

Hot Topics

Cannabis, Paraquat, Zika...

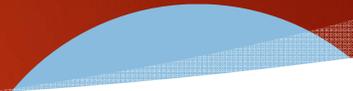
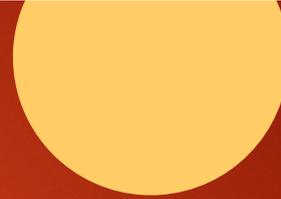
WESTERN REGION PESTICIDE MEETING

MAY 19, 2016

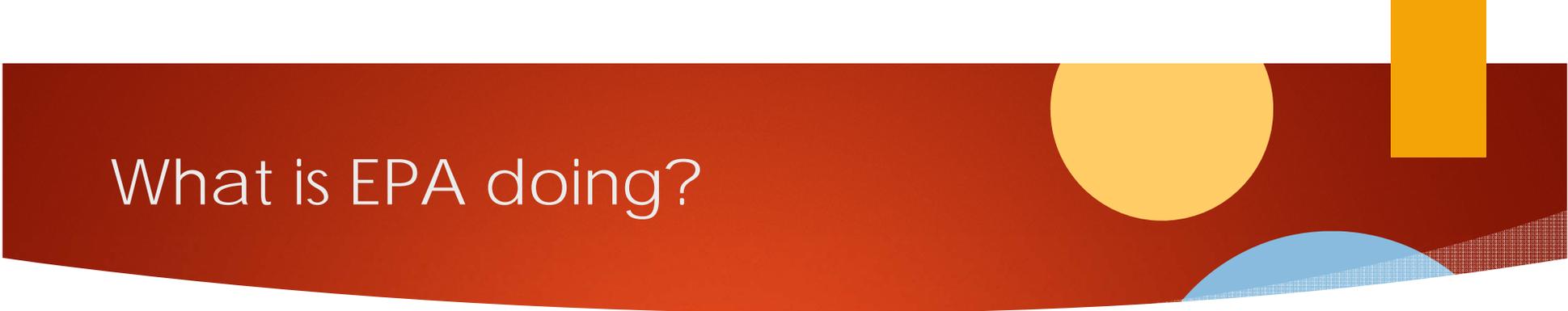
PATTI TENBROOK

EPA REGION 9

Cannabis



- ▶ Growing number of states and tribes are allowing recreational and/or medicinal use of marijuana. In Regions 8, 9 and 10:
 - ▶ Medical: CA, OR, NV, CO, MT, AZ, Guam
 - ▶ Recreational: WA, CO, AK, OR, Flandreau Santee Sioux Tribe
- ▶ EPA cannot register pesticides for use on marijuana
- ▶ Issues related to pesticide use on cannabis are emerging across the country. Examples:
 - ▶ Use of unregistered/illegally imported pesticides
 - ▶ Mis-use of registered pesticides
 - ▶ WPS
 - ▶ Adulterated products
 - ▶ Environmental contamination from mis-use, improper disposal, etc.



What is EPA doing?

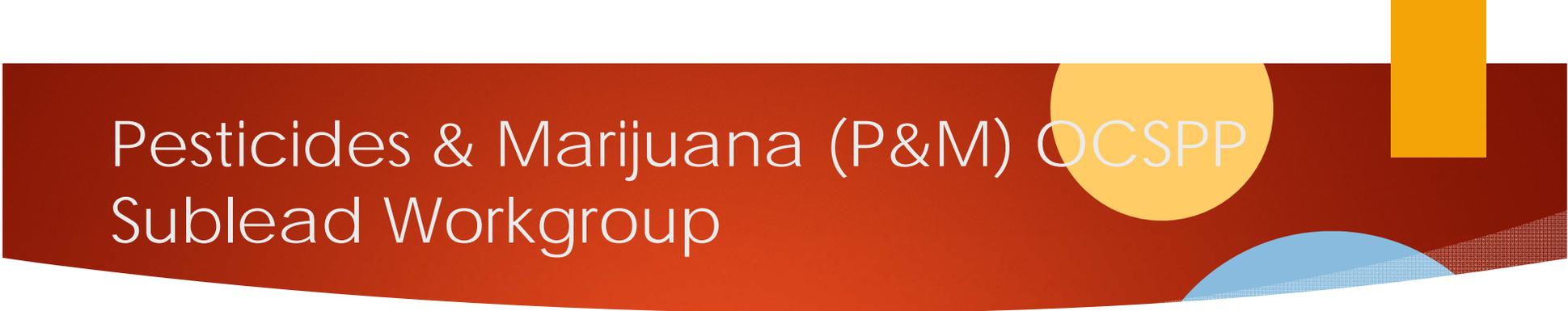
- ▶ Three workgroups
 - ▶ 24(c) Team
 - ▶ National Cannabis Workgroup
 - ▶ Pesticides and Cannabis sub-lead for the Office of Chemical Safety and Pollution Prevention (OCSP)

24(c) Team

- ▶ Internal EPA workgroup
- ▶ Includes Office of Pesticide Programs (OPP) and Office of General Counsel (OGC) managers and staff
- ▶ Works through 24(c) issues that states bring forward
- ▶ Meets as needed
- ▶ OPP Contact: Nicole Zinn (zinn.nicole@epa.gov)

Pesticides and Marijuana National Workgroup

- ▶ EPA, States, Tribes
 - ▶ EPA: OPP, Office of Enforcement and Compliance Assurance (OECA), Regions 8 and 10
 - ▶ States: OR, CA, CO, AK, WA, DC, Association of American Pest Control Officials (AAPSCO), State FIFRA Issues Research and Evaluation Group (SFIREG) Pesticide Operations and Management (POM) Working Committee
 - ▶ Tribes: Tribal Pesticide Program Council (TPPC), a few individual tribes
- ▶ Addresses broader pesticide and cannabis issues, and meets quarterly
- ▶ OPP Contact: Nicole Zinn (zinn.nicole@epa.gov)



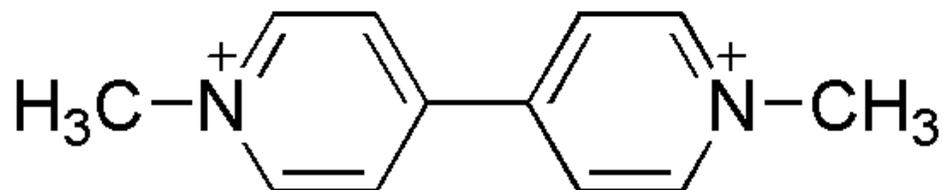
Pesticides & Marijuana (P&M) OCSPP Sublead Workgroup

- ▶ EPA Regions, Program and Enforcement staff
- ▶ Share information, discuss challenges and needs
- ▶ Establish nationally consistent approaches
- ▶ Prioritize regional and state/tribal program and enforcement needs
- ▶ Meets monthly
- ▶ EPA Contacts: Rebecca Perrin (R8) and Kelly McFadden (R10)

Paraquat Dichloride



- ▶ Background
- ▶ Registration Review status
- ▶ Incidents
- ▶ Proposed Interim Mitigation



Uses and Importance

- ▶ Paraquat is a non-selective, non-systemic, broad-spectrum, rapid-action herbicide and desiccant
- ▶ Agricultural and non-agricultural uses
- ▶ An average of 4 million pounds of paraquat were applied annually to over 7 million acres (2011-2013)

Current Restrictions, Toxicity, Safety Additives

- ▶ Restricted use due to high toxicity
- ▶ An estimated 1.5 tsp can be lethal and there is no antidote
- ▶ Highly corrosive to skin
- ▶ Blue dye, odorant, emetic



Registration Review Status

- ▶ Registration Review Docket opened – December 2011
- ▶ Final Work Plan Published – June 2012
- ▶ OPP Distributed the Paraquat Dichloride Ingestion Risk Message – December 2014
- ▶ Anticipated OPP Draft Risk Assessment Publication – June 2017
- ▶ Anticipated Registration Review Decision – March 2018
- ▶ OPP Contact: Marianne Mannix (mannix.Marianne@epa.gov)

Examples of Paraquat Incidents

- ▶ A 15-month-old boy ingested paraquat that had been transferred into a Gatorade container...
- ▶ A 44-year-old male mistakenly drank paraquat, which he thought was fruit juice....
- ▶ An 8-year-old boy drank paraquat that had been put in a Dr. Pepper bottle...

Rate and Severity of Paraquat Incidents

- ▶ A review of all available data sources identifies a total of 20 accidental exposure fatalities from 2000-2014
- ▶ 20 accidental deaths/14 years= 1.4 accidental deaths per year from paraquat
- ▶ 40% of paraquat incidents are moderate or high in severity or result in fatalities

Incident Rate and Severity Analysis

- ▶ OPP compared paraquat incidents to incidents associated with three potential alternatives (glufosinate, glyphosate, diquat)
- ▶ The incident rate associated with paraquat use was significantly and substantially higher than that of glufosinate and glyphosate
- ▶ Paraquat incidents were determined to be more severe than glyphosate incidents

Proposed Interim Mitigations

Mitigation Option

Label amendments to highlight ingestion risk and clarify toxicity (2016)

Supplemental warning materials (safety stickers and counter cards) (2016)

Stewardship and training modules (2016)

Prohibit Hand Applications (2017, or 1 year from publication)

Lock and Load System (2018, or 2 years from publication)

Restrict Use to ONLY Certified Applicators (2018, or 2 years from publication)

Zika



- ▶ Background
- ▶ Cases
- ▶ Mosquito range
- ▶ More on *Aedes* species

<http://www.cdc.gov/zika/>

Background—from Centers for Disease Control

- ▶ Zika virus spread primarily by *Aedes* species mosquitoes.
 - ▶ Mother-to-child (fetus)
 - ▶ Sexual contact
- ▶ Originated in Africa
- ▶ Recent large outbreak in Brazil (2015)
- ▶ WHO: Public Health Emergency of International Concern (2016)
- ▶ Symptoms
 - ▶ Mild illness is typical
 - ▶ Birth defects are biggest concern—microcephaly and other brain defects
 - ▶ Guillan-Barre syndrome

Cases in States and Territories—as of 5/11/16

▶ States

- ▶ 503 travel-associated
- ▶ 0 locally acquired vector-borne
- ▶ Sexually transmitted: 10
- ▶ Pregnant women: 48



▶ Territories

- ▶ American Samoa
 - ▶ Travel: 0
 - ▶ Local: 14
- ▶ Puerto Rico
 - ▶ Travel: 2
 - ▶ Local: 669
- ▶ US Virgin Islands
 - ▶ Travel: 1
 - ▶ Local: 15

Maps—*Aedes* distribution in the US (2016)



Aedes aegypti



Aedes albopictus

<http://www.cdc.gov/chikungunya/resources/vector-control.html>

More on *Aedes* species

- ▶ Zika, Yellow Fever, Dengue Fever, Chikengunya
- ▶ Different behavior compared to *Culex* spp.
 - ▶ Day biter
 - ▶ Breed in very small volumes of clean water



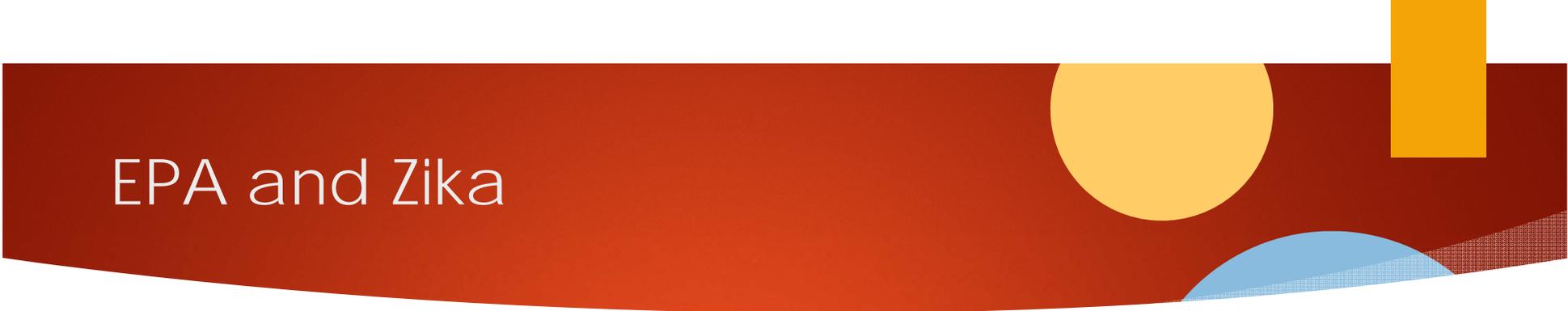
Aedes aegypti



Aedes albopictus

Surveillance, Control, Personal Protection

- ▶ Surveillance
 - ▶ Presence/abundance
 - ▶ Habitat identification
 - ▶ Mapping
 - ▶ Monitor effectiveness of control efforts
- ▶ Control
 - ▶ Reduce habitat: water, trash, tire piles, overgrown vegetation
 - ▶ Outreach; community effort
 - ▶ Larvicides, adulticides
- ▶ Personal protection from vector-borne Zika
 - ▶ Clothing
 - ▶ Repellents



EPA and Zika

- ▶ Zika Response Team located in Office of Chemical Safety and Pollution Prevention
 - ▶ Coordinates efforts across the agency (HQ and Regional Offices)
 - ▶ Provides updates
- ▶ Exploring projects within EPA purview, e.g.:
 - ▶ Outreach/education on IPM, personal protections, habitat reduction
 - ▶ Trash/tire pile cleanup

Pesticide Regulators' Role

- ▶ Advise vector control efforts
 - ▶ IPM
 - ▶ Repellents
 - ▶ Registered products
- ▶ Ensure availability of registered products
- ▶ Outreach/education to community
 - ▶ IPM
 - ▶ Personal protection
 - ▶ Safe use of pesticides
- ▶ Vigilance for potential mis-use