



Sil-MATRIX™

*Soluble Potassium Silicate
A Biopesticide with Dual Activity*



- Sil-MATRIX™ is a fungicide, insecticide, and miticide
- For use on vegetables, fruits, nuts, vine crops, agronomic crops, ornamentals and turf
- Controls fungal diseases, spider mites, and suppresses whiteflies and other insects
- Can be applied to plant for pest control as a foliar spray or in a hydroponic solution
- Decreases climate stress on crops
- Improves crop vigor and quality



PQ Corporation

Powdery Mildew



- Preventative fungicidal activity on powdery mildew
- Amplifies plant defense response to fungal infection.
- Strengthens and protects plants from the inside out.
- Reduces incidence and severity of powdery mildew under low to heavy disease pressure.

AVG., KEY TO TREATMENTS FOR 2004 TRIAL RESULTS

[Si-MATRIX AT 2QT PER/100 GAL (1300PPM SIO2) PER ACRE UNLESS OTHERWISE NOTED]

| Treatment | Ukiah, CA | | Dinuba, CA | | Walnut Grove, CA | |
|---|-----------|---------|------------|--------|------------------|--------|
| | % Inc. | % Sev. | % Inc. | % Sev. | % Inc. | % Sev. |
| 1. Si-MATRIX + | 40.5 b | 4.75 b | 75.5 b | 9.5 b | 11.3 b | 1.7 b |
| 2. Si-MATRIX + alternated w/ Abound then Rally | 0.0 c | 0.0 b | 13.0 c | 0.43 c | 0.0 c | 0.0 b |
| 3. Si-MATRIX alt. w/ Abound then Rally | 1.0 c | 0.01 b | 12.5 c | 0.32 c | 0.0 c | 0.0 b |
| 4. Si-MATRIX + (3 qt rate) alt. w/ Abound then Rally | 2.0 c | 0.02 b | 15.0 c | 0.52 c | 0.0 c | 0.0 b |
| 5. Si-MATRIX + pre-bloom only then Abound alt w/Rally | 0.5 c | 0.005 b | 16.0 c | 0.45 c | 0.0 c | 0.0 b |
| 6. Sulfur pre-bloom then Abound alt w/Rally | 0.0 c | 0.0 b | 10.5 c | 0.10 c | 0.0 c | 0.0 b |
| 7. UTC | 82.5 a | 22.05 a | 100.0 a | 49.0 a | 73.8 a | 27.8 a |

“+” applied with surfactant No Foam A

2005 TRIAL RESULTS

[Si-MATRIX AT 3 QT PER/100 GAL (2000PPM SIO2) PER ACRE PER APPLICATION]

| Treatment | Traver, CA | | Corvallis, OR | | | |
|---|----------------|----------------|---------------|-------------|----------------|----------------|
| | % Inc. Cluster | % Sev. Cluster | % Inc. Leaf | % Sev. Leaf | % Inc. Cluster | % Sev. Cluster |
| 1. UTC | 53 a | 17.05 a | 100 a | 63.6 a | 100 a | 85.1 a |
| 2. Si-MATRIX | 30 b | 5.6 ab | 100 a | 43.5 b | 100 a | 79.7 a |
| 3. Si-MATRIX+ | 1 b | 1.65 b | 98 ab | 30.3 bc | 100 a | 71.6 a |
| 4. Kaligreen+ | 24 b | 5.85 ab | 95 ab | 26.0 bcd | 100 a | 74.2 a |
| 5. Si-MATRIX+ mixed w/ Kaligreen | 12 b | 1.95 b | 83 bc | 11.6 cde | 88 ab | 28.2 b |
| 6. Wettable Sulfur | 9 b | 1 b | 75 c | 3.9 e | 75 b | 7.9 b |
| 7. Si-MATRIX+ mixed w/Sulfur | 3 b | 0.2 b | 85 abc | 9.8 cde | 100 a | 25.8 b |
| 8. Si-MATRIX+ alt w/ w/ Abound then Rally | 0 b | 0 b | 75 c | 8.1 de | 88 ab | 13.9 b |

“+” applied with surfactant No Foam A

Mite Suppression

SUPPRESSION OF EUROPEAN RED MITES ON APPLE SWEET HOME, OR (CALKIN 2005)

[Sil-MATRIX applied at 2 qt/100 gal (1300ppm SiO₂) at 100gpa except as

| Treatment | European Red Mite Motiles | | | Predator Mites | | |
|--------------------------------|---------------------------|-------------------|--------------------|----------------|------------------|-------------------|
| | 8DAA | 14DAA | 22DAA | 8DAA | 14DAA | 22DAA |
| UTC | 152.0 a | 54.5 a | 60.5 a | 1.8 a | 0.8 a | 0.5 a |
| Sil-MATRIX+ | 131.5 ab | 45.3 ab | 25.5 b | 1.8 a | 0.0 a | 0.8 a |
| Sil-MATRIX+, 4 qt/100 gal | 105.3 bc | 61.0 a | 30.0 b | 2.0 a | 0.3 a | 2.0 a |
| Sil-MATRIX+, 2 applications | 102.8 bc | [6DAA2] 53.0 a | [14DAA2] 31.0 b | 0.0 a | [6DAA2] 0.0 a | [14DAA2] 1.0 a |
| JMS Stylet Oil | 82.0 c | 44.5 ab | 52.3 a | 0.0 a | 0.0 a | 1.0 a |
| Apollo & Hort. Oil | 87.3 bc | 23.0 b | 10.0 c | 0.0 a | 0.3 a | 0.3 a |

“+” applied with surfactant No Foam A

Sil-MATRIX™

- For suppression of mites including Two-Spot and European Red Mite.
- For suppression of soft-bodied insects including white fly and aphid.
- Contact and repellent modes of action on insects.
- Soft on beneficial insects.

SUPPRESSION OF EUROPEAN RED MITES ON APPLE GRANGER, WA (RON BRITT & ASSOCIATES, 2004)

[Sil-MATRIX applied at 2 qt/100 gal (1300ppm SiO₂) at 200gpa except as

| Treatment | European Red Mite Motiles | | | |
|--------------------------------|---------------------------|------|---------------|-----------------|
| | -2DAA | 6DAA | 13DAA | 19DAA |
| UTC | 108 | 73 | 181 | 206 |
| Sil-MATRIX+ | 152 | 67 | 186 | 174 |
| Sil-MATRIX+, 4 qt/100 gal | 165 | 70 | 204 | 150 |
| Sil-MATRIX+, 2 applications | 132 | 91 | [7DAA2] 90 | [13DAA2] 214 |
| JMS Stylet Oil | 137 | 55 | 273 | 214 |
| AgriMek & Hort. Oil | 127 | 38 | 84 | 66 |

“+” applied with surfactant No Foam A

TWO-SPOTTED SPIDER MITE CONTROL ON GRAPE EL DORADO, CA (BEEM CONSULTING, 2004)

| Treatment | 1 st Application | | 2 nd Application | | 3 rd Application | |
|----------------------------|-----------------------------|--------|-----------------------------|--------|-----------------------------|--------|
| | 2DAA | 7DAA | 3DAA2 | 6DAA2 | 3DAA3 | 7DAA3 |
| UTC | 2.53 a | 24.1 a | 20.4 a | 15.9 a | 17.3 a | 1.43 a |
| Wettable Sulfur | 2.00 a | 5.83 b | 3.80 b | 2.03 b | 3.33 b | 0.17 a |
| Sil-MATRIX+ [2 qt/100 gal] | 2.50 a | 7.41 b | 3.67 b | 2.87 b | 4.07 b | 1.40 a |
| Sil-MATRIX+ [3 qt/100 gal] | 5.67 a | 8.03 b | 3.40 b | 1.53 b | 6.00 b | 1.33 a |

“+” applied with surfactant No Foam A

SUPPRESSION OF TWO-SPOTTED MITES ON STRAWBERRY WOODLAND, CA (BEEM CONSULTING, 2004)

[Sil-MATRIX AT 3 QT PER/100 GAL (2000PPM SiO₂) APPLIED AT 60 GPA]

| Treatment | Two-Spot Mites | | | Predatory Mites | | |
|------------|----------------|--------|----------|-----------------|--------|--------|
| | 1DAA | 4DAA | 7DAA | 1DAA | 4DAA | 7DAA |
| UTC | 11.2 a | 7.92 a | 28.76 a | 0.7 a | 1.04 a | 0.72 a |
| Sil-MATRIX | 7 a | 0.44 b | 5.48 b | 1.1 a | 0.04 b | 0.32 a |
| Agri-Mek | 6.9 a | 2.6 b | 15.08 ab | 0.3 a | 0.04 b | 0.56 a |

* note that additional Two-Spot and Predatory mites were transferred onto the plants on day 6.





Sil-MATRIX™

This completely soluble source of potassium silicate is an SAR Inducer, stimulating the plant natural defenses to disease and mite/insect attack.

Most effective when used as part of an Integrated Pest Management System.

SAR Features – Research suggests that the soluble silica found in Sil-MATRIX™ amplifies plant defense responses to fungal infection.

This results in enhanced plant defenses against attack from powdery mildew, other fungal diseases and insects.

Sil-MATRIX™ is a preventative agent and should be applied ahead of powdery mildew attack. It will not eradicate Powdery Mildew.

Recommended rate is 3 qt/100 gal/Acre as part of an Integrated Pest Management System.

Sil-MATRIX™ can be tank mixed with other fungicides and insecticides to boost control of powdery mildew, insects and mites. (Check for compatibility and phyto first.)



Sil-MATRIX™

Manufactured for:



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