

## Banana Agrichemical Regulatory Risk Assessment

September 2023

Regulatory pressures on agrichemicals are increasing globally, with many being either restricted or withdrawn from use. For older agrichemicals these pressures are often the result of reconsiderations involving new or refined risk assessment methodologies that requiring the generation of new data. A consequence of which can be that many of these agrichemicals are not meeting contemporary risk assessment standards as the necessary data is unavailable, or where data is available, the risk posed is considered unacceptable.

The use of agrichemicals can also be impacted through differences in standards between trading partners. The lack of an appropriate pesticide maximum residue limit (MRL) in an importing country can, for practical purposes, effectively prohibit use in the exporting country so as to ensure compliance, as a MRL breach would adversely affect market access.

The effects of the above are greater regulatory pressure placed on the use of individual agrichemicals or chemical groups. As a consequence it is possible that the number of approved agrichemical options could be adversely impacted.

To assist strategic planning, with respect to future pest management options, the following tables have been developed to highlight the regulatory threats to agrichemicals currently approved for the management of the pests and diseases in bananas, as well as current initiatives aimed at addressing identified pest management deficiencies.

## Banana Agrichemical Regulatory Risk Assessment

|           |   |
|-----------|---|
| <b>R1</b> | Short-term: Critical concern over retaining access                          |
| <b>R2</b> | Medium-term: Maintaining current access of significant concern              |
| <b>R3</b> | Long-term: Potential issues associated with future use: Monitoring required |

| Active Constituents           | Chemical Group | Pest Name                      | Comment  |
|-------------------------------|----------------|--------------------------------|--|
| <b>INSECT AND OTHER PESTS</b> |                |                                |  |
| Acephate                      | <b>1B</b>      | Banana flower thrips           | <a href="#">APVMA: nominated for review</a>          |
|                               |                | Banana rust thrips             | Canada: Reviewed, continued use with risk mitigation |
|                               |                | Banana scab moth               | EU: No authorisation in place                        |
| <i>Bacillus thuringiensis</i> | <b>11A</b>     | Banana scab moth               | EU: Under review for authorisation renewal           |
| Bifenthrin                    | <b>3A</b>      | Banana flower thrips           | Canada: Not authorised                               |
|                               |                | Banana rust thrips             | EU: Not authorised                                   |
|                               |                | Banana scab moth               |  |
|                               |                | Banana weevil borer            |  |
|                               |                | Strawberry(Banana) spider mite |  |
| Cadusafos                     | <b>1B</b>      | Banana weevil borer            | EU: No authorisation in place                        |
|                               |                | Burrowing nematode             |  |
|                               |                | Root-knot nematodes            |  |
|                               |                | Spiral nematode                |  |
| Chlorpyrifos                  | <b>1B</b>      | Banana flower thrips           | <a href="#">APVMA: Under review.</a>                 |
|                               |                | Banana weevil borer            | Codex: Scheduled for review by JMPR                  |
|                               |                | Cluster caterpillar            | Canada: Cancellation of all uses.                    |
|                               |                | Passionvine mite               | EU: No authorisation in place                        |
|                               |                | Banana rust thrips (PER14240)  | USA: EPA decision to cancel use on food crops        |
|                               |                | Banana scab moth (PER14240)    |  |
|                               |                | Caterpillars(PER14240)         |  |
|                               |                | Mealybugs (PER14240)           |  |
|                               |                | Sugarcane bud moth (PER14240)  |  |

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| Active Constituents | Chemical Group | Pest Name                       | Comment  |
|---------------------|----------------|---------------------------------|--|
| Clofentezine        | 10A            | Strawberry (Banana) spider mite | EU: Proposed restriction of use non-edible crops in permanent greenhouses  |
|                     |                | Two-spotted (Red spider) mite   |  |
| Clothianidin        | 4A             | Banana rust thrips              | <a href="#">APVMA: Under review</a>  |
|                     |                | Banana weevil borer             | Canada: Field uses cancelled or amended<br>EU: Not authorised<br>USA: Re-registration with new risk mitigation measures          |
| Diazinon            | 1B             | Banana rust thrips              | <a href="#">APVMA: Under review</a>  |
|                     |                | Banana weevil borer             | EU: No authorisation in place<br>Codex: Withdrawal of Codex MRLs recommended   |
| Dimethoate (Po)     | 1B             | Fruit fly (suspended)           | Codex: No MRL.<br>EU: Not authorised   |
| Etoxazole           | 10B            | Strawberry(Banana) spider mite  | EU: Use on greenhouse ornamentals only & Candidate for substitution  |
| Fenamiphos          | 1B             | Nematodes                       | EU: Not authorised   |
| Fenbutatin oxide    | 12B            | Strawberry(Banana) spider mite  | <a href="#">APVMA: nominated for review</a>  |
|                     |                | Two-spotted (Red spider) mite   | Codex: To be reviewed by JMPR. No supporting registrant<br>EU: No authorisation in place<br>USA: Under review                    |
| Fipronil            | 2B             | Banana rust thrips              | <a href="#">APVMA: Under review</a>  |
|                     |                | Banana weevil borer             | Codex: MRL recommended set at LOQ<br>EU: No authorisation in place<br>USA: Under review  |
| Imidacloprid        | 4A             | Banana rust thrips              | <a href="#">APVMA: Under review</a>  |
|                     |                | Banana weevil borer             | Canada: Field uses cancelled or amended  |
|                     |                | Grey back cane beetle (Larvae)  | EU: No authorisation in place expiry of the grace periods (June 2022),<br>USA: Re-registration with new risk mitigation measures |
| Oxamyl              | 1A             | Banana weevil borer             | EU: Candidate for substitution and under review  |
|                     |                | Burrowing nematode              |  |
|                     |                | Spiral nematode                 |  |

### Banana Agrichemical Regulatory Risk Assessment

| Active Constituents | Chemical Group | Pest Name  | Comment  |
|---------------------|----------------|--|--|
| Paraffinic oil      | UNM            | Scale insects  |  |
| Propargite          | 12C            | Two-spotted (Red spider) mite  | <a href="#">APVMA: nominated for review</a><br>EU: No authorisations |
| Prothiofos          | 1B             | Banana weevil borer  | Codex: No MRLs<br>EU: No authorisation in place                      |
| Pyridaben           | 21A            | Strawberry(Banana) spider mite<br>Two-spotted (Red spider) mite  |  |
| Pyriproxyfen        | 7C             | Ants (various)   |  |
| Spinetoram          | 5              | Flower eating caterpillars<br>Leafroller (Tortrix) caterpillars<br>Leafroller moths<br>Loopers<br>Redbanded thrips<br>Sorghum head caterpillar<br>Yellow peach moth<br>Banana flower thrips (PER87198)<br>Banana rust thrips (PER87198)<br>Banana scab moth (PER87198)<br>Sugarcane bud moth (PER87198)<br>Fall armyworm Spinetoram (PER89241) |  |
| Spinosad            | 5              | Banana rust thrips<br>Sugarcane bud moth<br>Fall armyworm (PER89870)   |  |

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| Active Constituents | Chemical Group | Pest Name              | Comment  |
|---------------------|----------------|------------------------|--|
| Spirotetramat       | 23             | Banana rust thrips     |  |
|                     |                | Banana weevil borer    |  |
|                     |                | Banana aphid(PER88359) |  |
| Sulfur              | M2             | Bunch mites (PER9409)  |  |
| Terbufos            | 1B             | Banana weevil borer    | Codex: Unsupported   |
|                     |                | Burrowing nematode     | EU: No authorisation in place  |
| Tetraniliprole      | 28             | Banana weevil borer    | EU: No authorisations  |
| Trichlorfon         | 1B             | Fruit fly (PER12450)   | <a href="#">APVMA: nominated for review</a><br>Codex: No MRLs<br>EU: No authorisations<br>USA: No MRLs |

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| Active Constituents                 | Chemical Group | Pest Name                   | Comment   |
|-------------------------------------|----------------|-----------------------------|---|
| <b>DISEASES</b>                     |                |                             |   |
| Chlorothalonil                      | <b>M5</b>      | Leaf speckle                | <a href="#">APVMA: nominated for review</a>   |
|                                     |                | Yellow Sigatoka (Leaf spot) | Canada: Cancellation of uses proposed<br>EU: No authorisation in place<br>USA: Under review |
| Copper                              | <b>M1</b>      | Anthracnose (Black end)     | EU: Candidates for substitution   |
|                                     |                | Leaf speckle                |   |
|                                     |                | Phytophthora stem rot       |   |
|                                     |                | Trunk (Stem) canker         |   |
|                                     |                | Yellow Sigatoka (Leaf spot) |   |
| Didecyl dimethyl NH <sub>4</sub> Cl | -              | Panama disease              | EU: No authorisation in place   |
|                                     | -              | Sanitizer                   |   |
| Difenoconazole                      | <b>3</b>       | Black Sigatoka              | <a href="#">APVMA: nominated for review</a>   |
|                                     |                | Yellow Sigatoka (Leaf spot) | EU: Candidate for substitution<br>USA: Under review   |
| Epoxyconazole                       | <b>3</b>       | Leaf speckle                | <a href="#">APVMA: nominated for review</a>   |
|                                     |                | Yellow Sigatoka (Leaf spot) | EU: No authorisation  |
| Fenbuconazole                       | <b>3</b>       | Black Sigatoka              | <a href="#">APVMA: nominated for review</a>   |
|                                     |                | Yellow Sigatoka (Leaf spot) | Canada: Under review<br>EU: No authorisation  |
| Fluopyram                           | <b>7</b>       | Cordana leaf spot           |   |
|                                     |                | Leaf speckle                |   |
|                                     |                | Yellow Sigatoka (Leaf spot) |   |
| Fluopyram + tebuconazole            | <b>7 + 3</b>   | Cordana leaf spot           | Tebuconazole  |
|                                     |                | Leaf speckle                | <a href="#">APVMA: nominated for review</a>   |
|                                     |                | Yellow Sigatoka (Leaf spot) | Canada: Under review<br>EU: Candidate for substitution<br>USA: Under review                 |

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| Active Constituents   | Chemical Group | Pest Name                   | Comment   |
|-----------------------|----------------|-----------------------------|---|
| Fluxapyroxad          | 7              | Leaf speckle                |   |
|                       |                | Yellow Sigatoka (Leaf spot) |   |
| Inpyrfluxam           | 7              | Yellow Sigatoka             | EU: Authorisation pending   |
| Iodine (post-harvest) | M              | Fungi                       |   |
| Mancozeb              | M3             | Anthracnose (Black end)     | <a href="#">APVMA: nominated for review</a><br>Canada: Many uses cancelled<br>Codex: To be reviewed 2023/24<br>EU: Authorisation not renewed              |
|                       |                | Black pit                   |   |
|                       |                | Cordana leaf spot           |   |
|                       |                | Deightoniella fruit spot    |   |
|                       |                | Fruit speckle (PER81199)    |   |
|                       |                | Leaf speckle                |   |
|                       |                | Yellow Sigatoka (Leaf spot) |   |
| Metiram               | M3             | Black pit                   | <a href="#">APVMA: nominated for review</a><br>Canada: All foliar uses other, than potato, cancelled<br>Codex: To be reviewed 2023/24<br>EU: Under review |
|                       |                | Cordana leaf spot           |   |
|                       |                | Fruit speckle               |   |
|                       |                | Leaf speckle                |   |
|                       |                | Yellow Sigatoka (Leaf spot) |   |
| Paraffinic oil        | -              | Black Sigatoka              |   |
|                       |                | Cercospora leaf spot        |   |
|                       |                | Cordana leaf spot           |   |
|                       |                | Leaf speckle                |   |
|                       |                | Yellow Sigatoka (Leaf spot) |   |
| Prochloraz            | 3              | Anthracnose (Black end)     | Codex: Periodic re-evaluation scheduled<br>EU: No authorisation   |
| Propiconazole         | 3              | Black Sigatoka              | <a href="#">APVMA: nominated for review</a><br>EU: No authorisations<br>USA: Under review   |
|                       |                | Cordana leaf spot           |   |
|                       |                | Leaf speckle                |   |
|                       |                | Yellow Sigatoka (Leaf spot) |   |

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| Active Constituents | Chemical Group | Pest Name                   | Comment  |
|---------------------|----------------|-----------------------------|--|
| Pyraclostrobin      | 11             | Black Sigatoka              | Canada: Under review   |
|                     |                | Leaf speckle                |  |
|                     |                | Yellow Sigatoka (Leaf spot) |  |
| Pyrimethanil        | 9              | Cordana leaf spot           | Canada: Under review   |
|                     |                | Leaf speckle                |  |
|                     |                | Yellow Sigatoka (Leaf spot) |  |
| Tebuconazole        | 3              | Black Sigatoka              | <a href="#">APVMA: nominated for review</a><br>Canada: Under review<br>EU: Candidate for substitution<br>USA: Under review |
|                     |                | Leaf speckle                |  |
|                     |                | Yellow Sigatoka (Leaf spot) |  |
| Thiabendazole       | 1              | Anthracnose (Black end)     |  |
|                     |                | Black tip                   |  |
|                     |                | Crown rot                   |  |
|                     |                | Ripe fruit spot             |  |
|                     |                | Squirter                    |  |
| Trifloxystrobin     | 11             | Black Sigatoka              | Canada: Review initiated   |
|                     |                | Cordana leaf spot           |  |
|                     |                | Yellow Sigatoka (Leaf spot) |  |
| Zineb               | M3             | Leaf speckle                | <a href="#">APVMA: nominated for review</a><br>Codex: To be reviewed 2023/24<br>EU: No authorisation in place              |
|                     |                | Yellow Sigatoka (Leaf spot) |  |



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| Active Constituents           | Chemical Group | Comment   |
|-------------------------------|----------------|---|
| <b>WEEDS</b>                  |                |   |
| 2, 2 DPA                      | <b>0</b>       |   |
| 2, 4-D (PER14239)             | <b>4</b>       |   |
| Diquat                        | <b>22</b>      | <a href="#">APVMA: Currently under review</a><br>EU: Not authorised   |
| Diuron                        | <b>4</b>       | EU: Not authorised  |
| Fluazifop-P                   | <b>1</b>       |   |
| Flumioxazin (PER90376)        | <b>14</b>      |   |
| Glufosinate                   | <b>10</b>      | Canada: Review proposed<br>EU: Not authorised   |
| Glyphosate                    | <b>9</b>       | Ongoing issues internationally<br>EU: Under review  |
| Haloxyfop-P                   | <b>1</b>       | EU: No authorisation in place   |
| Oryzalin                      | <b>3</b>       | EU: No authorisation in place   |
| Paraquat                      | <b>22</b>      | <a href="#">APVMA: Currently under review</a><br>Canada: Review initiated<br>EU: No authorisation in place<br>Rotterdam Convention - nomination |
| <b>PLANT GROWTH REGULATOR</b> |                |   |
| Ethephon (PER14966)           | -              |   |

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