Effects of pH on Lorsban Toxicity to Codling Moth in Post-Harvest Pears

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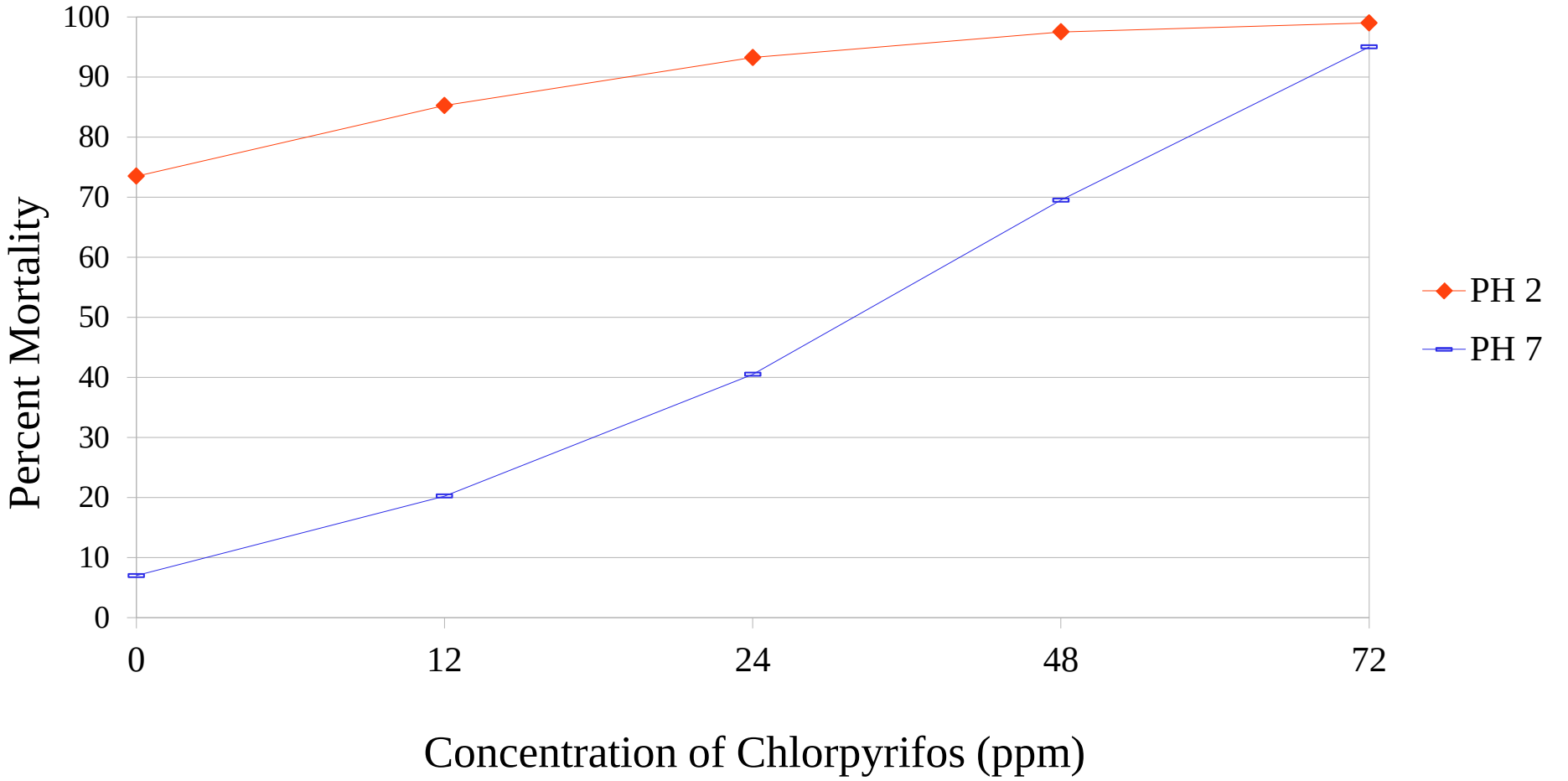
Methods - Larval Mortality

- Chlorpyrifos at 0, 12, 24, 48, 72 ppm were replicated four times in solutions of pH 2 & 7.
- Applied to pear fruit using Potter spray tower.
- 30 neonate CM larvae confined to each pear surface using pill capsules 3 hrs after application.

Results - Larval Mortality

- Increased larval mortality in water check from pH 2 solutions compared to pH 7.
- Effects of pH on chlorpyrifos larval mortality could not be determined because of high water check mortality.

Percent Mortality of CM Larvae



Methods - Larval Mortality/Waiting Period

- Pear fruit treated with a water-blank solution of pH 3 and 7.
- Applied using Potter spray tower.

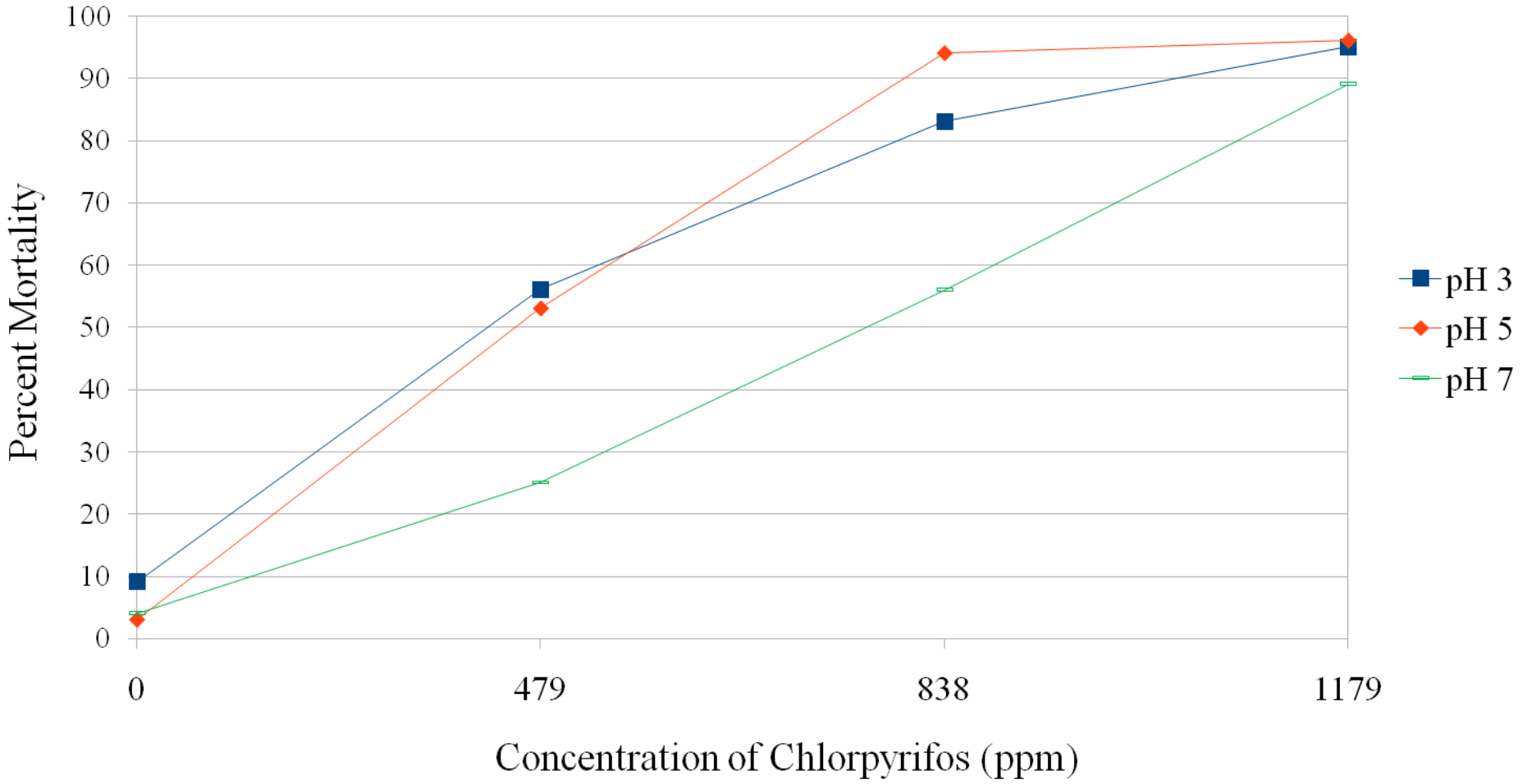
Methods - Adult Mortality

- 3 rates of chlorpyrifos: 479, 838 and 1197 ppm in solutions of pH 3, 5 and 7.
- 2 µL/adult, 10 adults per rep, 8 reps per rate.
- Latron B-1956 at 0.25% v/v was used to break surface tension, allow penetration of scales.

Results - Adult Mortality

- Increased mortality from pH 7 to 5, especially at 479 and 838 ppm chlorpyrifos.
- Little improvement from pH 5 to 3.
- Little difference of 1197 ppm at any pH.
- Efficacy of Lorsban increased at pH of 5 or less.

Percent Mortality of CM Adults at pH 3, 5 & 7



Conclusions

- Efficacy of Lorsban to CM larvae could not be determined because of high control mortality.
- Efficacy of Lorsban to CM adults was increased at pH of 5 or less.