Pollinator News

Glyphosate-EPA Risk Assessment
Watch your inbox from now until April 30th as we will seek your support and input concerning the Risk Assessment of Glyphosate. With your help we make the beekeeper’s voice heard!


Bayer-Monsanto Merger Approved by DOJ
By Hallie Detrick (from Fortune.com) April 10, 2018

The U.S. Justice Department has just given Bayer permission to buy Monsanto in a $62.5 billion deal. The approval (with some conditions) was the last big hurdle for the deal, which has been in the works since May 2016. DOJ approval follows European Union approval in March and a “productive” meeting between Bayer and President Trump in January. It’s the largest all-cash buy-out on record and the largest deal ever by a German company. But not everyone is over the moon about the tie up that will let one company control more than a quarter of the world’s seeds and pesticides. Here’s what you need to know: READ MORE at http://fortune.com/2018/04/10/bayer-monsanto-deal-doj-approval/
Suburban Lawns Drive Huge Pesticide Use

A news media story from NY State in 2016, which is still relevant today highlights the pesticide use concerns. Pesticides are often over-used by homeowners seeking a “perfect lawn.”

“For years, Monroe County was awash in pesticides and became a battleground over their use. Activists went toe to toe with proponents in the gallery at the Monroe County Legislature, one side citing fears of health and environmental impacts and the other arguing pesticides are well-regulated and safe. Over time, a series of new laws were enacted both locally and in Albany — including a controversial measure put in place 10 years ago that requires lawn-care companies to notify Monroe County residents before they spray neighboring properties with herbicides, insecticides or other pest-control agents.” By 2016. “the arguments have ended and the battleground emptied. And pesticide use doesn’t seem to have lessened at all. Nearly 2.3 million pounds of granular products containing pesticides were applied in Monroe County in 2010, the most recent year for which data were available. That figure placed Monroe second among New York’s 62 counties for solid pesticide use, trailing only Suffolk on Long Island. Our eastern suburbs were the hot spots: More granular weed- and bug-killers were laid down in Webster, Pittsford and Perinton in 2010 than almost anywhere else in New York.” Read the full article at https://www.democratandchronicle.com/story/news/2016/08/26/pesticide-usage-monroe-county/88764456/

More on suburban lawns and pesticides


**Pollinator Week: How Will You Educate Your Community**

Beekeepers can be, should be, and need to be involved in local pollinator activities. The mission of every state and local beekeeping association includes education about beekeeping to beekeepers and the general public. How will your beekeeping association educate your community about honey bees and native pollinators during National Pollinator Week?

Your beekeeping association should start planning your local Pollinator Week activities now. *Some ideas:*

1. **Hold a “Bee” Movie night:**
   - Keep the Hives Alive film(s) at [http://pollinatorstewardship.org/?page_id=5441](http://pollinatorstewardship.org/?page_id=5441)
   - The Bee Understanding Project film at [https://www.youtube.com/watch?v=KBsrvJ2-7xY](https://www.youtube.com/watch?v=KBsrvJ2-7xY)
2. **Gather citizen scientists (scouts, boys/girls clubs, nature clubs, beekeepers, etc.) to survey insects in pollinator habitat and post your findings at [https://www.inaturalist.org/](https://www.inaturalist.org/)
3. **Meet with your local parks board, city council/commissioners to make your community a Bee City USA.** ([http://www.beecityusa.org/what-is-a-bee-city.html](http://www.beecityusa.org/what-is-a-bee-city.html)).
4. **Meet with your local college/university leadership to get the campus declared a Bee Campus USA** ([http://www.beecityusa.org/what-is-a-bee-campus.html](http://www.beecityusa.org/what-is-a-bee-campus.html)).

*Start planning your local Pollinator Week Celebration now!* Learn more at [http://pollinator.org/pollinator-week](http://pollinator.org/pollinator-week) and [http://pollinatorstewardship.org/?p=5959](http://pollinatorstewardship.org/?p=5959)

**Beekeeping Down Under**

American beekeepers and researchers will be speaking to the 3rd Australian Bee Congress June 27-30 in Queensland, Australia. Zac Browning, founding Board member of the Pollinator Stewardship Council, David Mendes, commercial beekeeper, Dr. Susan Cobey, and Dr. Judy Wu-Smart will be sharing the American beekeeping perspective concerning crop pollination, pesticide exposure and impact, bee genetics, and monoculture concerns for growers and beekeepers, across this three day conference. Native bees are also included for their pollination contribution, impact from pesticides, and advocacy and education to the public. To learn more go to: [http://australianbeecongress.com.au/](http://australianbeecongress.com.au/)

**Know Your Pesticide Label- ReTain Plant Growth Regulator Soluble Powder**

A number of beekeepers have expressed concerns this product is impacting the health of their bees. The Active ingredient, Aminoethoxyvinylglycine hydrochloride (aviglycine HCl) formerly designated as aminoethoxyvinylglycine (AVG) is a biochemical plant regulator. “In apples, it may delay fruit maturity, leading to benefits such as a reduction in pre-harvest fruit drop and improved fruit quality. In pears, AVG may help maintain fruit firmness. For specific ornamentals (miniature carnations, hibiscus, and rooted geranium cuttings and seedlings), AVG may reduce problems, such as flower senescence and flower bud abscission, that occur during shipping.”
“Non target insect or honey bee studies were not required for these products due to a limited possibility of exposure from the use pattern. However, food-use end-product labels must clearly state that application of product may occur only after fruit set, when there would be no flowers to attract these insects.” (from https://www3.epa.gov/pesticides/chem_search/reg_actions/registration/fs_PC-129104_01-Nov-01.pdf)

From the National Registration Authority for Agricultural and Veterinary Chemicals, August 2001, Canberra, Australia, NRA Reference Number: 52453

“The results of the terrestrial toxicity studies for AVG indicate that it is very slightly toxic to honey bees and earthworms, and that it is not expected to have an adverse effect on non-target vegetation at the label rate.” . . . “The hazard to honey bees may be estimated on the assumption that a bee in a spray cloud has a target area of 1 cm. Hence, an exposure level of approximately 1.25 µg/bee may be expected if AVG is sprayed, at the maximum rate, while bees are actively foraging. The contact and oral LD50s for bees were >100 µg/bee. Thus, it is anticipated that there would not be an adverse affect on any bees that are in the trees at the time of spraying.” . . . “RETAI® is a naturally occurring plant growth regulator which inhibits endogenous production of ethylene in plant tissues. Ethylene affects plant processes such as fruit maturation, ripening and abscission. Inhibiting ethylene production within the plant can provide a delay in harvest (i.e. improved harvest management) depending on fruit variety, reduction in pre-harvest fruit drop, delayed fruit maturation that allows for a natural enhancement in size, maintenance of fruit firmness, improved fruit quality (e.g. reduced incidence of and/or severity of some fruit disorders) and enhanced storage potential.”

“Ethylene, a gaseous phytohormone, regulates diverse developmental and physiological processes throughout the entire life cycle of plants, including seed germination, root initiation, flower and leaf senescence, abscission, fruit ripening, wounding response, and disease defense (Abeles et al., 1992).” (http://www.plantcell.org/content/18/12/3429)

Additional links to information about this pesticide:
Federal Register Notices:


CAS # 55720-26-8
EPA Registration Number: 73049-45
EPA Pesticide Label signal word: CAUTION
Component Name: Aminoethoxyvinylglycine Hydrochloride (AVG) (86%)
Signal Word
DANGER

Hazard Statement(s)
• May damage the unborn child (route of exposure is oral)
• Causes damage to the liver through prolonged or repeated exposure (route of exposure is oral)
• Harmful to aquatic life (algae)

Precautionary Statement:
Prevention
• Obtain special instructions before use.
• Do not handle until all safety precautions have been read and understood
• Do not breathe dust
• Wear dust mask when handling
• Wash hands and face thoroughly after handling
• Do not eat, drink, or smoke when using this product
• Contaminated work clothing should not be allowed out of the workplace.
• Wear protective clothing/eye protection/impervious gloves
• Avoid release to the environment

Environmental Precautions
Keep out of drains, sewers, ditches and waterways. Avoid runoff to waterways and sewers.

Specific End Use(s)
Plant growth regulator for apples, pears and other stone fruit.

Hazardous Decomposition Products
Hydrochloric acid (HCl), carbon oxides and unidentified organic compounds

CARCINOGENICITY INFORMATION: Not likely to be carcinogenic to Humans at dose levels that do not cause enzyme induction or cell proliferation.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY: In long-term studies, decreased weight and histopathological changes in the testes were observed in rats.

Ecotoxicity
• Fish: LC50 >139 mg/L (96-H, Rainbow Trout)
  o LC50 >100 mg/L (96-H, Bluegill)
• Bird: LC50 >121 mg/kg (Acute Oral - Bobwhite)
  o LC50 >230 ppm (Dietary - Bobwhite)
  o LC50 >459 ppm (Dietary - Mallard)
• Invertebrates: EC50 >135 (48-H) (Daphnia) TGAI
  • EC50 >11.98 mg/L (48-H) (Daphnia) ReTain
• Bees: LD50 >100 mg (48-H) (Oral and Contact) (See Editor’s note at end of article.)
12.2 Persistence and Degradability
No data available

12.3 Bioaccumulation potential
No data available

12.4 Mobility in Soil
No data available

12.5 Results of PBT and vPvB assessment
Assessments not performed

12.6 Other adverse effects
None known

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS

CAUTION
Harmful if inhaled or absorbed through skin. Avoid breathing spray mist. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

Environmental Hazards
Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

“Except to the extent a particular use and particular information are expressly stated on the product label, it is the users’ own responsibility to determine the suitability of this information for their own particular use of this product.” (This statement places the responsibility of the use of the product upon the consumer.)

If you have experienced health issues of your honey bees when this pesticide has been applied while your bees are under crop pollination, contact the EPA and the manufacturer. Both entities need to know of health concerns with pollinators and this product. Suffering the loss of your bees in silence will not change labels or pesticide use practices.

Contact the EPA at beekill@epa.gov

Contact the manufacturer, Valent at https://www.valent.com/aboutvalent/contactvalent/

*Editor’s note: after speaking with a representative of Valent concerning the US Safety Data Sheet, they agreed there was a typo in the 2015 internet posted SDS (http://pollinatorstewardship.org/wp-content/uploads/2018/04/VBC-0062R1-RETAIHN-Plant-Growth-Regulator-6-30-15.pdf), as I found an Australian document (https://apvma.gov.au/sites/default/files/publication/13586-prs-aminoethoxyvinylglycine.pdf) that showed information relative to ecotoxicity to bees. Valent advised they would send me a PDF of the revised 2015 safety data sheet with the corrected typo concerning the ecotoxicity to bees. However, 2 days later, I do not find the SDS on the internet by Valent that I saved. As of this printing I have not received the revised Safety Data Sheet. When and if it is emailed to me, I will share it with our members.
The more you know about your pesticides, the better you can protect pollinators.

*How you can help protect pollinators:*

Read and understand pesticide labels fully and completely before using.

From the Ohio State Beekeepers Assn., “Beepkeeping to Maximize Pollinator Health.”

http://npic.orst.edu/health/readlabel.html


**Ethylene Oxide** and honey bees: background research

Ethylene oxide is:
a fumigant used for foodstuffs, surgical equipment and as an agricultural fungicide. It is a gaseous, flammable alkylating agent with a broad spectrum of activity, being sporicidal and viricidal. It is used (mixed with CO₂ or fluorocarbons because it is explosive above 3%) for disinfecting and sterilizing equipment and instruments that are used in the hospital, surgery, dentistry, and the pharmaceutical and other industries, and that are thermolabile or will be adversely affected by immersion in water or other media. Its optimal germicidal effect occurs after a 3-hour exposure at 86°F (30°C). Its vapor is irritating to eyes and respiratory mucosa and can cause serious pulmonary edema. Called also oxirane. [http://medical-dictionary.thefreedictionary.com/Ethylene+oxide](http://medical-dictionary.thefreedictionary.com/Ethylene+oxide)
The use of ethylene oxide to fumigate honey bee equipment in the United States and Canada during the 1970's. https://www.cabdirect.org/cabdirect/abstract/19810211800

Monitoring the disinfection of honey bee combs by ethylene Oxide
https://www.researchgate.net/publication/298819385_Monitoring_the_Disinfection_of_Honeybee_Combs_by_Ethylene_Oxide

Identification of Important Regions for Ethylene Binding and Signaling in the Transmembrane Domain of the ETR1 Ethylene Receptor of Arabidopsis http://www.plantcell.org/content/18/12/3429


Total Amino Acids in Pollen Fumigated with Ethylene Oxide
https://www.researchgate.net/publication/273297995_Total_Amino_Acids_in_Pollen_Fumigated_with_Ethylene_Oxide

Effect of Ethylene Oxide Fumigation on Amino Acid Composition of Pollen:
Abstract: Ethylene oxide fumigation reduced the content of histidine in stored dandelion pollen and of histidine and methionine in rape pollen. Apis mellifera L. colonies reared fewer larvae than control colonies when fed fumigated pollen. Ethylene oxide fumigation also destroyed some unidentified lipid attractants contained in pollen. Foraging bees collected less, and bees in the hive consumed less fumigated pollen than unfumigated pollen.
https://www.researchgate.net/publication/233618984_Effect_of_Ethylene_Oxide_Fumigation_on_Amino_Acid_Composition_of_Pollen

WATCH at https://youtu.be/loXNj9ERAbg

Renew your membership, encourage others to become a member, or make a donation today to support our work.
http://pollinatorstewardship.org/?page_id=3603
Our Members / Supporters

Butterfly Pavilion  https://www.butterflies.org/
People and Pollinators Action Network http://www.peopleandpollinators.org/
Seib’s Hoosier Honey http://www.seibshoosierhoney.com/
Strachan Apiaries https://www.strachanbees.com/
Sunshine Apiary, Inc. https://www.facebook.com/sunshineapiary
Empire State Honey Producers Assn. http://www.essha.org/
Smith Farm Pure Honey www.smithfarmpurehoney.com/
Randy Oliver http://scientificbeekeeping.com/
Browning’s Honey Co., Inc. http://www.browningshoney.com/
Hackenberg Apiaries http://hackenbergapiaries.org/
Delta Bee Club http://www.deltabeeculub.org/
Heartland Apicultural Society http://www.heartlandbees.org/
Beekeepers of Middle Tennessee http://bomtn.org/
Old Mill Honey Co.
Foothill Honey Farm
Wind River Honey Co.
Miksa Honey Farms
California-Minnesota Honey Farms
Rick Smith
Bob McDonell
Samuel Hall
Headwaters Farm
Hiatt Honey, LLC
South Dakota Beekeepers Assn.
Bret Adee
Indian Run Apiary
California Apiaries, LLC
Harmony Honey Co.
Red-Headed Honey https://redheadedhoney.com/
Sunrise Feed & Supply http://sunrisefeed.com/
Kentucky State Beekeepers Association http://www.ksbaehivekeeping.org/
Los Angeles County Beekeepers Assn. http://www.lasangelescountybeekeepers.com/
The Studio Digital http://www.thestudiodigital.com/
Beekeeping Insurance Services http://www.beekeepingins.com/
Cox Honey of Utah
Michigan Commercial Beekeepers Assn.
Northern Nevada Beekeepers Assn.
http://www.northernnevadaabeekersassociation.org/
Lee’s Bees
Bob Brandi Honey & Farming
The Beekeepers of Indiana http://indianabeekers.com/
Stephen Wilson

The Pollinator Stewardship Council is a 501c3 nonprofit organization; donations are tax deductible.