




FSA6145

The Turfgrass Industry Officially Loses MSMA

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Introduction

Monosodium methanearsonate (MSMA) is a commonly used herbicide in warm-season climates. Since the 1960s, this product has been used to manage infestations of various crabgrass species (*Digitaria* spp.) as well as goosegrass (*Cyperus indicus*) and dallisgrass (*Paspalum dilatatum*) in warm-season turf. MSMA, an organic arsenical herbicide, contains an organic form of the element arsenic. In its organic form, arsenic is relatively nontoxic. For example, the herbicide MSMA is far less toxic than aspirin.^{1,2} However, in an inorganic state, arsenic can be highly toxic. It is important to note that MSMA only contains organic arsenic. Further-

inorganic arsenic. The EPA announced that there was no way to avoid the use of MSMA. The EPA has effectively say that the arsenic was from applications of MSMA.

Final Ruling on MSMA Use for Turfgrass Weed Management

On September 30, 2009, the EPA announced the final decision regarding the use of MSMA for agricultural weed management.³ Impacts on the turfgrass industry were significant, with repercussions that will change weed control strategies.

Golf Courses

Registrants of MSMA will not be

Do you want headlines like this?

Before I introduce myself and the balance of my presentation, let me ask you this. What headlines do you want written about your industry?

This was the headline of a major Extension bulletin from the University of Arkansas a few years ago. Do you want headlines like this?

This presentation at its core is about being in control of your message in a positive and proactive manner. As it happened, this headline was premature, but your access to pesticides is threatened by regulatory action and by popular pressures. The key to preserving these valuable tools is professional and responsible use and product stewardship. Reporting is just one element that can be used to the benefit of your own industry.

*The Cactus & Pine, GCSA Seminar:
2014 Keeping Informed & Staying Updated
Gilbert, AZ*

**Pesticide Reporting:
Why should you care?**

Peter C. Ellsworth, Al Fournier &
Wayne Dixon

Arizona Pest Management Center
University of Arizona



I am an entomologist and IPM Specialist for the University of Arizona. I also direct the Arizona Pest Management Center which funds and oversees the IPM programs generated by our faculty all over the state, notably including people like Kai Umeda and Dave Kopec who work directly with your industry.

At the APMC, we manage an important resource that I would like to speak with you about. I hope it helps you answer this question and by the end of it, you'll understand why you should care about pesticide use reporting.

Great. More Paperwork!



No one wants more paperwork! However, for the most part, as responsible members of your industry, you should already be tracking your usage of pesticides in your business. This merely formalizes the process and gives a structure for reporting that can be used and mined to benefit your industry in the future.

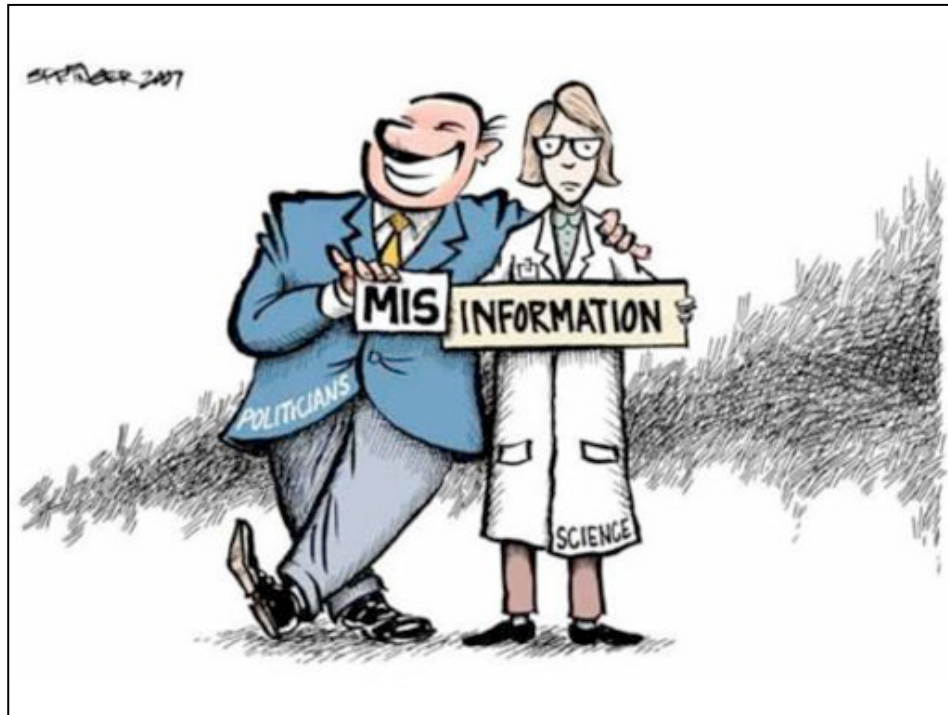
Benefits of Pesticide Use Data

- Document industry use trends
- Evaluate changes in IPM practices & needs
- Identify research, education, product needs
- Justify grant funding for IPM research & education

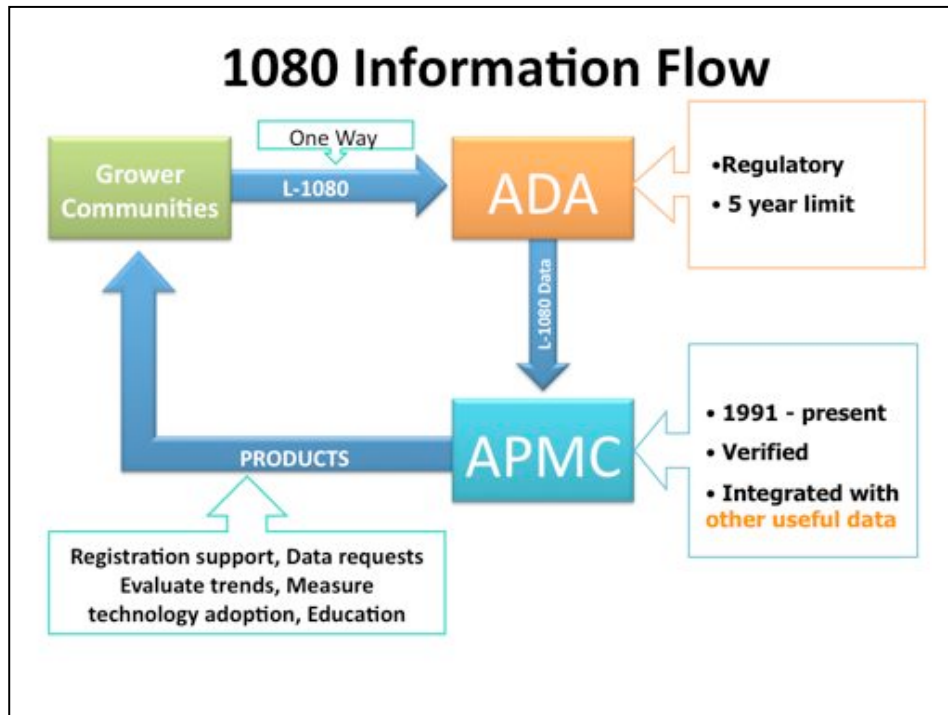
- Respond to EPA with **real data!**
 - Defend threatened chemistries

All these are benefits. But it's this last one that gives us the power to defend chemistry that is valuable to your industry. EPA regulates all pesticide use. In registering or re-registering chemistry, EPA must assess risk. Risk analyses are complex and depend heavily on models. Models depend on data and in the absence of "real" data they are run on worst-case assumptions. E.g., pyrethroids are an important class of chemistry since the 1980s. On every pyrethroid label, there is language, which is the law, that constrains pyrethroid use to no more than 10 uses! In the absence of actual data, EPA therefore would assume that all 10 uses are in practice on every farm, even though such use patterns are virtually unheard of. The ramifications of such assumptions on such things as risk are quite sobering.

Pesticide Reporting: Why should you care?



Fundamentally, this is your opportunity as an industry to disarm others with data-based information. The alternative is not good or pretty.



In year's past, 1080 information used to flow in one direction, from user to the ADA. Since our association (the APMC) with ADA, we now take data, correct it, verify it and improve it and produce research and educational products to support the industries that generate the information. ADA as State Lead Agency enforces regulations for pesticide use in AZ. The APMC plays no role in that function. Our interests go to serving the industry with educational products that help progressive industries improve pest management practices. By closing this information loop, we are creating value for a reporting that might otherwise be viewed as simply onerous with no benefit.



**Partners
with 2
functions**



UA-APMC

- Research & Education
- Oversight by Advisory Committee


ADA

Regulatory

Goal: Reliable, timely data to support research, education, registration needs & IPM Assessment

So we are partners with 2 very different functions. On the right, ADA operates all regulatory functions. On the left, we develop research and educational products and programs for our stakeholders. And, we do this with an industry stakeholder advisory committee. Now that some uses on golf courses come under Ag and must report on form L-1080, we would be happy to welcome one or more from your industry to sit on this advisory board.

We have an active interest in IPM program assessment and therefore are willing to develop this resource so that we can better understand the efficacy of our research and outreach programs.



Registration Support

- **Section 18 Emergency Exemptions**
 - to address problematic pest conditions
- **Defense of chemistry (cotton)**
 - Acephate & oxamyl, rates above 0.5 lbs ai
 - Endosulfan (2002 & 2006-7, 2008-10)
 - Rates above 0.75 lbs ai
 - Aerial application **R.I.P.**
 - Orderly, extended phase out based on our data

These data have already provided great benefits with respect to supporting product registrations and re-registrations in Arizona. For example, when Knack was first introduced, 1080 data along with Crop Pest Losses Survey data helped to support the need for Section 18 emergency exemptions to make the product available for statewide whitefly control.


1080 data was used to defend the use of acephate at rates over one-half pound AI in Arizona. There has been an ongoing communication between the state and EPA regarding the use of endosulfan. Arizona was one of the last places where this AI was still available at rates above 0.75 lbs AI and for aerial applications.

With these data we are uniquely positioned in AZ to provide specifics that may help us retain safe uses of chemistries that would otherwise be lost.

Biological and Economic Analysis Division (BEAD)

- Addresses the need for various pesticides and the potential economic impacts of regulatory options.
- % of the crop that is treated with the pesticide is used **if readily available**. If this assessment shows unacceptable risks, BEAD provides additional information **about actual use patterns** to help refine exposure assessments.

Where does this come from?



EPA is an easy target for criticism from virtually all quarters. However, unlike the European Union, the EPA does have the capacity to assess benefits (and not just risk).

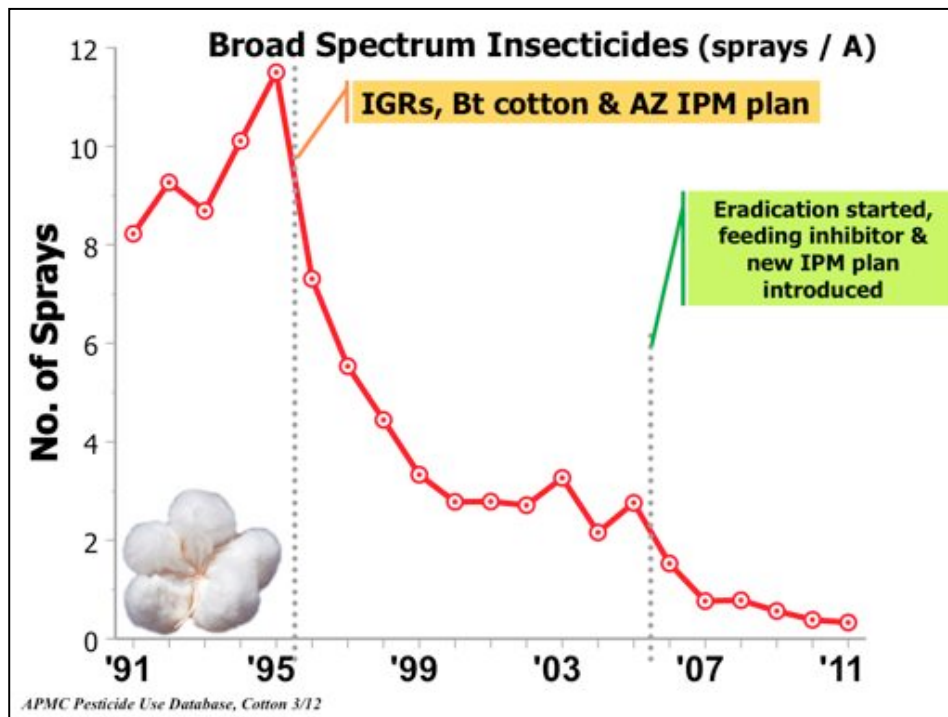
They have BEAD, and they can consider things like what % of the crop is treated with a particular pesticide. They can use real data if it is readily available. Do you know how many states can produce actual use data to EPA-BEAD? About only 2: California and Arizona. After that, it's basically guesswork!

Trends help...

- Industry understand changes & challenges
- Researchers develop funding for solutions
- Educators identify needs & measure impacts
- Tell a success story!

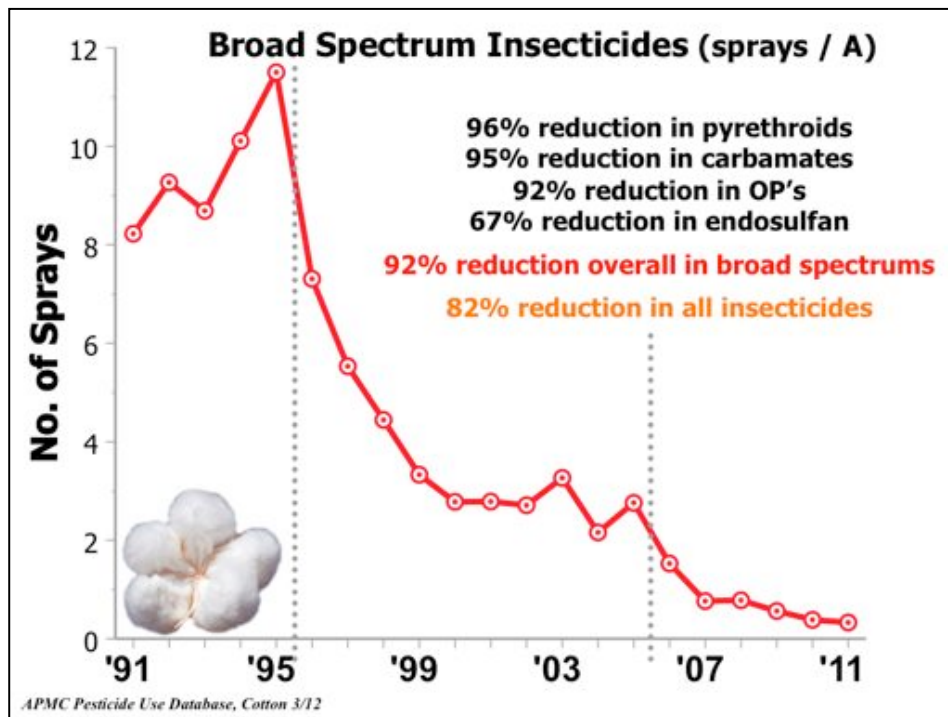
A composite image featuring a close-up of a white cotton flower with yellow stamens at the top right, and a photograph of a vast cotton field with rows of plants stretching to the horizon under a clear blue sky at the bottom right.

Beyond these regulatory benefits, trends are powerful means to understanding changes and challenges, for researchers to develop funding through grant applications that require justifications, for educators to identify needs and measure impacts, and ultimately to tell a success story!



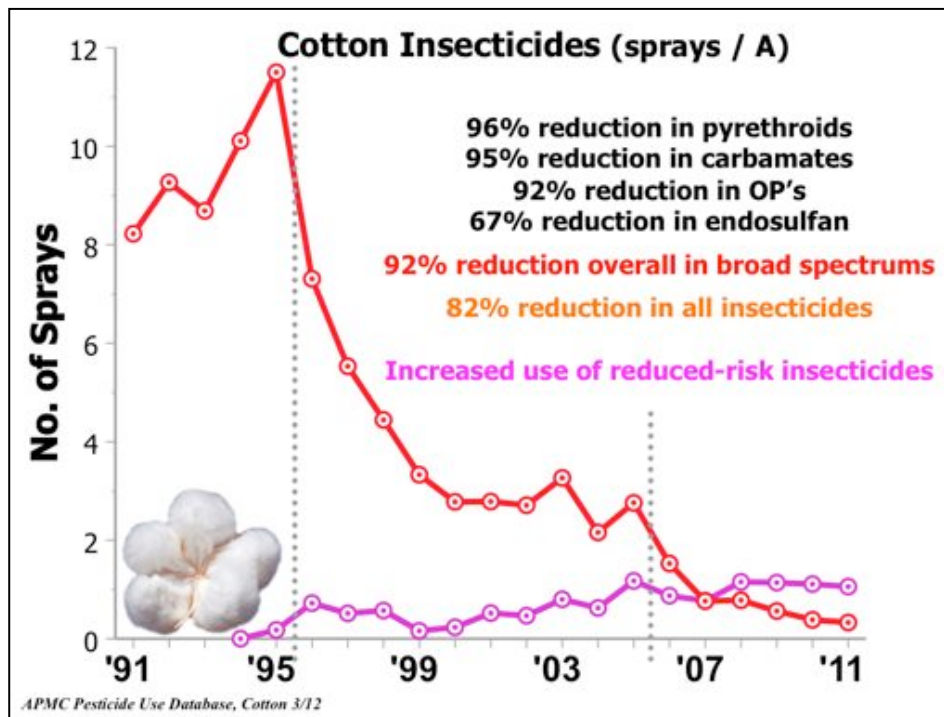
From the APMC’s use and improvement of the 1080 data, we can show that the cotton industry has reduced all insecticide usage by more than 80% and broad spectrum usage by more than 90%.

1990-1995 v. 2006-2011



Furthermore, we can show just what has been reduced by class of chemistry.

1990-1995 v. 2006-2011



These gains were accomplished by the comprehensive IPM programs enacted in 1996 and progressively improved since with major changes to our Lygus control system in 2006. Furthermore, this was enabled by the strategic introduction of selective technologies into our system, and now we see the usage of reduced-risk insecticides out numbering broad spectrum insecticides. Most importantly, this has created opportunity for an ever increasing role for conservation biological control.

This is powerful evidence and a powerful message that can be shared with others.

1990-1995 v. 2006-2011

MSMA: A Bullet Dodged?

- MSMA originally scheduled to go away 12/31/12; end of stocks by 12/31/13
- For now, MSMA applications labeled for use on golf courses, sod farms, and highway rights of way will be extended for three to four years until the scientific review is completed



Organic Arsenical Products Task Force, 2/13

So MSMA? Is it the bullet dodged? Some say yes, but not because pesticide use data was readily available. Instead an industry task force was set-up and attempted to activate the base in a letter-writing campaign and other actions.

MSMA was to have been cancelled very recently, but a provision was put in place for your industry. This is temporary.

What's Your Success Story Going to Be?

- Preserve a **valuable** use pattern (MSMA)?
- Defend **important** chemistry (Neonicotinoids)?
- Tell a **success story** of industry safety & stewardship ("cosmetic" pesticide use)?



So defending MSMA may be important to you. Or, what about neonicotinoids? This group of valuable chemistry is under a moratorium in the EU because of pollinator concerns. Many of you use neonicotinoids. Is this important to you and your operation?

Let the next success story be yours telling of industry safety and professional stewardship of pesticides. Others are threatening the so-called "cosmetic" use of pesticides.

Ban of Pesticide Use on Turf... in Ontario, Canada*

- The **Cosmetic Pesticides Ban** added to the Pesticides Act in April 2009 as part of the Ontario government's plan to reduce public exposure to pesticides.
- Applies to cosmetic use of pesticides to control weeds and insects as this presents an **unnecessary risk to small children and pets - especially given the non-toxic alternatives available.**

*provides an exception for golf courses, if certain conditions are met.

All over Canada there have been local and provincial movements to ban all "cosmetic" uses of pesticides. In this context, this means homeowner lawns and gardens as well as, in some cases, public grounds and municipal properties.

There is an exception made for golf courses, but there are requirements.

Golf Course Exemption, but...

- Must **submit annual reports** disclosing the amount of each pesticide used and plans to minimize pesticide use.
- Made available **to public at annual meeting & online.**
- **Can this happen here?**

Those requirements include submission of annual reports that disclose the specific pesticides used and plans to minimize them. Importantly, it also mandates annual public meetings. Can you imagine advertising in local papers and online that your golf property is going to have a meeting to discuss its pesticide use?

Can this happen here? Perhaps, perhaps not. But it doesn't have to if this industry proactively and progressively and professionally manages pesticides used. One way to do that is through regular reporting. Forget about which ones "need" to be reported and simply report them all. You can, and it will benefit your industry by accumulating a powerful database that can be useful to your interests.

Local Restrictions on Cosmetic Use of Pesticides

- Safe Grow Act of 2013, **Takoma Park, MD**
- Pesticide Education and Control Amendment Act of 2012, **Washington, D.C.**
- Sustainable Land Care Policy of 2011, **Greenbelt, MD**

Can it happen here? In fact, it is already happening in the U.S. These efforts are modeled after the Canadian legislation.

A ban vs. licensed users

- The advantage is that the actual application of pesticides will be done **by people who (due to their training) should be able to understand, and presumably follow, the pesticide labels** – which is essential to minimizing the risks posed by pesticides.

From West Coast Environmental Law,
<http://wcel.org/resources/environmental-law-alert/say-no-cosmetic-pesticide-use>

In the end, even some of the largest critics of pesticide use for “cosmetic” purposes must admit that key to minimizing risk is having licensed, professional users of pesticides.

In the end, bans like this are possible; however, you should be motivated to report based on the positive attributes this conveys to your industry and to Cooperative Extension that supports you.



Thanks to the many growers, pest control advisors and others who have collaborated & supported our work on the APMC Pesticide Use Database. Specific thanks to the USDA-NIFA Extension IPM program, Western IPM Center, and USDA-AMS Specialty Crops Block grant program.

The Arizona Pest Management Center (APMC) as part of its function maintains a website, the Arizona Crop Information Site (ACIS), which houses all crop production and protection information for our low desert crops, (<http://cals.arizona.edu/crops>), including a copy of this presentation.

Photo credit: Tony Nysse, Pine Tree Golf Club Department Of Agronomy