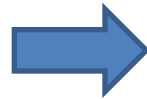


Application techniques, research and applied problem solving

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Possible trends regarding pesticide spray applications

Size of farms is growing
Labor increasingly expensive



Fewer people to spray more



Moving faster and lower spray volumes



Smaller droplets and conditions more variable



Incomplete spray coverage = giving pests a choice....



“Behavioral and physiological resistance”



Fewer “good” pesticides and more applications...

Pesticide induced mortality and selection intensity

Table 2. Spraying conditions from 14 commercial insecticide applications in potato fields

Location	Application	liter/ha	Ht	Radiation	Wind speed	Wind gust	Temp (°C)	RH (%)	Dew point	Spray cover
Pearsall	Air	47	40.6	496.3	6.7	10.9	17.6	84.5	14.9	8.5
Pearsall	Air	47	38.1	304.9	16.9	25.3	22.3	82.0	19.0	3.8
Edinburg	Air	66	22.9	396.3	16.0	22.4	7.6	87.5	5.6	2.5
Edinburg	Air	66	33.0	776.4	12.2	18.7	24.0	68.8	27.3	1.8
Edinburg	Air	66	40.6	718.2	9.3	14.6	22.1	58.1	13.3	5.9
Edinburg	Air	66	40.6	524.0	9.3	15.4	22.7	84.3	19.9	6.0
Edinburg	Air	66	33.0	654.4	3.7	7.9	20.0	64.0	13.0	6.8
Edinburg	Air	66	35.6	498.4	7.7	11.0	7.1	65.8	4.4	9.3
Olton	Ground	190	25.4	735.2	22.3	30.9	25.5	59.7	16.9	67.0
Olton	Ground	190	43.2	726.3	16.9	25.0	25.7	54.0	15.6	28.6
Olton	Ground	190	54.6	888.7	17.4	25.4	31.9	29.6	11.9	34.4
Olton	Ground	190	63.5	742.6	22.5	30.1	26.0	67.7	19.6	22.6
Pearsall	Ground	190	16.5	784.8	5.9	10.9	23.5	61.6	14.9	41.9
Pearsall	Ground	190	29.2	756.4	10.6	16.2	17.8	63.8	10.6	24.9

Applications were either with fixed wing airplane or ground rig; liter/ha, spray volume applied, canopy, portion of the canopy; ht, average plant height (centimeters); radiation, solar radiation (Watts per square meter); wind speed, average wind speed (kilometers).

Data from potato fields sprayed during summer months in Texas

Published 2011

Questions we need answers to

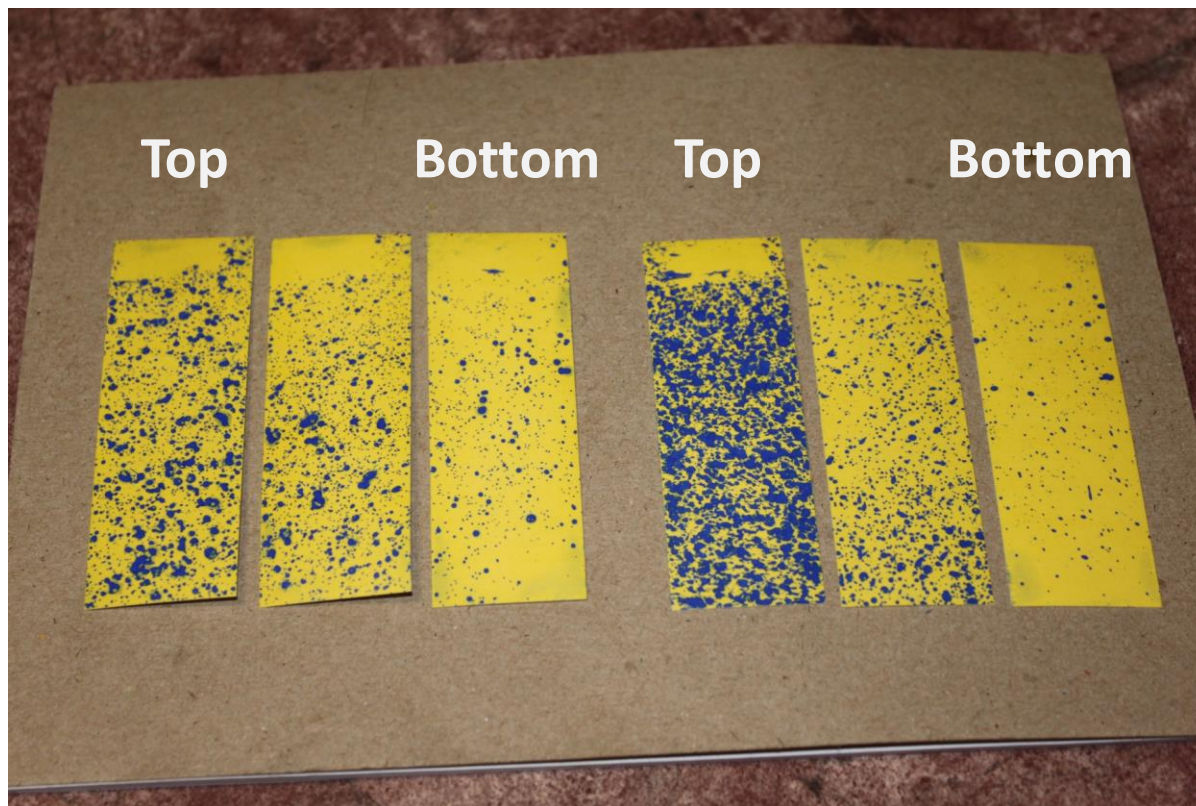
How can we cost-effectively determine whether a pest is present or not?

How effective would a spray application be, if I sprayed today? Tomorrow?

What factors impact the performance of pesticide spray applications?

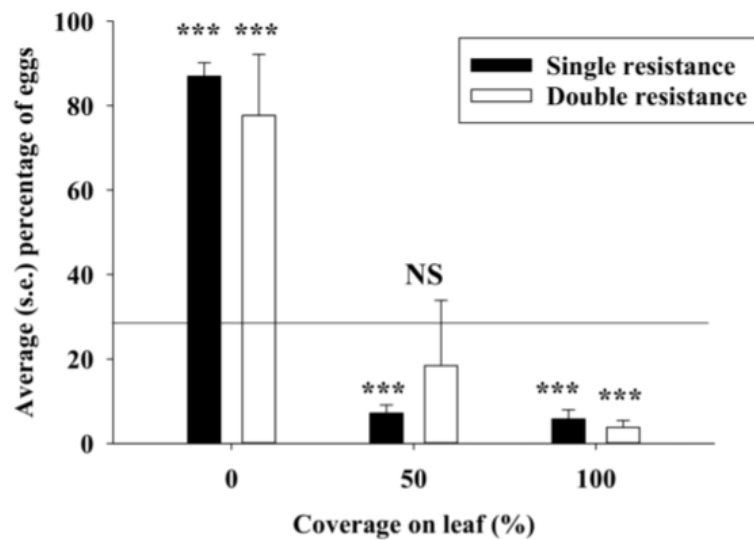
How to do your own quality control of pesticide spray applications?

Canopy penetration of spray applications

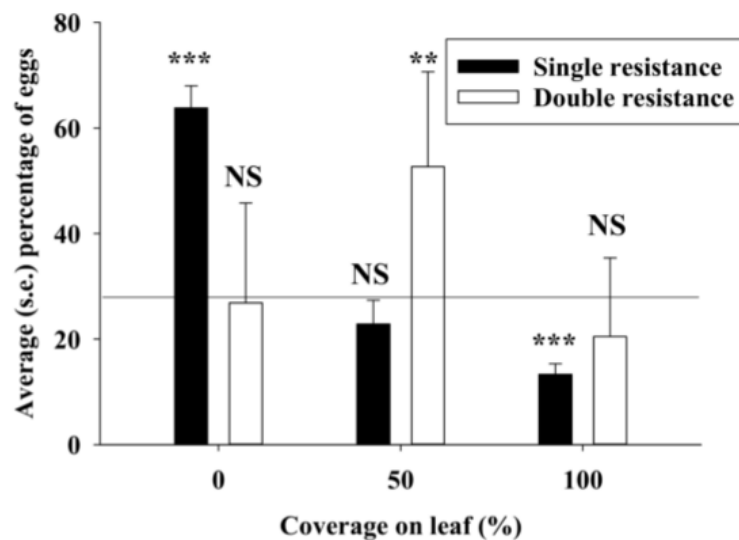


Three choice bioassay with adult insects

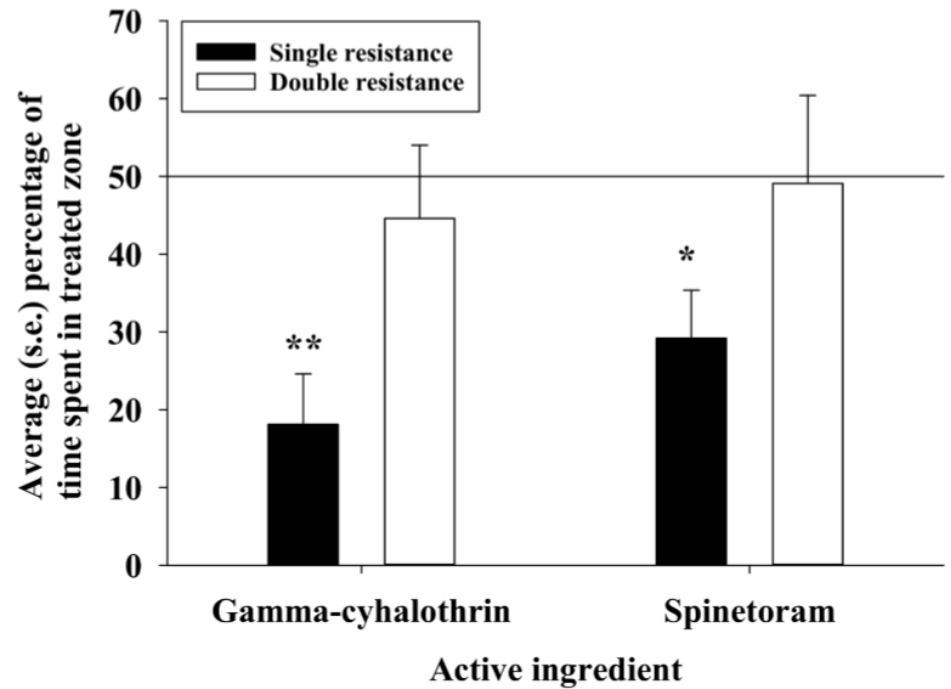
Gamma-cyhalthrin



Spinoteram



Two choice bioassay with insect larvae



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Forum

Climate Change

OXFORD

Does Drought Increase the Risk of Insects Developing Behavioral Resistance to Systemic Insecticides?

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