

End of season management of tuber blight

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End of season management of tuber blight



12 artificially inoculated field trials with Folva
(3 locations X 4 years)

1. Harvest on green haulm
2. Green haulm treated with Shirlan 14 and 7 d.b.h.
3. Chemical desiccation with diquat (3 l/ha Reglone)
14 d.b.h.
4. Half cut and desiccated with diquat (1,5 l/ha
Reglone) 14 d.b.h.

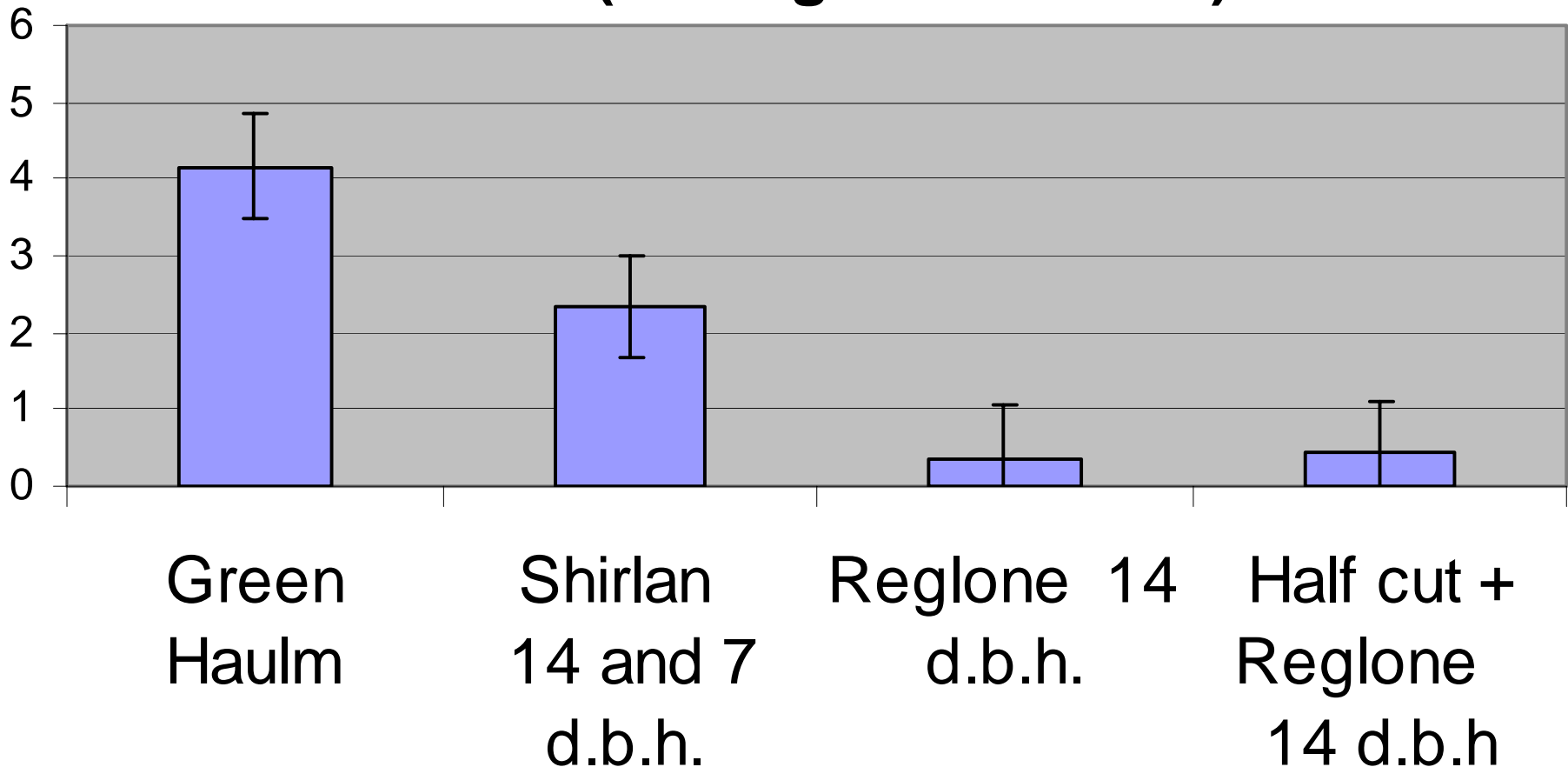
(3 replications)



End of season management of tuber blight



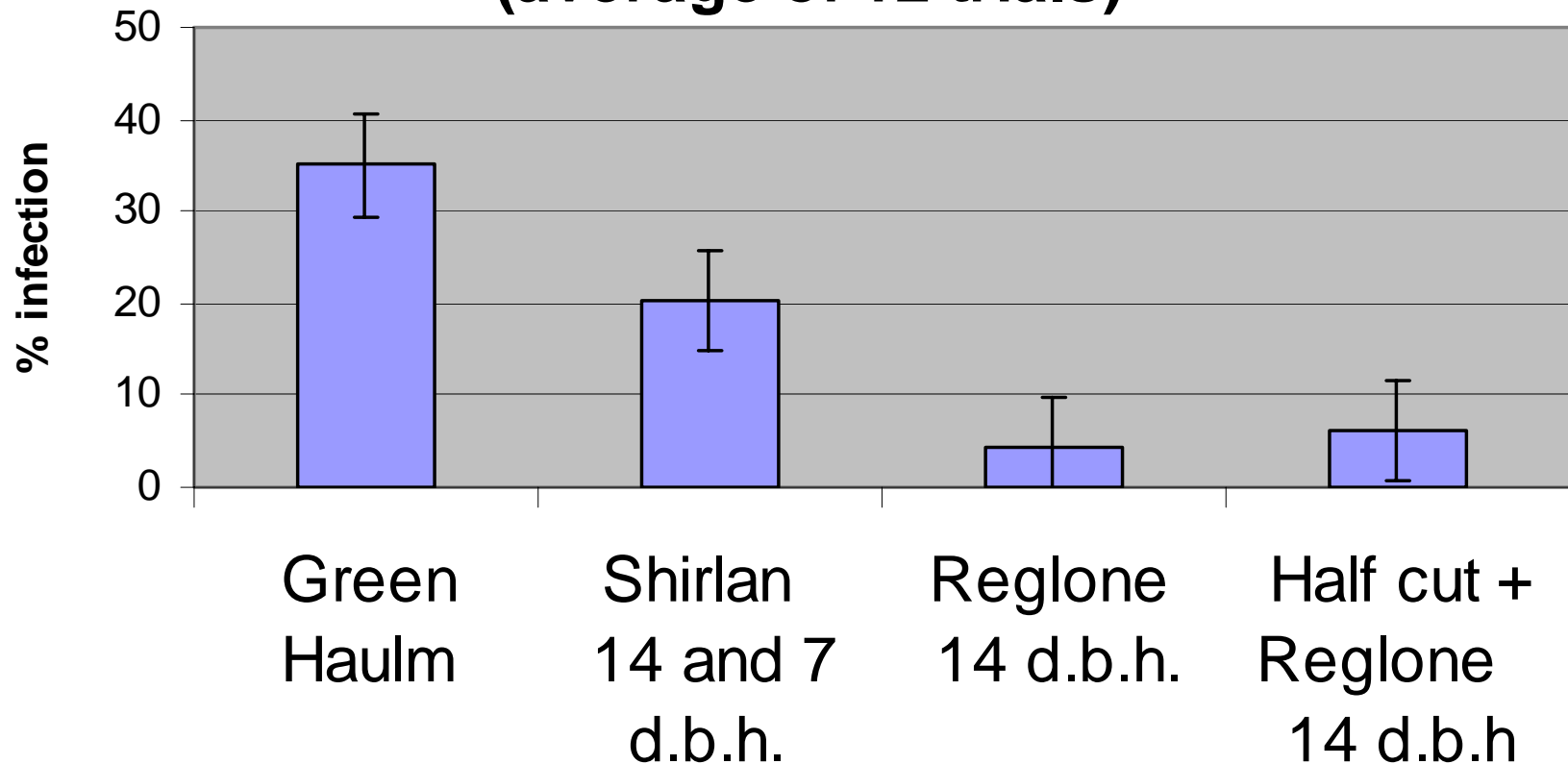
Sporangia (1000/ml) in the haulm at harvest (average of 12 trials)



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**Infectivity of the soil at harvest
(average of 12 trials)**

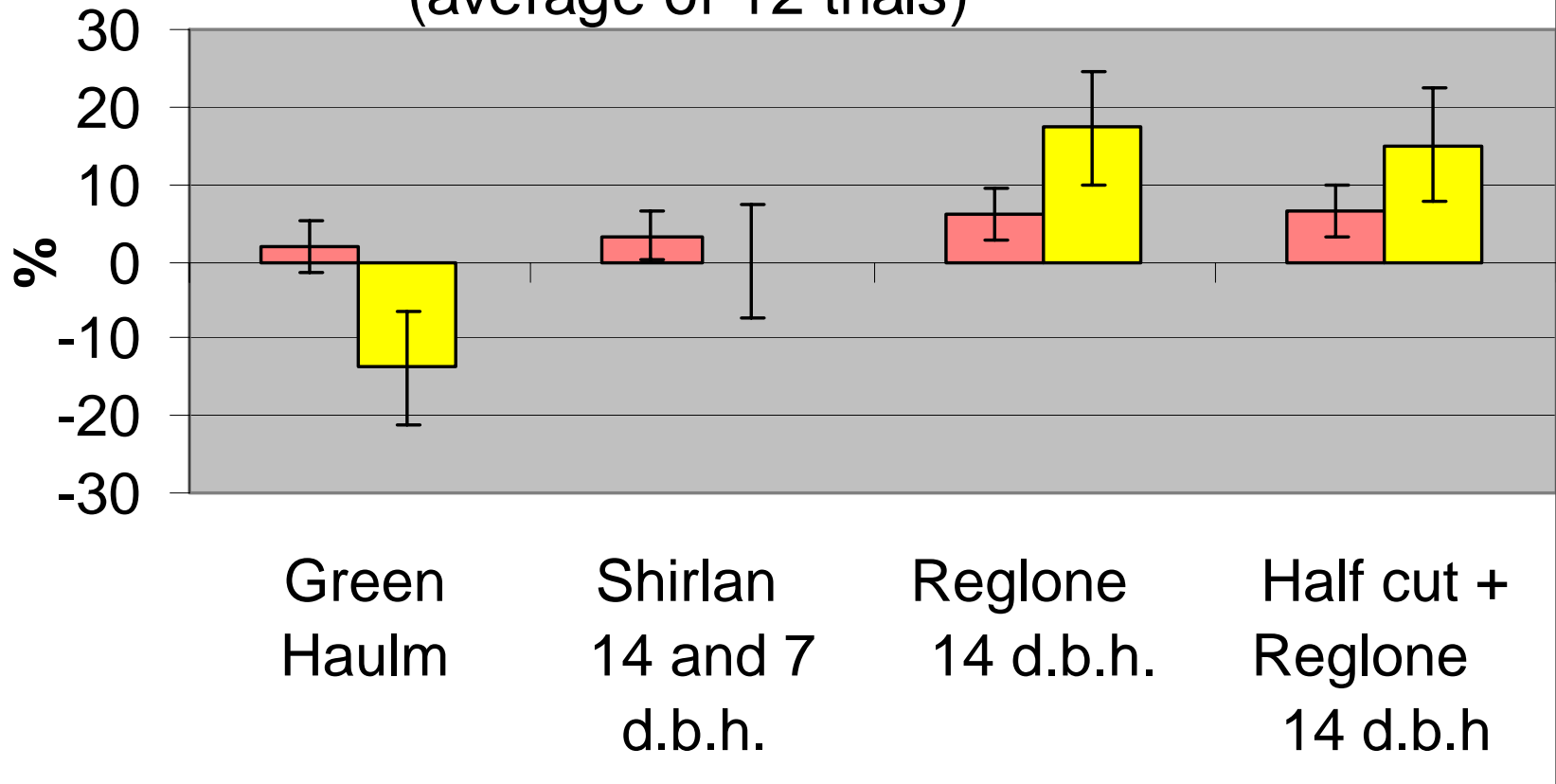


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Reduction of spores in haulm and soil from end of season treatment to harvest (average of 12 trials)

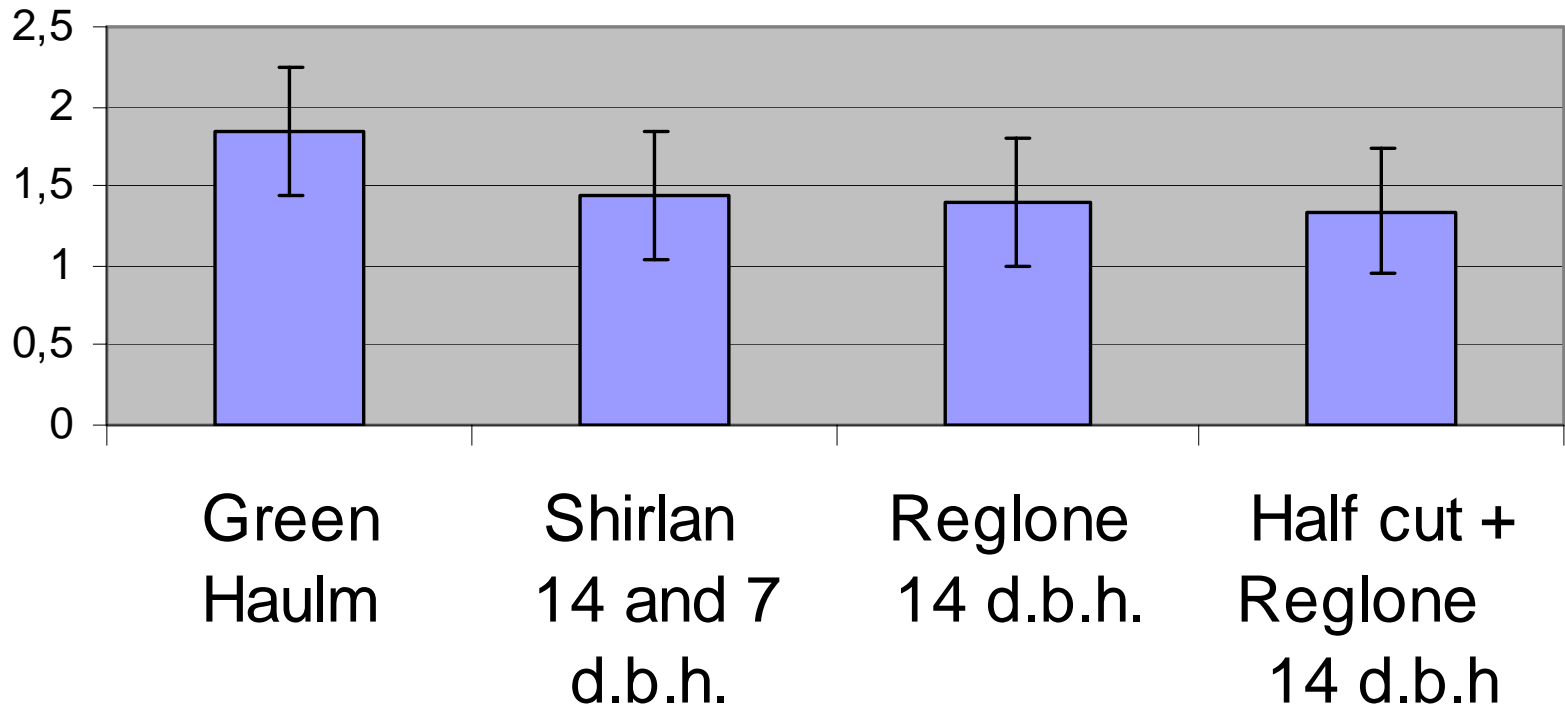
■ Haulm
■ Soil



End of season management of tuber blight



% tuber blight (average of 12 trials)



End of season management in different cultivars



12 field trials (3 locations X 4 years)

5 cultivars X 2 end of season strategies

Cultivars:

Folva, Saturna, Astrix, Beate, Peik

End of season strategies:

1. Green haulm treated with Shirlan 14 and 7 d.b.h.
2. Chemical desiccation with diquat (3 l/ha Reglone) 14 d.b.h.

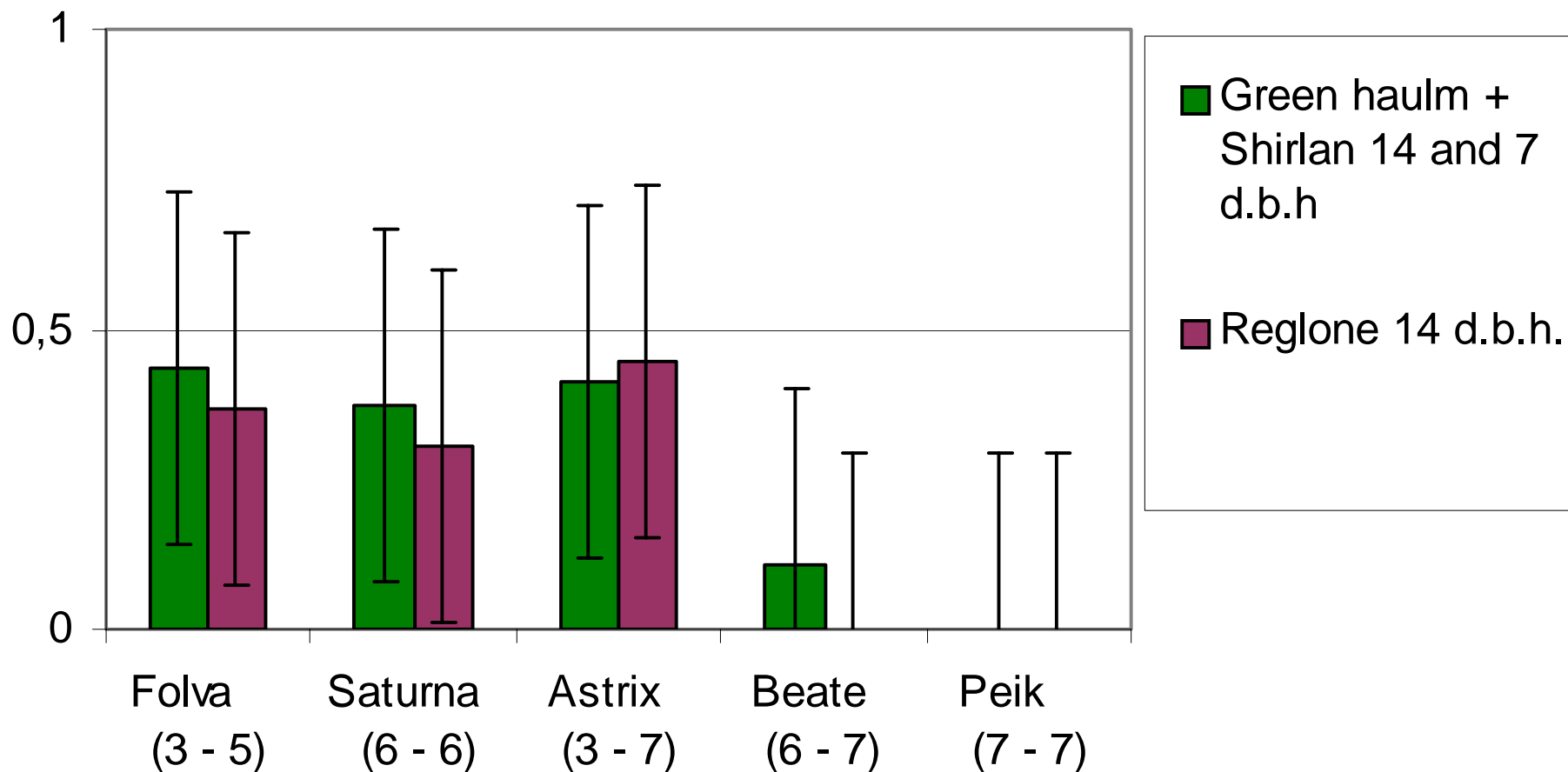
(3 replications)



End of season management in different cultivars



% tuber blight (average of 5 trials with blight)



End of season management large plots



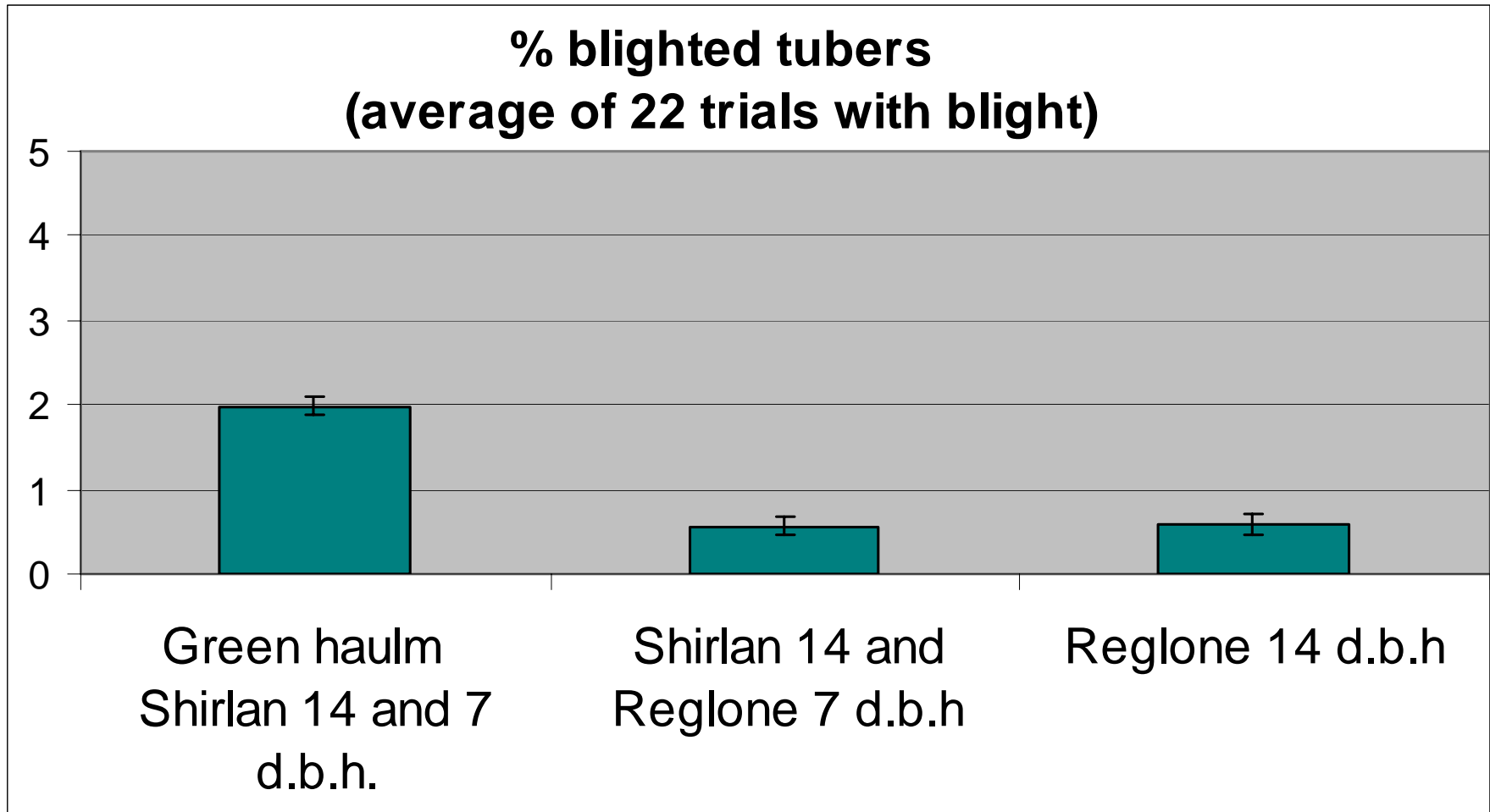
80 field trials (20 locations X 4 years)

- 1. Green haulm treated with Shirlan 14 and 7 d.b.h.**
- 2. Shirlan 14 d.b.h. and chemical desiccation with diquat (3 l/ha Reglone) 7 d.b.h.**
- 3. Chemical desiccation with diquat (3 l/ha Reglone) 14 d.b.h.**

(3 replications)



Large plots



Persistence of infectivity in different soil types and at different soil humidity

3 soil types X 3 level of soil humidity (2 years)

Soil types: Silt, sand, light clay

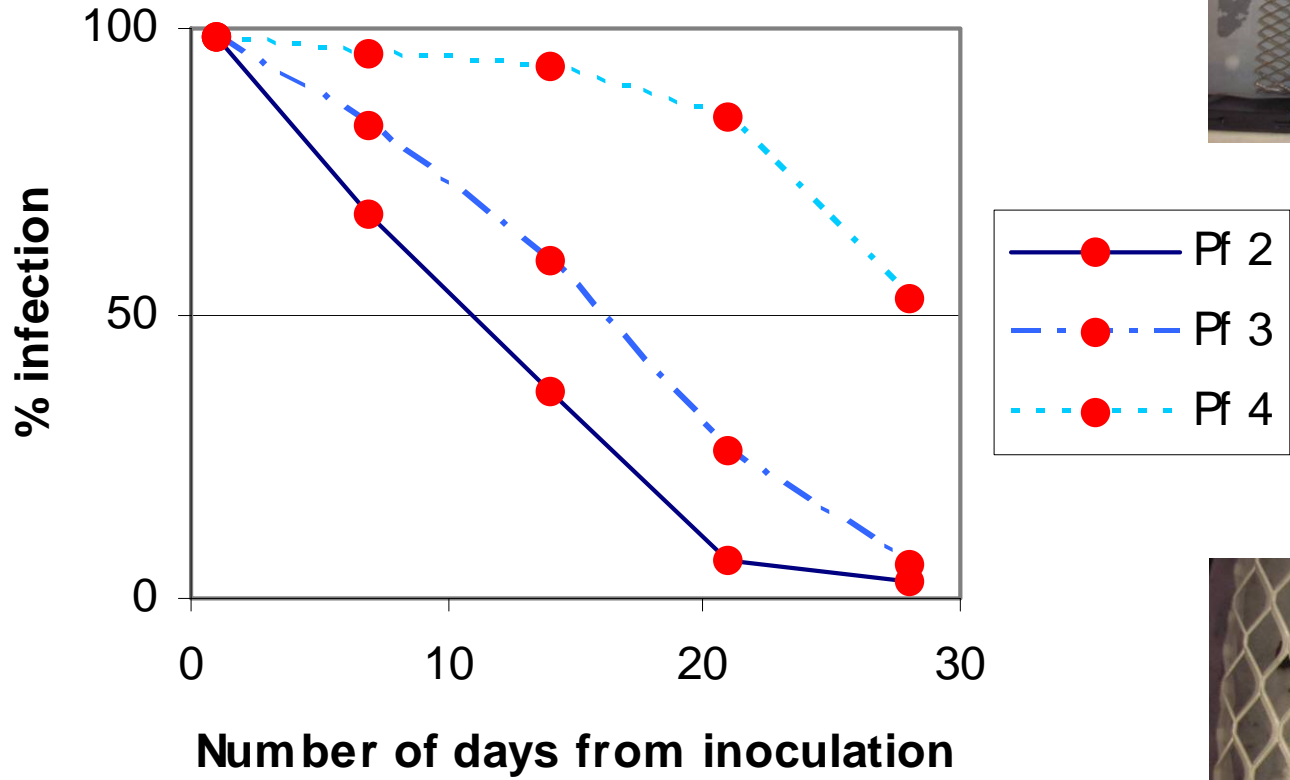
Soil humidity: Pf 2 (wet), Pf 3, Pf 4 (dry)

(3 replications)

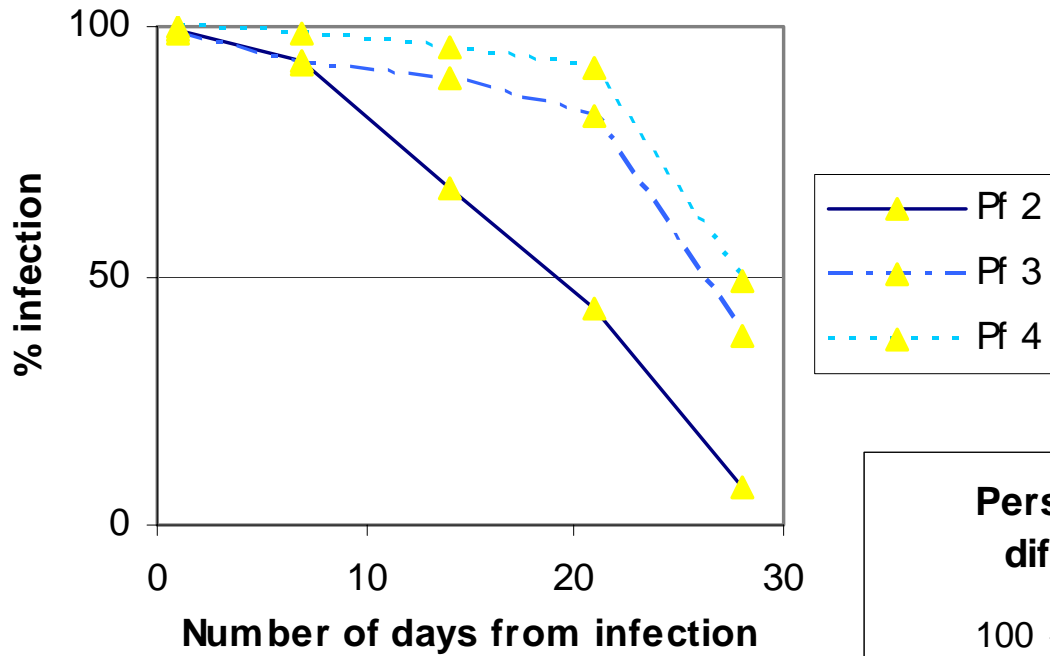
Inoculated with 1000 sporangia per ml soil and incubated at 12°C in the dark.



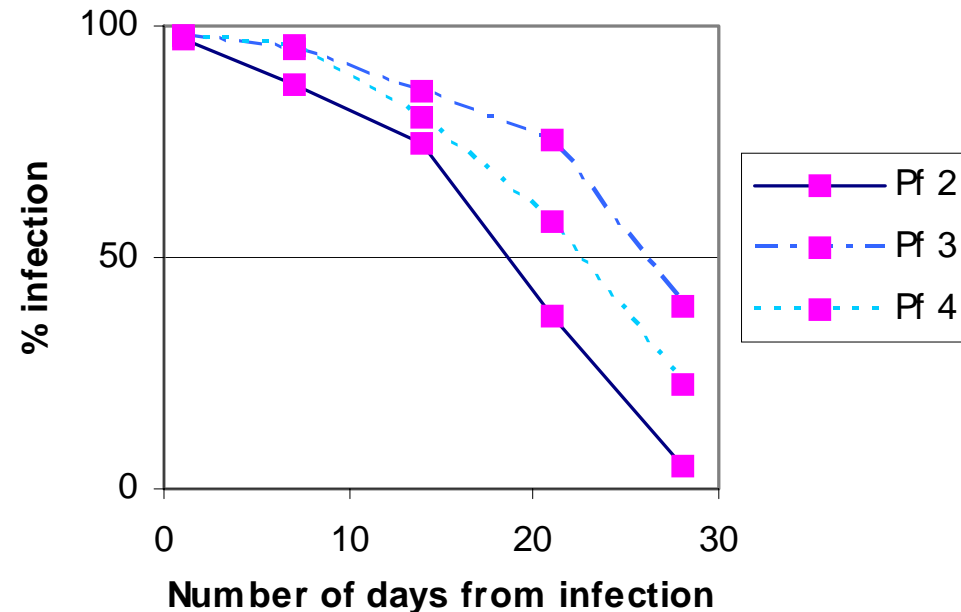
Persistence of infectivity in silt soil at different humidity (average of two trials)



Persistence of infectivity in sandy soil at different humidity (average of two trials)

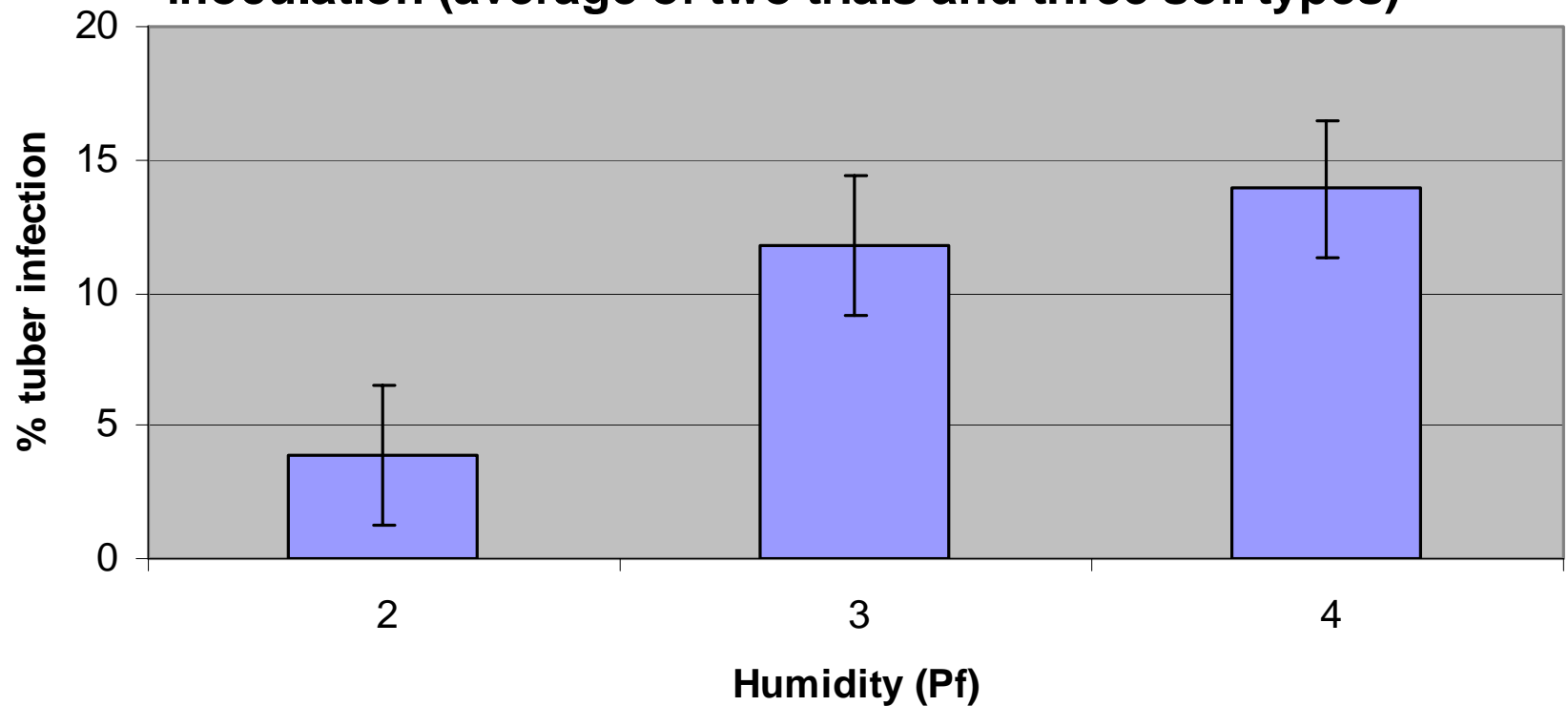


Persistence of infectivity in light clay soil at different humidity (average of two trials)





Infectivity of soil at different humidity 14 days after inoculation (average of two trials and three soil types)



Infectivity of soil after different end of season treatments and rain

4 end of season treatments X 2 rain timings
(2 years)

End of season treatment:

1. Green haulm
2. Shirlan
3. Reglone
4. Mechanical

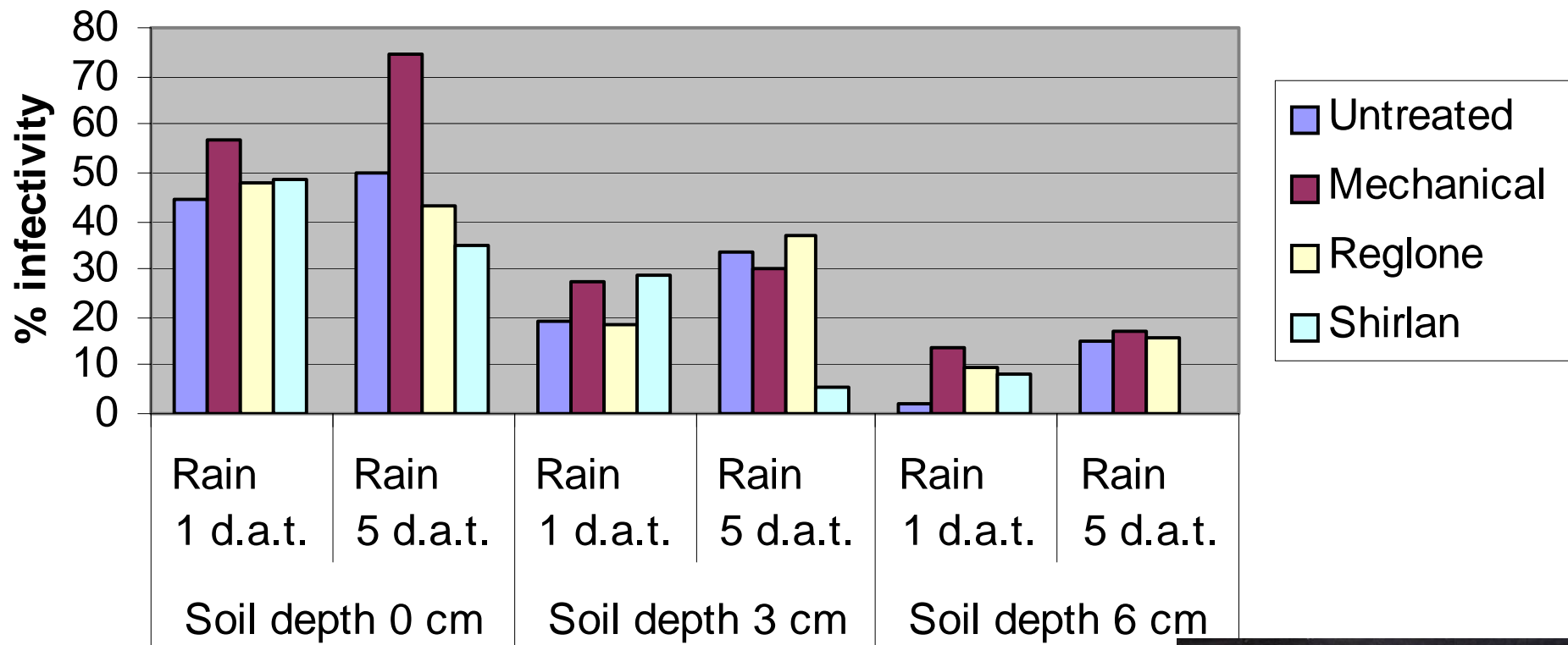
Simulated rain (15 mm):

- 1 day after end of season treatment
- 5 days after end of season treatment

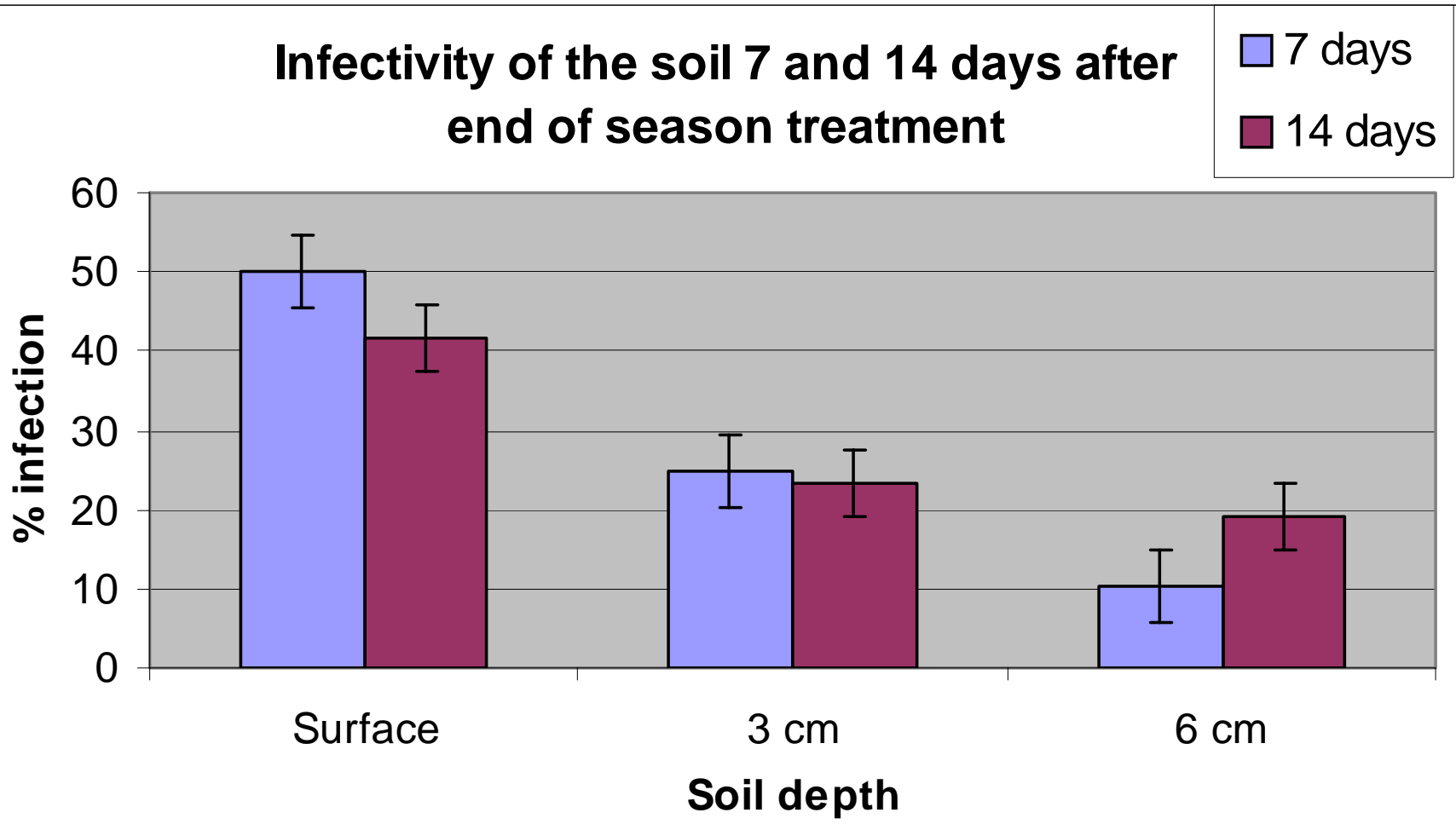
(4 replications)



Infectivity of soil 7 days after different end of season treatments (average of two trials)



Infectivity of the soil 7 and 14 days after end of season treatment



Conclusions

- Haulm killing reduces the amount of inoculum in the haulm and soil and the amount of tuber blight compared to green haulm with fungicide
- The effect of weather and host resistance were stronger than the effect of end of season treatment on the amount of tuber blight
- The late blight inoculum persisted longer in dry soil
- Most of the inoculum washed down from the haulm remain in the top soil (0- 3 cm depth)

