There’s A Lot Of Buzz Out There

Alleged acute bee effects from neonic ST around corn planting portrayed as widespread

EPA sued – suspension of clothianidin and thiamethoxam filed (3/21/13)

Highly Publicized Scientific Studies

Media Interest

Online Activist Campaigns

Bees are still dying
EPA is moving too slowly. Urge Congress to step up. Act Now »

Similar issues raised elsewhere e.g. Canada, EU, Brazil
...But The Facts Aren’t Lining Up

- Poor health correlates well with Varroa and bee diseases, but *not* with neonicotinoids
- Colony health not an issue in Australia where Varroa is absent and neonicotinoids are widely used
- Neonicotinoids are among the least frequently detected pesticides in U.S. bee hives
- Bees pollinating crops or plants treated with neonicotinoids have shown low annual colony losses
- No improvement in bee health despite certain bans (France)
- More than 100 bee studies conducted on neonics
  - Large-scale field studies confirm safety to bees
  - No study shows colony collapse at field rates
  - Most negative effects are seen using artificial exposures at high doses in the laboratory
Lightening Round

• How many wings do honey bees have?
  (4)
• How many sides does the honeycomb have?
  (6)
• What is the most asked question of beekeepers?
  Do you get stung?
• How long does a worker honey bee live?
  Approximately 42-45 days in peak season
What you/we can do
What we can do

1. Follow label directions on any applied pesticide
2. PLANT bee friendly flowers
3. Don’t spray open flowers or fruit trees – if you must spray, do it late in the day
4. Avoid spraying open water
5. Use systemic insecticides to protect plants after flowering
6. Call bee keeper before insecticide application
7. Bury any unused treated seed
Why does Bayer Care about Bees?

- Our business is agriculture and bees are a critical component
- Sustainable agriculture needs crop protection and healthy bees
- For more than 25 years, Bayer has been committed to environmental stewardship and the protection of beneficial insects, including bees
25-Year Commitment to Bee Health

- Bee Health Research
  - Lab & field research
  - Hive management products
  - Sentinel hives project
- Training & Education
  - Bee Ambassador program
  - Bee Care Tour
  - Scientific conferences
- Product Stewardship
  - Seed treatment BMPs
  - Dust mitigation project
  - CARE Initiative
Seed Treatment Best Practices

- **Superior seed coating**
  - Seed quality and conditioning
  - Equipment calibration & quality control
  - Ensure proper binding to seed
  - Technical and service support

- **New Fluency Agent**
  - Replaces talc & graphite seed lubricants
  - Helps reduce amount of total dust released in treated seeds during planting
  - Can be used in all makes & types of planting equipment
  - Product available in North America for spring 2014 planting season

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**LABORATORY EVALUATION**

<table>
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<tr>
<th></th>
<th>Talc</th>
<th>Fluency Agent @ 1/8 cup</th>
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<tbody>
<tr>
<td>Total Dust</td>
<td>3.72</td>
<td>0.43</td>
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90% Reduction in Total Dust with Fluency Agent vs. Talc

1 Poncho / VOTIVO and Poncho 1250 + VOTIVO in John Deere Vacuum Meter
A Major Initiative: Reduce Dust by Replacing Talc as a Lubricant in Planters

- Evaluation of an alternative planter lubricant that could replace talc and reduce dust emissions from planters is underway by BCS.
- Significant decrease in both total dust (90%) and active ingredient dust emissions (65%) have been observed from the vacuum exhaust of planters in laboratory testing.
- Working with seed company partners and planter manufacturers to confirm results in their respective commercial planters.
- Large scale field testing conducted during 2013 was very positive. Exclusively used in Ontario and widely tested in the USA in 2014 with minimal issues.
Bayer Bee Care Center

• **North American Center Opened in April 2014**
  - 6000 square feet state-of-the-art
  - Full laboratory & research apiary
  - Honey extraction & office space

• **Research & Collaboration**
  - Varroa mite, small hive beetle
  - *Nosema*, viruses, foulbrood
  - Management, nutrition & forage
  - Grad students, visiting scientists

• **Training and Education**
  - Internal and external visitors
  - Screened hive observation area
  - Interactive educational displays
Bee Health Research Initiatives

**Varroa mite management:**

- “Varroa gate” for long-term colony protection against varroa mites
- “Varroa box” non-lethal (to bees) diagnostic-tool for Varroa detection
- Screening for new varroacides with different modes of action
- “Healthy Bees Program”, biological triggers for colony management, breaking life cycle of Varroa, enhancement of forage and nutrition
- Research collaboration to improve Varroa control: U of FL (Varroa gate), VA Tech (varroacide screening)
Where to go for More Information

• General Consumer Questions:
  1-866-99-BAYER

• Bayer’s Bee Care Website:
  www.bayercropscience.us/our-commitment/bee-health

• Bayer’s Twitter Handles:
  @BayerBeeCare
  @Bayer4CropsUS

• Bayer’s Facebook Timeline:
  www.Facebook.com/BayerBeeCareCenter

• Bayer Connect Blog
  https://connect.bayercropscience.us

• Pesticide Environmental Stewardship
  http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx
Thank you!