

# **TITLE 357 INDIANA PESTICIDE REVIEW BOARD**

## **Cost Benefit Analysis** LSA Document #17-180

### **Estimated Number of Businesses Subject to this Rule:**

The Indiana Pesticide Review Board (IPRB) estimates that 550 registered Restricted Use Pesticide (RUP) dealers, 680 commercial licensed agricultural pesticide application businesses, and 12,000 licensed agricultural pesticide applicators (soybean growers) could be subject to this rule. In addition, another estimated 50 farm center retail outlets that are currently not registered as RUP dealers but may sell or distribute dicamba containing herbicides may be impacted by this rule to some degree.

The higher concentration dicamba herbicide containing products impacted by this rule are typically sold by farm store retailers or registered Restricted Use Pesticide (RUP) dealers. The registered pesticide dealers are already in compliance with the restricted use pesticide sales requirements, so they would incur no additional regulatory burden if they choose to continue to handle these products. Some farm store retailers are currently not registered restricted use pesticide dealers, but they can avoid regulatory impact by simply offering for sale any of the other many currently registered and similarly priced herbicides intended to control the same weeds.

All commercial licensed pesticide application businesses and the applicators they employ are already required by state law to be certified and licensed to handle and apply dicamba containing herbicides. Therefore, the reclassification of these herbicides from non-restricted to restricted should result in no additional regulatory burden for these businesses.

Likewise, most if not all soybean growers that apply their own pesticides are already in compliance with the state certification and licensing requirements to purchase and apply these herbicides. Specifically, most of these applicators currently handle and apply other RUPs in their farming operations, so no additional certification would be required. Therefore, these applicators should not realize any new regulatory burden from this rule revision.

### **Estimated Average Annual Administrative Costs:**

Administrative costs for mainstream dicamba herbicide distributing dealers should be very minimal. Dealers of RUPs are required to keep records of sales and distribution to certified end users (applicators), but those are recordkeeping mechanisms that are already in place. In addition, most dealers currently keep records of their non-restricted pesticide sales for their own purposes, so this administrative requirement should be absorbed into the existing system without discernable cost.

For any dealers who are not already registered as RUP dealers, the cost of an annual permit to sell RUPs to end users is \$45.00. Based on the experience of the Office of Indiana State Chemist (OISC), the state pesticide regulatory agency, it is estimated that fewer than fifty farm stores may choose to become registered RUP dealers. Fifty dealers at \$45.00 per year would total \$2250.

Relative to the administrative regulatory costs for implementation, OISC does not anticipate incurring any new measureable administrative burden as the result of this rule

revision. There are adequate OISC staff and resources available to absorb any routine costs associated with the additional estimated fifty or fewer regulated dealers. Inspections needed to insure compliance with the rule will be conducted by existing field staff through a reprioritization of inspection activities. By contrast, however, it is projected that failure to implement adequate regulatory measures to address expanded dicamba use scenarios could very well result in a significant increase in the need for off-target drift investigation response resources from OISC. It is estimated that the current costs of conducting off-target drift investigations range from \$2,500 to \$3,000 per investigation, if the investigation findings are accepted by all parties and not contested. If OISC were required to conduct an additional 200 drift investigations just for dicamba misuse, as has been the case in at least one other state, the additional regulatory price tag could total \$500,000 to \$600,000. And that figure does not include the cost of off-target property damage to Indiana consumers.

**Estimated Total Annual Economic Impact:**

It is estimated that total annual economic impact of implementing this rule would be less than \$100,000 because the use and distribution of these herbicides would be conducted by individuals and businesses that are already in compliance with the proposed regulatory requirements and the regulatory program and resources needed for oversight are already in place for this proactive strategy. As described elsewhere in this document, the cost of not acting proactively is projected to result in damages and economic losses to agricultural growers and other consumers that could be hundreds of times greater.

**Supporting Data, Studies, and Analyses:**

The Board examined and considered the following data sets and heard the following testimony in determining the need for this rule:

- 1) The IPRB has been discussing the possibility of the new uses of dicamba herbicides that have prompted this rule revision since 2007, when dicamba tolerant soybean technology development first came to their attention. Discussions, updates, and presentations have occurred continuously at over half of the IPRB quarterly public meetings since that time. Testimony has been provided by commercial Indiana tomato growers, commercial Indiana grape growers, university scientists, dicamba herbicide manufacturers, commercial pesticide applicators, private pesticide applicators (growers), public representatives, and state pesticide regulators.
- 2) Dicamba tolerant soybean seed technology has been approved for planting by the USDA and will become widely available to Indiana growers in 2017.
- 3) Red Gold, a Midwestern commercial tomato grower operating in Indiana, reported on the economic losses suffered to over 8,000 acres of non-target Indiana tomatoes during 2007 when a similar herbicide tolerant seed technology was introduced. The herbicide causing the 2007 off-target damage is one that is considerably less active on sensitive crops, like tomatoes, than dicamba will be.
- 4) University researchers and soybean growers testified on the growing need for effective weed control options to address the rapid emergence of economically devastating weeds that have grown resistant to other conventional herbicides.

- 5) U.S. EPA approved a dicamba-containing herbicide for use on tolerant soybeans in November, 2016. However, non-tolerant soybeans are still quite sensitive to off-target movement of dicamba. It is unclear the extent to which tolerant and non-tolerant varieties of soybeans will be planted in close proximity to one another, putting the non-tolerant varieties at risk.
- 6) The label directions and restrictions for the recently EPA-approved dicamba soybean herbicide products are quite complex and different from most existing herbicide product labels, making safe and legal use by non-trained and non-certified applicators unlikely.
- 7) U.S. EPA issued a Compliance Advisory in August 2016 regarding the extremely high number of reports of off-target crop damage resulting from the use and misuse of dicamba herbicides applied on dicamba tolerant soybeans.
- 8) Numerous surveyed states reported incidents of dicamba misuse on tolerant soybeans and resulting off-target damage during 2016, the first year of the limited commercial release of the tolerant seed technology. The most extensive misuse and damage complaints for 2016 came from Missouri, which provided preliminary reports of 226 complaint investigations by the state pesticide regulatory agency, involving 62 different herbicide applicators, over 300 environmental residue samples, and non-target damage to 39,000 acres of soybeans, 575 tomato plants, 990 acres of cotton, 650 acres of peaches, 400 acres of peas, 200 acres of peanuts, 10 acres of watermelons, 9 acres of cantaloupes, 6 acres of alfalfa, and numerous residential gardens and ornamental plantings.
- 9) OISC testified to the IPRB that with no regulatory controls to monitor who may be distributing and applying dicamba herbicides, effective investigation of consumer complaints and claims of off-target damage, and realistically assigning responsibility for that damage may not be possible.

**Regulatory Flexibility Analysis of Alternative Methods:**

The IPRB has studied other potential remedies and methods to address the issue of dicamba herbicide misuse and off-target damage, including the following:

- 1) Deny the application for registration of this new dicamba use on tolerant soybeans in Indiana, regardless of the potential benefits of this herbicide to some soybean growers. It was thought that this might place Indiana soybean growers at a competitive disadvantage with other U.S. soybean growers who would have access to this weed control tool. In addition, as demonstrated in other states in 2016, not having a dicamba product registered for use on soybeans has not prevented some growers from intentionally misusing other dicamba products on the tolerant soybeans that are already in channels of trade.
- 2) Encourage voluntary attendance by potential dicamba users at training and educational sessions designed to explain the potential hazards and the complex label restrictions of this new dicamba use. With no mechanism to identify users and insure and track their participation in the training, it was felt that this option

would probably reach only those applicators who are already the more conscientious and progressive segments of the industry. Those applicators that should be targeted for training may not be part of the current regulated community, so would not benefit from this non-documentable voluntary approach.

- 3) Develop dicamba risk mitigation rules for application above and beyond those already on the overly complex label approved by U.S. EPA. Such measures could include geographic restrictions, extended buffer area requirements near sensitive areas, more restrictive wind speed limits during applications, and application timing and use date restrictions. Because it is unclear at this point whether the current risk mitigation restrictions on the label will be adequate or not, it is probably premature to prescribe additional unproven protective measures on top of those. In addition, development of scientifically vetted and practical risk mitigation measures would require both considerable time and resources to develop.
- 4) Seek a special local need registration (FIFRA Sec. 24C) from U.S. EPA to require training for anyone who uses the new soybean use dicamba product. Researching this option with EPA has led the IPRB to understand that such a restriction would not meet the legislative intent of section 24 of FIFRA and would be discouraged. In addition, such a requirement would be very difficult to implement if there was not a reasonable mechanism to also monitor the distribution process and identify the actual users of the product. And again, targeting only the limited number of dicamba products approved for this use would not address the intentional misuse of other dicamba herbicides not labeled for this use.

#### **Explanation of Preliminary Determination:**

The IPRB made a determination that the rule was necessary for public and environmental safety and property damage protection of agricultural growers and others. As explained throughout this document, dicamba is a very effective herbicide in controlling certain troublesome and yield reducing weeds in soybeans. However, it is also a very active herbicide that can cause considerable damage to sensitive crops and ornamental plantings when even low-levels of the herbicide drift and move off target during application or volatilize and move off target after application. The IPRB determined that failure to institute proactive regulatory controls would likely result in significant unintended negative consequences once dicamba use became widespread throughout Indiana. The IPRB also determined that some form of regulatory oversight and reassurances were necessary to preserve the continued availability of this weed control technology for years to come. Building on an existing regulatory structure that allows for tracking distribution and use only by trained and monitored pesticide users is the most responsible and cost-effective approach.

#### **Summary Analysis:**

As proposed, the only dicamba-containing herbicides impacted by this classification would be dicamba products intended for agricultural use. All low active ingredient level dicamba herbicides labeled for home, turf, and right-of-way use would not be impacted.

The ag dicamba herbicides being classified as Restricted Use Pesticides would restrict sale and use of those products to certified and licensed applicators only. Under current

Indiana law, any pesticide (general use or restricted use) applied commercially for-hire is required to be applied by a certified and licensed applicator. Therefore, any growers/producers who are currently hiring commercial applicators to apply pesticides to their farm ground would not be impacted by this restriction. Those applicators are already in compliance with the proposed classification change requirement.

For those corn and soybean farmers who apply their own pesticides to their own farm ground rather than hire a commercial applicator to do it for them, it is projected that the overwhelming majority of those farmers are also already certified and licensed to apply Restricted Use Pesticides. Most corn acres in Indiana require at least some atrazine herbicide or other Restricted Use Pesticides be applied at some point for weed control. Therefore, for the do-it-yourself farmer applicator, they too are already in compliance with the regulatory requirements to purchase and use dicamba. So the only anticipated restriction of use resulting from this proposal would be to the farmer/grower who has received absolutely no training and competency measurement in the safe handling and use of pesticides. If a farmer/grower elects not to utilize this one herbicide option for weed control, it will be based on alternative weed management strategies and safety concerns rather than regulatory unavailability.

In the early 1980s dicamba herbicides were introduced to agriculture in Indiana. Applicators came to realize after a few short seasons of use that the potential for this product to drift or volatilize (vaporize and move hours or days after application) off-site and cause considerable non-target crop, garden and ornamental vegetation damage, even at very low levels. Dicamba is a very active herbicide. Even a little bit of it in the wrong place caused economic loss. As a result, Indiana applicators moved away from the use of dicamba and sought out other herbicide options. With the introduction of new GMO dicamba tolerant soybeans last year, the incentive to return to the use dicamba to control weeds that have grown resistant to other herbicides has returned. And before the U.S. EPA could even register new formulations of dicamba intended to be used with these new tolerant soybeans, farmers from other states (AR, MO, TN, IL) showed a willingness to use older labeled dicamba products illegally on these new tolerant soybeans. Enormous economic losses from drift and volatilization to other high value crops and ornamentals occurred, resulting in heated farmer on farmer and homeowner on farmer disputes, that escalated in at least one case to homicide of an impacted farmer neighbor.

Adding dicamba to the RUP list will provide several benefits:

- a) Only trained and competent applicators will be able to purchase and use it. It is our experience that most regulated applicators will follow the rules and make safe applications when they are aware of the hazards.
- b) It will allow for continual outreach and communication between trainers, educators, regulators, and applicators. If applicators are not certified, there is no effective way to identify them and get the special training and outreach to them to avoid the unintended consequences of off-target drift and volatilization of this highly active herbicide.
- c) It will keep older labeled dicamba out of the hands of applicators who purchase it for the intended purpose of using it illegally on the tolerant soybeans. Older labeled products are more prone to drift and volatilize than newer legal formulations.
- d) It will create a regulatory structure that will allow OISC to have a better chance to document illegal dicamba uses and identify applicators who are responsible for off-target damage to crops and properties.

- e) It will allow for preventative action to protect crops and property rather than strictly reactionary measures with limited or no regulatory relief being provide to injured Indiana citizens.