KAOLIN-BASED PRODUCTS FOR PSYLLID MANAGEMENT



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CIÊNCIA E SUSTENTABILIDADE PARA A CITRICULTURA

Evaluation of spray-mixture pH, leaf coverage, whiteness intensity and rain resistance

Rationale

Studies in commercial citrus orchards have shown that applying processed kaolin significantly reduces Asian citrus psyllid populations and HLB incidence. Based on these findings, products containing aluminum silicate and other minerals are being marketed for this purpose. However, key parameters should be evaluated before use: spray-mixture pH, leaf coverage, whiteness intensity and rain resistance. Products that markedly increase spray-mixture pH may reduce the effectiveness of insecticides applied in tank mixes. Products that provide greater leaf coverage, a stronger white coating in the canopy and better rain resistance make plants less attractive to psyllids.

Objective

Evaluate spray-mixture pH, leaf coverage, whiteness intensity and rain resistance of products based on aluminum silicate and other minerals.

Spray-mixture pH

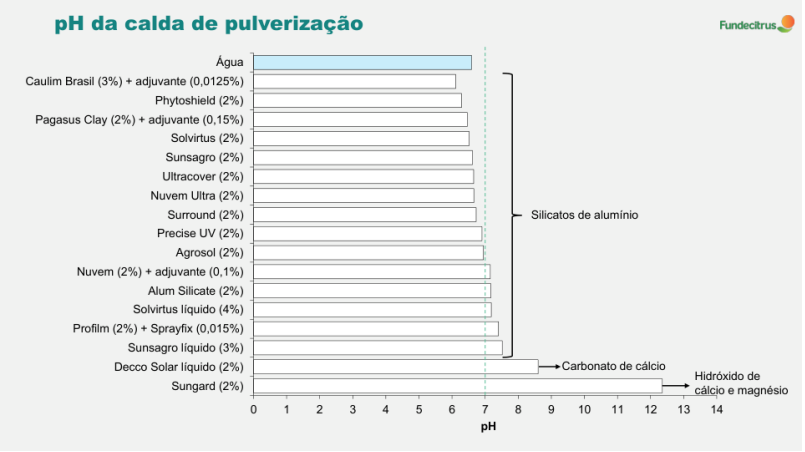
Water and tested products (application rates)

Water	—
Caulim Brasil + adjuvant	3% + 0.0125%
Phytoshield	2%
Pegasus Clay + adjuvant	2% + 0.15%
Solvirtus	2%
Sunsagro	2%
Ultracover	2%
Nuvem Ultra	2%
Surround	2%
Precise UV	2%
Agrosol	2%
Nuvem + adjuvant	2% + 0.1%
Alum Silicate	2%
Solvirtus (liquid)	4%
Profilm + Sprayfix	2% + 0.015%
Sunsagro (liquid)	3%
Decco Solar (liquid)	2%
Sungard	2%

Aluminum silicates

Calcium carbonate

Calcium and magnesium hydroxide



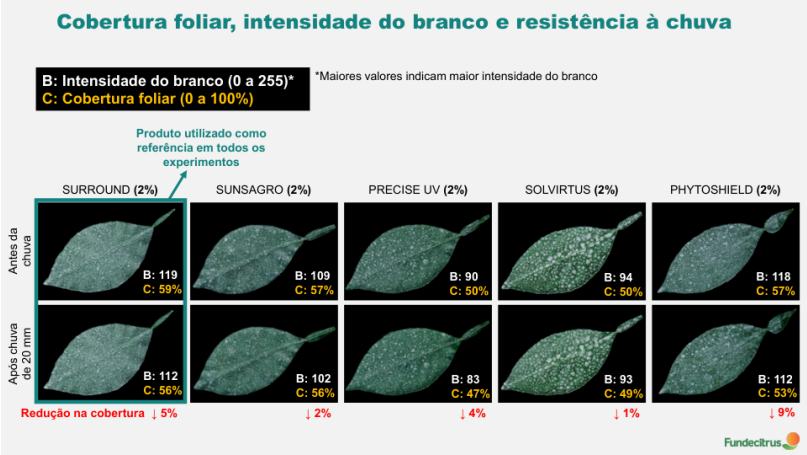
Leaf coverage, whiteness intensity and rain resistance

B: Whiteness intensity (0–255); higher values indicate greater whiteness.

C: Leaf coverage (0–100%).

Product used as the reference in all experiments: SURROUND (2%)

Product	Before rain: B / C	After 20 mm rain: B / C	Coverage loss
Surround (2%)	119 / 59%	112 / 56%	5%
Sunsagro (2%)	109 / 57%	102 / 56%	2%
Precise UV (2%)	90 / 50%	83 / 47%	4%
Solvirtus (2%)	94 / 50%	93 / 49%	1%
Phytoshield (2%)	118 / 57%	112 / 53%	9%



Leaf coverage, whiteness intensity and rain resistance

B: Whiteness intensity (0–255) | **C:** Leaf coverage (0–100%)

Solvirtus liquid (4%)	**98 / 54%**	**98 / 53%**	**1%**
Sunsagro liquid (3%)	92 / 55%	90 / 53%	4%
Ultracover (2%)	92 / 43%	90 / 36%	18%
Nuvem Ultra (2%)	105 / 58%	74 / 40%	31%
Agrosol (2%)	109 / 55%	61 / 32%	40%
Caulim Brasil (3%) + adjuvant	96 / 57%	50 / 31%	46%
Nuvem (2%) + adjuvant	66 / 47%	32 / 19%	61%
Profilm (2%) + adjuvant	70 / 39%	28 / 14%	66%
Pegasus Clay (2%) + adjuvant	90 / 59%	30 / 13%	79%
Alum Silicate (2%)	77 / 42%	28 / 5%	90%

Considerações

Conclusions

Products based on aluminum silicate did not significantly change the spray-mixture pH.

Under the conditions in which the experiments were conducted, Sunsagro, Precise UV, Solvirtus and Phytoshield showed leaf coverage, whiteness intensity and rain resistance most similar to the reference product, Surround.



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