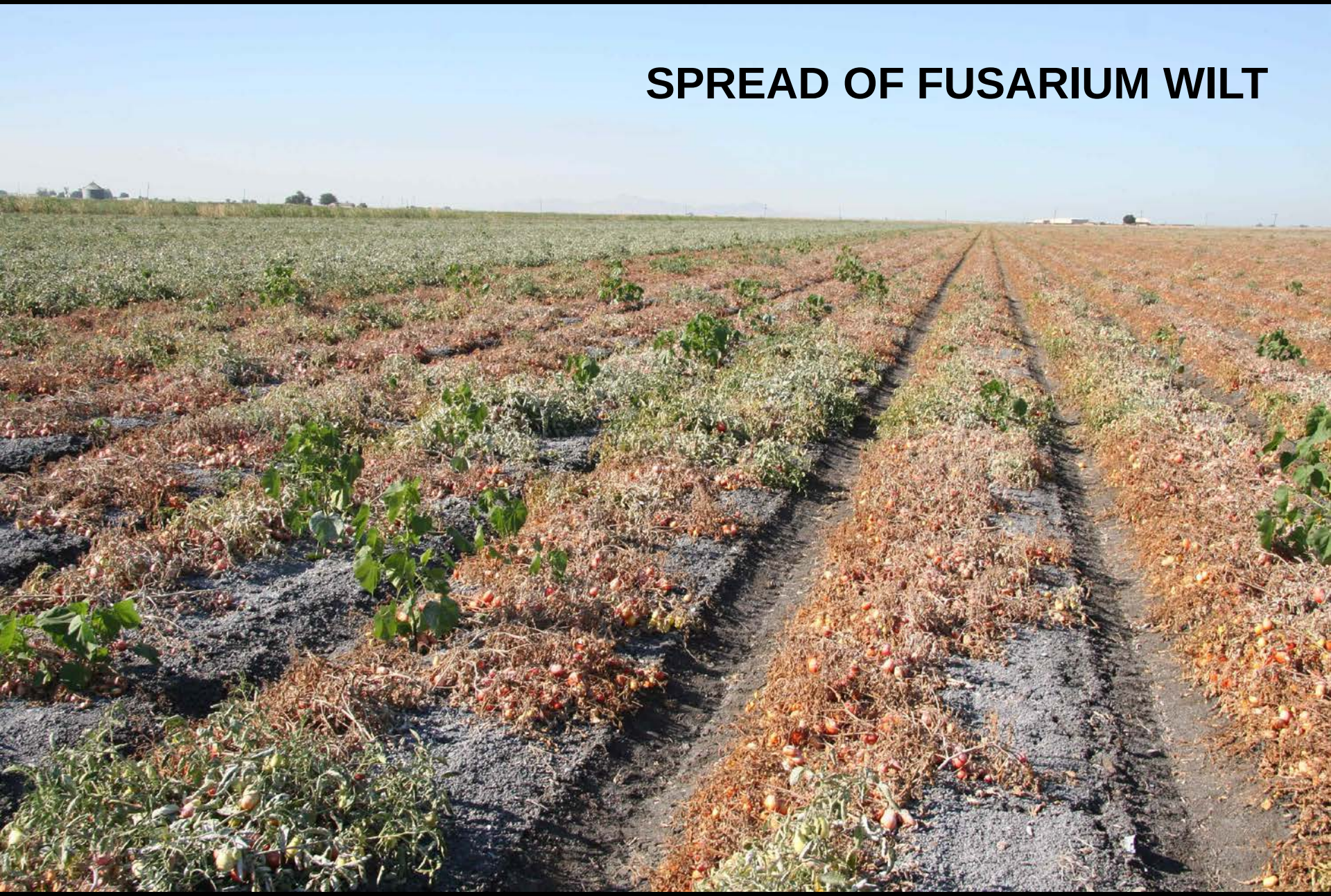
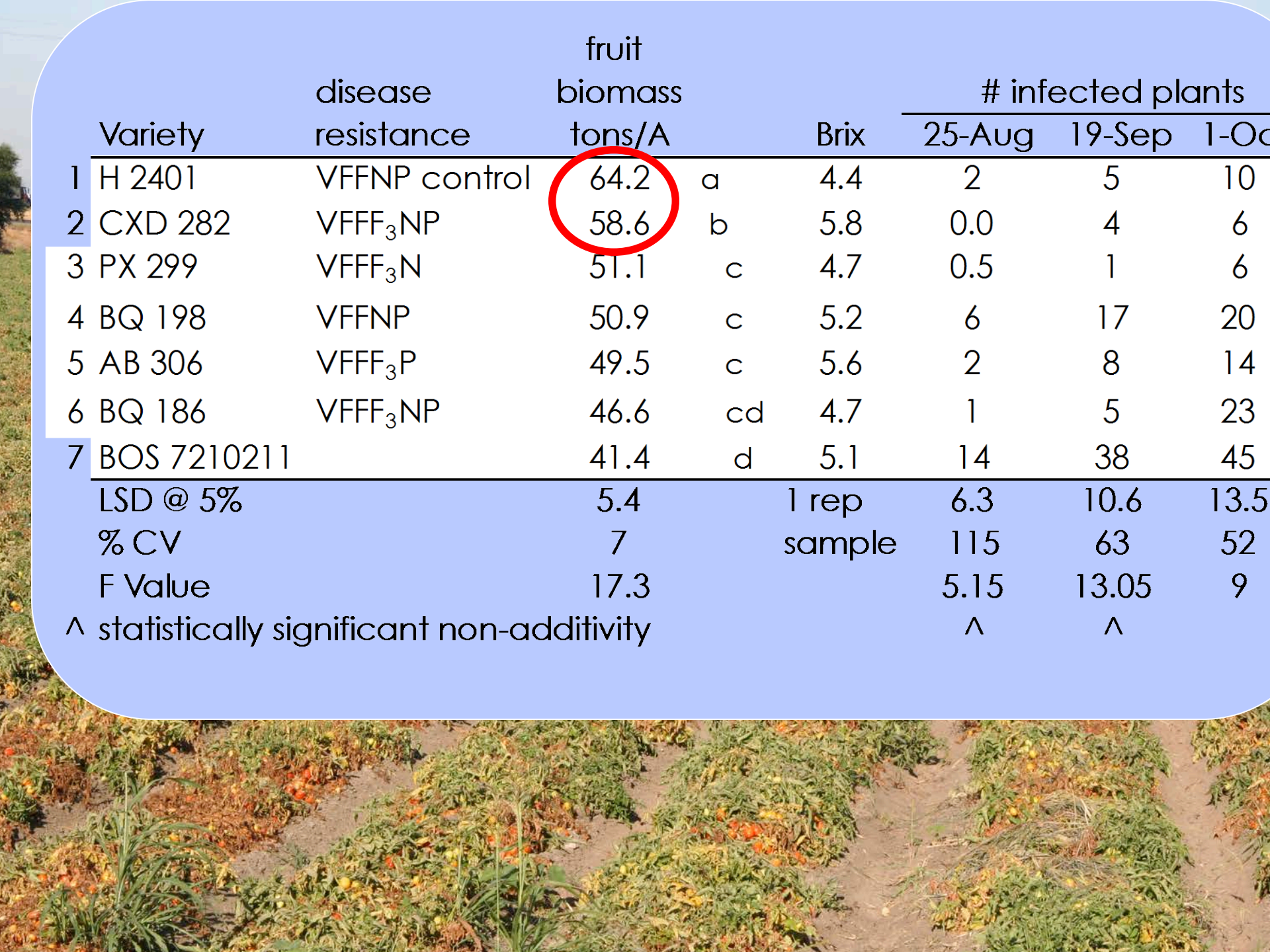
SPREAD OF FUSARIUM WILT



Fusarium wilt, race 3

	Variety	disease resistance	fruit biomass tons/A		Brix	# infected plants 25-Aug	19-Sep	1-Oc
1	H 2401	VFFNP control	64.2	a	4.4	2	5	10
2	CXD 282	$VFFF_3NP$	58.6	b	5.8	0.0	4	6
3	PX 299	$VFFF_3N$	51.1	c	4.7	0.5	1	6
4	BQ 198	VFFNP	50.9	c	5.2	6	17	20
5	AB 306	$VFFF_3P$	49.5	c	5.6	2	8	14
6	BQ 186	$VFFF_3NP$	46.6	cd	4.7	1	5	23
7	BOS 7210211		41.4	d	5.1	14	38	45
	LSD @ 5%		5.4		1 rep	6.3	10.6	13.5
	% CV		7		sample	115	63	52
	F Value		17.3			5.15	13.05	9
^	statistically significant non-additivity					^	^	



Fusarium wilt: ‘Mechanical spread’

moving infested stem pieces...

...moving infested soil

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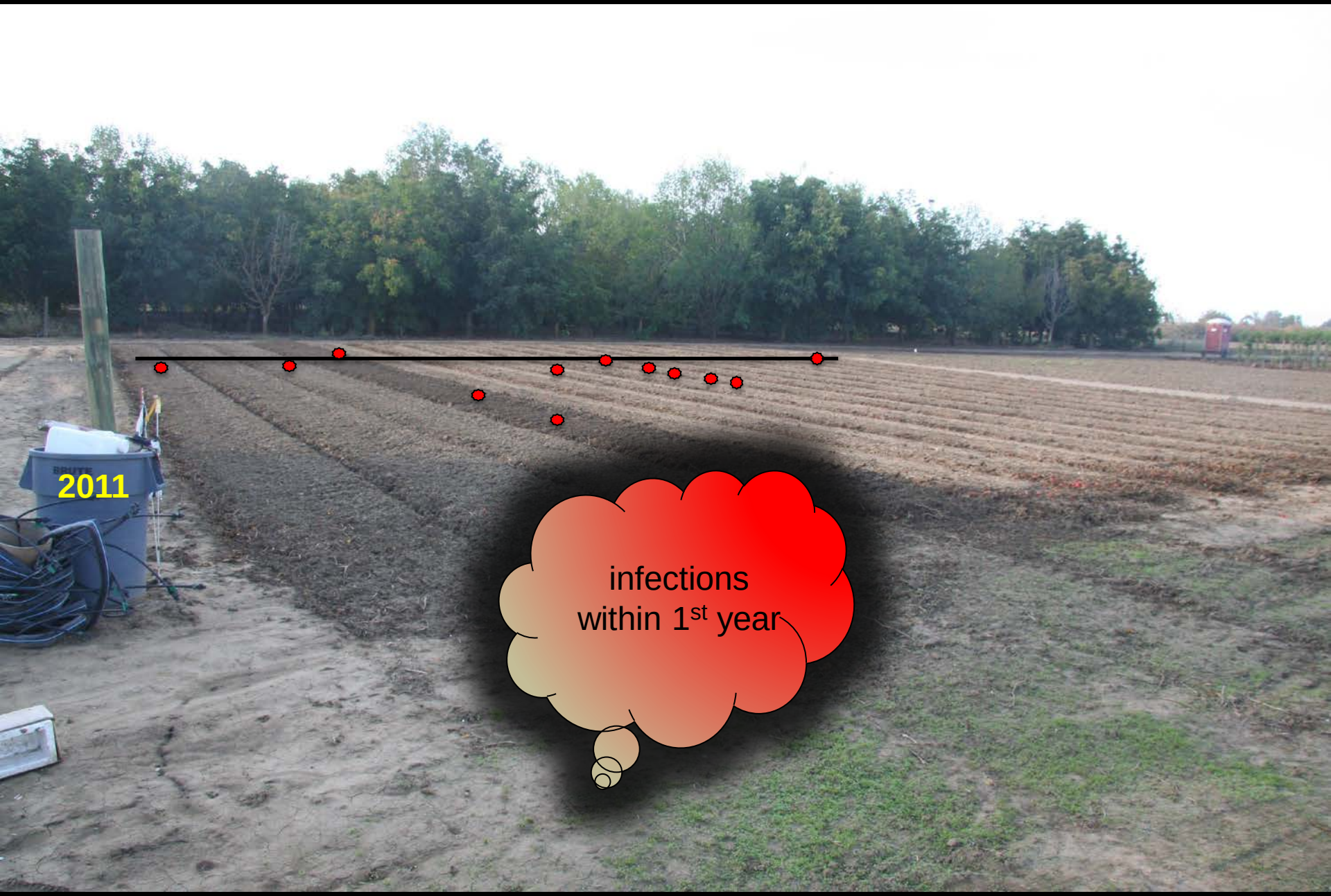
Fusarium wilt: ‘Mechanical spread’


2011
infections
within 1st year


2012
~infection
level
tripled in 2nd year


CTM


CATERPILLAR
36


CATERPILLAR

Summary:

? Equipment movement of Fusarium wilt

- ✓ Established in 1st year
- ✓ Increased 3-fold in 2nd year
- ✓ Survives for years


‘VINE DECLINE’ (beginning at early fruit ripening)


Photo credit: Tim Hartz

Soil Transfer from Five Points to Yolo Field

Joe Muller and Sons, Woodland
- Muller field crew

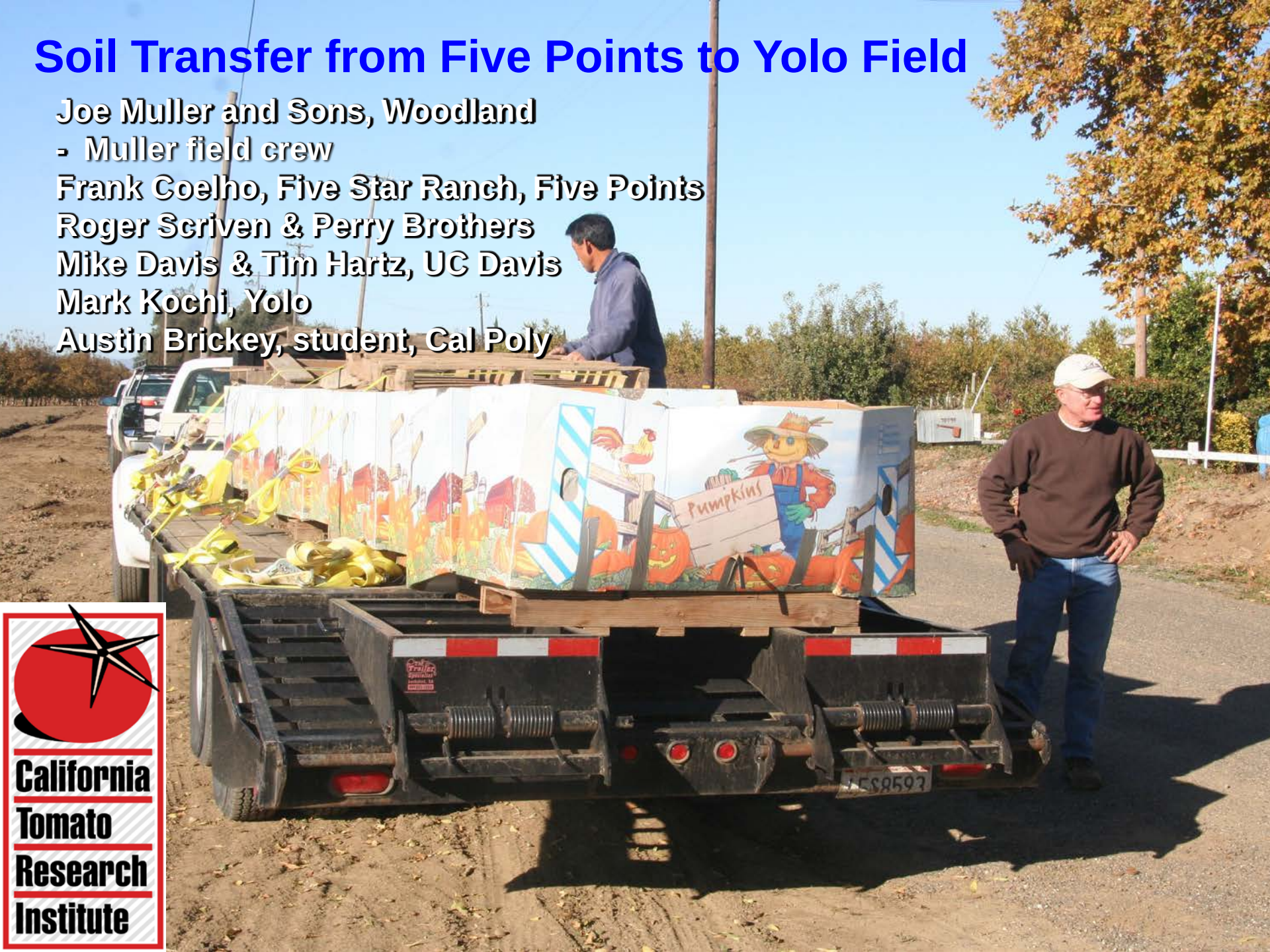
Frank Coelho, Five Star Ranch, Five Points

Roger Scriven & Perry Brothers

Mike Davis & Tim Hartz, UC Davis

Mark Kochi, Yolo

Austin Brickey, student, Cal Poly



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L006-103

Table 3. Lab analysis of select Five Points and Yolo soil, sampled in spring, 2012.

		% SP	pH	% Sand	% Silt	% Clay	dS/m EC	meq/l Ca	meq/l Mg	meq/l Na	mg/l B
1	Five Points	59	7.9	33	30	37	1.2	5.4	2.1	4.0	0.3
2	Yolo	58	7.6	26	38	36	1.3	4.3	4.9	3	1.9

		ppm NO3-N	ppm PO4-P	ppm K	ppm Zn	ppm Mn	ppm Fe	ppm Cu	ppm Ca	ppm Mg	ppm Na	% OM
1	Five Points	18	22	332	2.9	15.1	12.5	1.5	4790	766	189	1.6
2	Yolo	33	31	319	1.5	17.8	24.5	3	2753	1394	124	2.5

		Ammonium Acetate Extractable Cations meq/100g Ca	meq/100g Mg	meq/100g Na	Estimated meq/100g CEC	Ca/Mg Ratio	K/Mg Ratio
1	Five Points	24	6.3	0.8	32	3.8	0.1
2	Yolo	14	11.5	0.5	27	1.2	0.1

Tissue sample analysis at harvest, soil transport from Five Points to Yolo, 2012

Soil origin	% N	% P	% K	ppm Zn	ppm Mn	% Na	ppm B	% Ca	% Mg	ppm Fe	ppm Cu
Five Points	1.67	0.13	0.91	29	88	0.27	194	5.22	1.75	504	6.8
Yolo	1.78	0.16	1.09	30	127	0.22	193	4.64	2.09	739	9.0
LSD 5%	NS	NS	0.18	NS	26	NS	NS	NS	0.25	NS	NS
% CV	4	11	10	27	14	15	22	10	7	72	20
probability	0.07	0.06	0.05	0.77	0.01	0.13	0.96	0.14	0.02	0.45	0.10

Yield from native Yolo soil vs. Five Points

	origin of soil	lbs marketable red fruit	lbs total fruit	% pink	% green	% burn	lbs BER	% TSWV	lbs per 50 fruit	plant dry weight grams
1	Five Points	38.4	54.3	1	3	6	0	20	7.50	383
2	Yolo	37.6	52.2	0	2	6	0	19	7.24	357
	LSD 5%	NS	NS	NS	NS	NS	NS	NS	NS	NS
	% CV	31	22	91	80	27	117	23	6	29
	probability	0.92	0.79	0.18	0.52	0.93	0.49	0.83	0.43	0.72

Comment:

- √ High level of variation with complication with high level of spotted wilt
- √ Fruit production outcome was similar between soils

SUMMARY

No advantage
from Fresno soil
in Yolo environment

The End