

**Washington Mint
Convention
Yakima, WA
December 5, 2017**

2017 MIRC Update



2017 Review

- **Research Highlights**
 - Variety Improvement
 - Pest Management
 - Flavor/Fragrance Sensory
 - Considerations
- **Pesticide Registrations**
- **IR-4**
- **Washington D.C.**



Varietal Improvement

- Which genes are responsible for:
 - Oil yield
 - Desirable oil properties
 - Verticillium wilt
- Found genome sequence for SAF2
- Made crosses
 - *M.longifolia* x *M.suaveolens*



Multi-State Weed Research

- Pyridate efficacy on broadleaf weeds
- Washington, Oregon, California, Indiana, Wisconsin
- Compared to currently registered
- Crop safety with tank mixes
- Regional specific weeds and soils
- All mints evaluated



Entomology

Mites

- Testing new miticides
- Evaluating new miticides on beneficial mites
- Evaluating residual activity of miticides
- Evaluating miticide resistance
- Developing methods to predict resistance

Pyrethroids

- Testing pyrethroids performance
- Evaluating impact on beneficials
- Evaluating resulting pest response
- Data supporting progress toward registration



Verticillium

- Developed and optimized qPCR test to detect Verticillium in fields
- Correlation with traditional methods
 - Greater sensitivity
 - Quicker analysis
- Ground truth in commercial mint fields
 - Positive correlation
 - Some unexplained variation will lead to research modeling



Nematodes

- Evaluating new nematicides
- Northern root-knot & Pin nematodes
- Fresh & dry weights, oil content, nematode cts.
- Trends are favorable



Mint Scent vs. Pain Tolerance

- Investigate effects of Peppermint, Scotch and Native Spearmint
- Pain perception and tolerance, physiology, mood and alertness
- Peppermint and Native Sp. resulted in greater pain tolerance than Scotch
- Intended to support potential new uses





Photo by Glen Delman



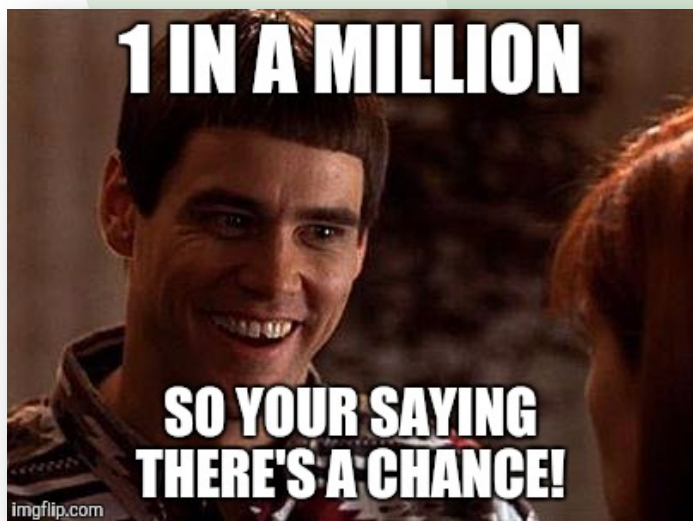
Research – Points of Concern

- Retirements / Succession Planning
 - Dr. Steve Weller retirement – July 2017
 - Dr. Rick Boydston retirement – March 2018
 - Dr. Saad Hafez pending retirement?
- Irrigation / water use research
- Distillation advances
- What topics are needing addressed?



Pesticide Report





Tough Herbicide



Tough Herbicide

- Section 18 granted
 - July 13, 2017
- Feedback
 - Approval timing
 - Availability
 - Apply earlier for better control
 - PHI too long
 - Market value
 - State inclusions



Tough



Tough Herbicide

- **Current status**
 - Belchim Crop Protection
 - Section 3 has been requested
 - Projecting full registration in 2019
- **2018**
 - Section 18 request for re-authorization
 - In progress
 - Goal is earlier approval



“Tough” Pre-Harvest Interval



- PHI is 49 days
- Need to be shorter
- 40 days?
- Working with IR-4 and registrant
- Fixable
 - “Paperwork” argument
 - New residue study



Vydate

- **Vydate[®]**
 - **Vydate L – Delayed to Jan/Feb 2018**
 - **Generics available**
 - **Return[™] from Rotam Chemical Co.**
 - **Others?**



Herbicides Coming Soon

- Spartan (sulfentrazone)
 - Double-cut addition
 - Expecting approval April 2018
- Zidua (pyroxasulfone)
 - Pre-emergence herbicide
 - Dormant application
 - Possible approval March 2018



Warrior Insecticide

- 2018 IR-4 research priority for mint
- Syngenta supportive
- Dr. Walsh, WSU data supporting
- EPA pyrethroid reg. review could be challenge
- 2022 projected registration
 - Very early in process
 - Registration review will influence



Sharpen Herbicide

- BASF requesting more data
- Moving target:
 - 2017 – 2x rate crop safety
 - 2018 – 3x rate crop safety
- MIRC Weeds Team
 - 2018 proposal to conduct Sharpen studies
 - Dormant application
 - Midwest will revise timing to fit



IR-4 Report

- Critical to mint pesticide registrations
- Food Use Workshop – Denver, CO
- Priority Request: lambda-cyhalothrin
 - Warrior™ insecticide
 - Pyrethroid
- Crop Group – Mint is rep crop
- CLC efforts in D.C.



Washington D.C. – July 2017

- **USDA-NIFA** (National Institute of Food and Agriculture)
 - IR-4 funding challenges
 - Tactical Sciences Initiative
- **USDA-OPMP** (Office of Pest Management Policy)
 - Pesticide policy and regulation
- **US EPA**
- **Congressional offices**



Welcome New Members

- Essex Laboratories
 - Chehalis, WA
 - Oil Dealer



- Young Living
 - Lehi, UT
 - Flavor & Fragrance House





Mint Industry Research Council

ANNUAL MEETING

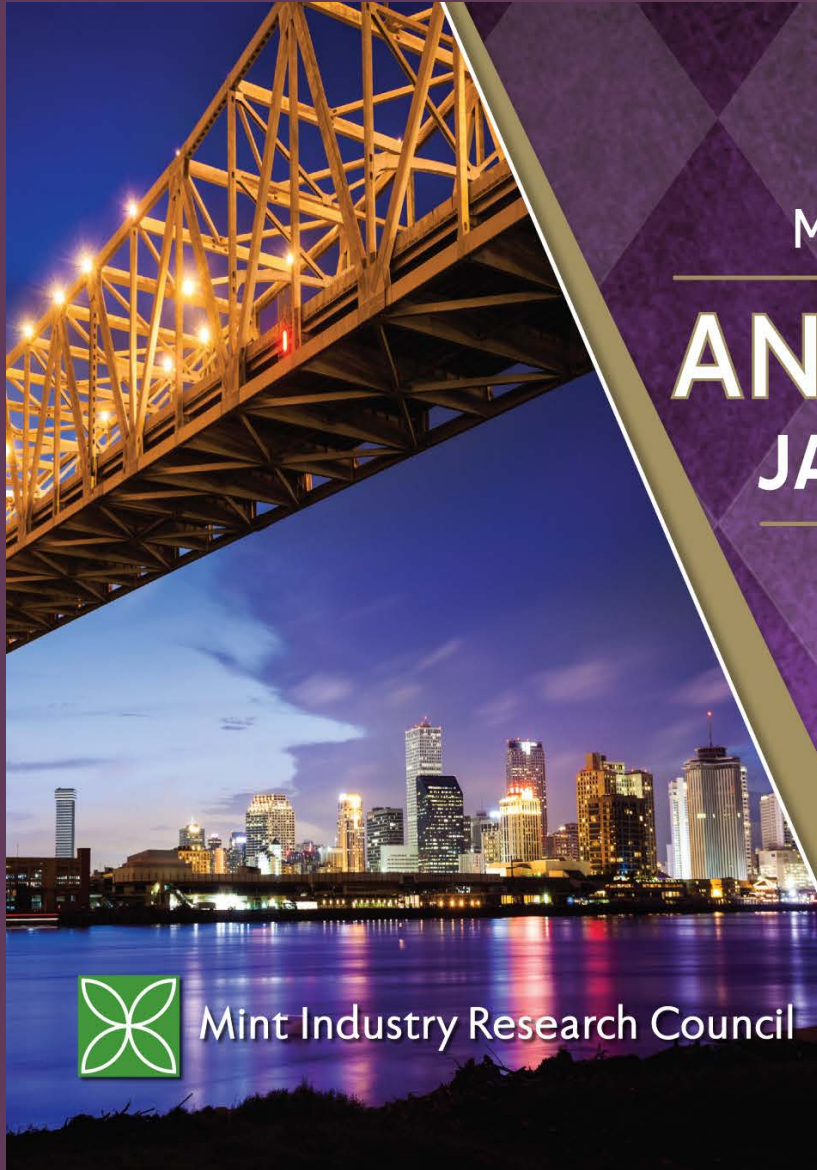
JANUARY 24 & 25, 2018

NEW ORLEANS



Mint Industry Research Council

usmintindustry.com



Thank You



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