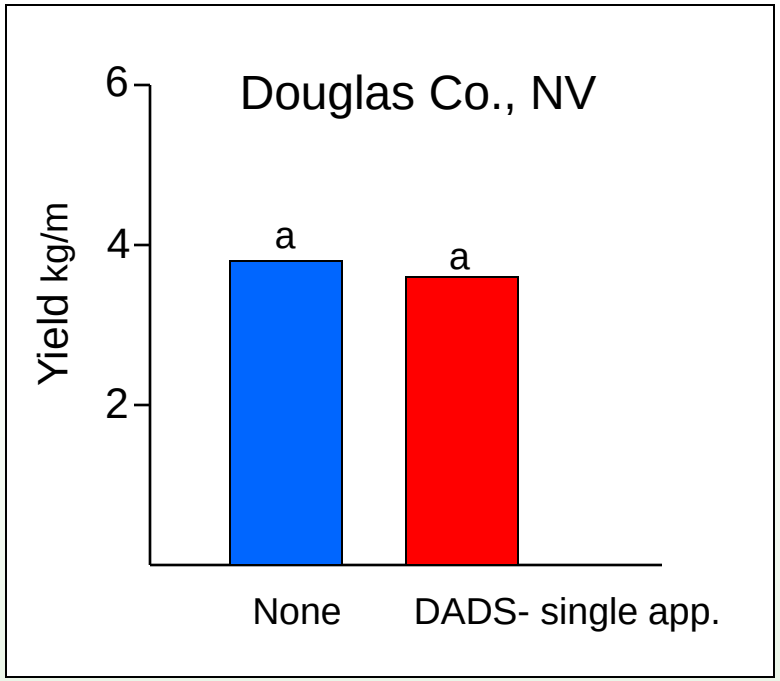
- Apply when soil temperatures are 50-70 F
- In the San Joaquin Valley, apply fall or spring
- 90% reduction of sclerotia
    1. helps prevent field to field and farm to farm spread
    2. may be necessary in heavily infested fields to optimize efficacy of fungicides

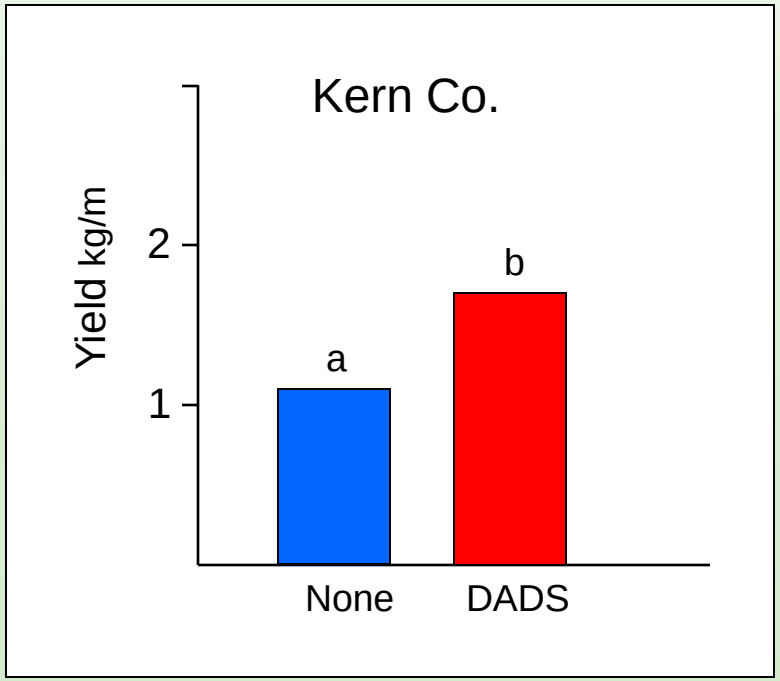

Effect of DADS on Survival of Sclerotia of Sclerotium cepivorum
Sclerotia/500 cc soil
35
30
25
20
15
10
5
0
Dec 7 2007
Apr 10 2008
Jun 3 2008
Sep 20 2008
Nov 8 2008
Feb 15 2009
Sample date
0 gal/A
0.5 gal/A
1 gal/A

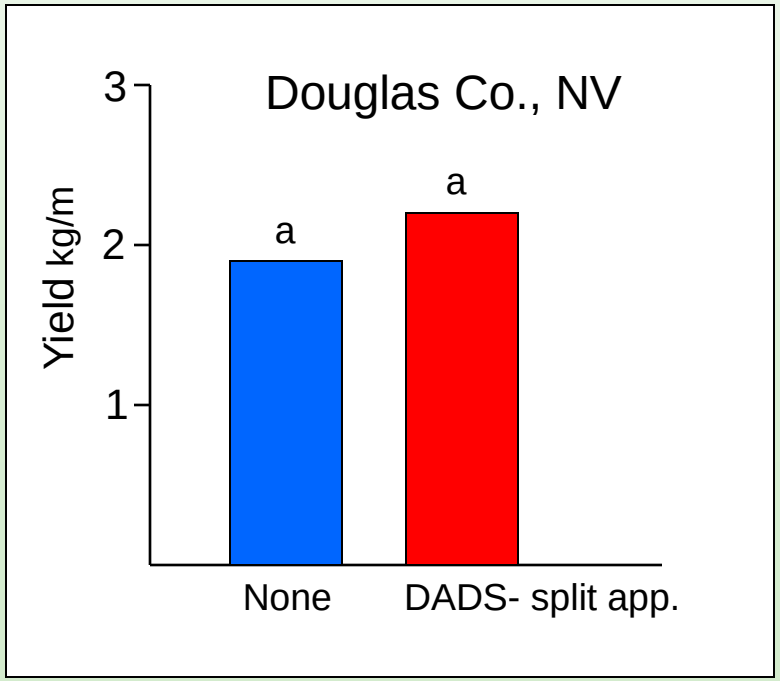

DADS (single application) and Methyl Bromide
Sclerotia/500 g Soil
100
90
80
70
60
50
40
30
20
10
0
Feb-98
Apr-98
Jun-98
Aug-98
Oct-98
Dec-98
Sample Date (Kern County)
none
DADS 1 gal/A
MeBr


Inoculum Densities of
Sclerotium cepivorum
White Rot (%)
100
80
60
40
20
0
0
.1
.5
1.8
7.2
29
120
460
No. of Sclerotia/kg of soil


Fresno Co., 2009
Yield kg/m
3
2
1
a
a
None
DADS


Douglas Co., NV
Yield kg/m
6
4
2
a
a
None
DADS- single app.


Kern Co.
Yield kg/m
2
1
a
b
None
DADS


Douglas Co., NV
Yield kg/m
3
2
1
a
a
None
DADS- split app.

Conclusions

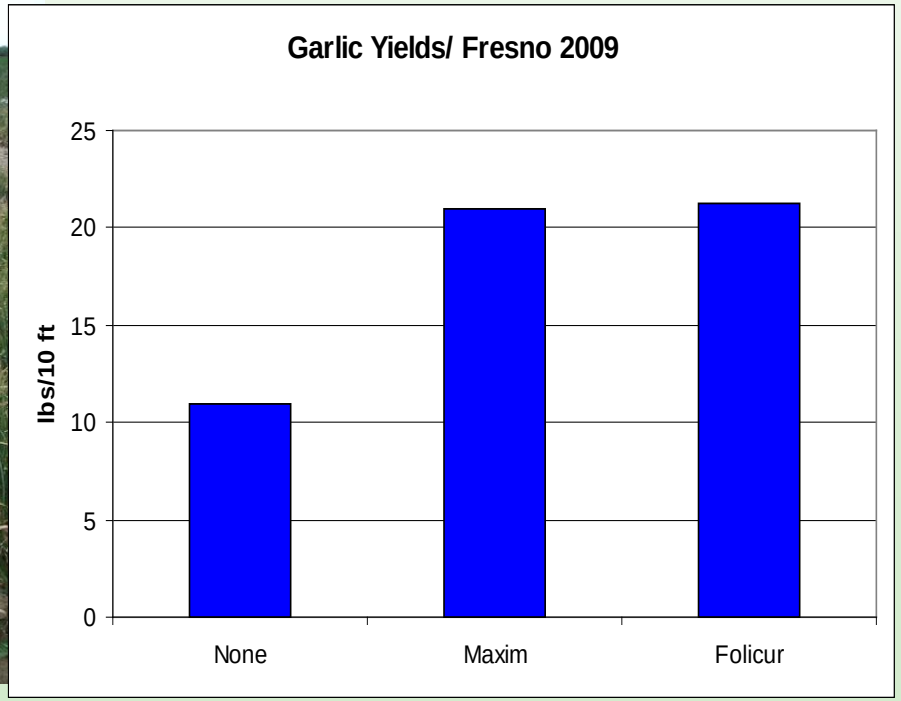
- A single application of DADS can result in >90% sclerotia mortality

- Profitable yields may not be possible following DADS treatment, at least in heavily infested fields

Fungicides

• Folicur (tebuconazole) applied to the seed furrow at 20.5 fl oz in a 4 inch band.

• Maxim (fludioxonil) applied to the seed at 0.16 fl oz product per cwt or seed furrow at 1.7 pts/acre



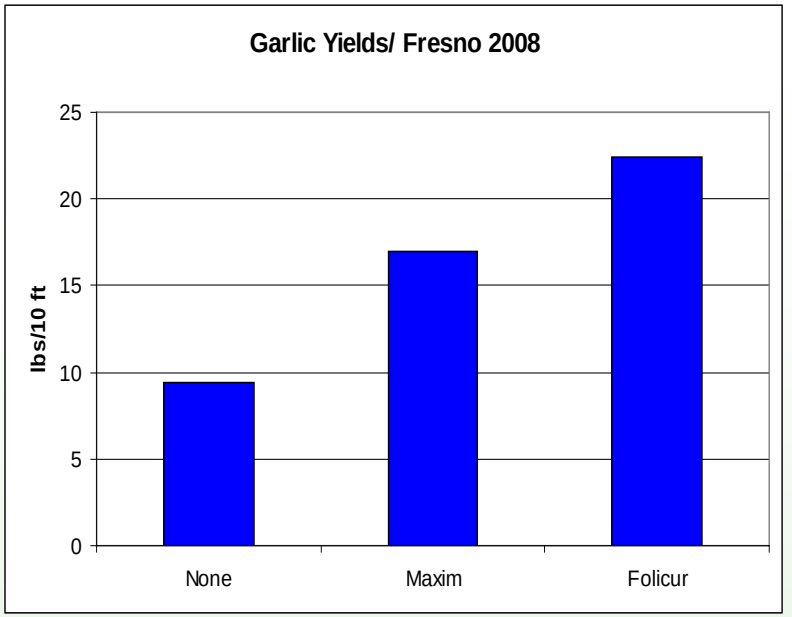
2008 Trial

None

Switch 1 oz/1000 feet of row

Endura 6.8 oz per treated acre

Folicur 20.5 fl oz per acre in a 4 in band



1. Water
2. 1 X
3. 2 X
4. 4 X
5. 10 X

Make furrow, apply fungicide, plant seed, cover with soil

6. 1 X
7. 2 X

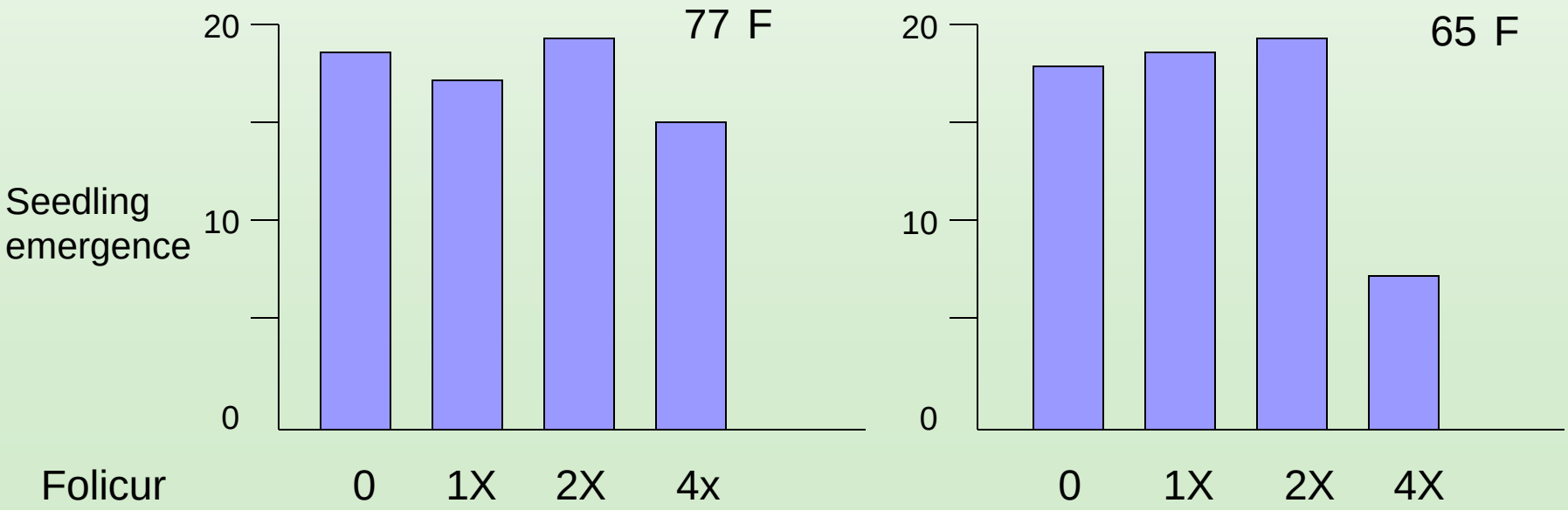
Make furrow, apply fungicide, cover with ¼ in. soil, plant, cover

8. 1 X
9. 2 X

Apply fungicide, mix (incorporate), make furrow, plant seed, cover

10. 1X
11. 2X
12. 3X
13. 4X

Make furrow, plant seed, apply fungicide, cover with soil


77 F
65 F
Seedling emergence
20
10
0
Folicur
0
1X
2X
4x
0
1X
2X
4X

Folicur applications

Water 1X 2X water 4X 10x

Basal Rot

(*Fusarium oxysporum f. sp. cepae*)