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1200 Pennsylvania Ave, NW  
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**RE: Docket No. EPA-HQ-OPP-2016-0223-0026**

The National Cotton Council (NCC) appreciates the opportunity to provide the following comments pertaining to the Environmental Protection Agency's (EPA's) "Dicamba. Second Revision: Human Health Risk Assessment Addendum for Registration Review" and EPA's "Dicamba: Draft Ecological Risk Assessment for Registration Review." We are joined on these comments by the Southern Cotton Growers (SCG). We emphasize the critical importance of dicamba, particularly the low volatility formulations labeled for use on dicamba-tolerant (DT) cotton.

The National Cotton Council (NCC) is the central organization of the United States cotton industry. Its members include producers, ginner, cottonseed processors and merchandizers, merchants, cooperatives, warehousemen, and textile manufacturers. A majority of the industry is concentrated in 17 cotton-producing states stretching from California to Virginia. U.S. cotton producers cultivate between 10 and 14 million acres of cotton with production averaging 12 to 20 million 480-lb bales annually. The downstream manufacturers of cotton apparel and home furnishings are located in virtually every state. Farms and businesses directly involved in the production, distribution and processing of cotton employ more than 115,000 workers and produce direct business revenue of more than \$22 billion. Annual cotton production is valued at more than \$5.5 billion at the farm gate, the point at which the producer markets the crop. Accounting for the ripple effect of cotton through the broader economy, direct and indirect employment surpasses 265,000 workers with economic activity of almost \$75 billion. In addition to the cotton fiber, cottonseed products are used for livestock feed and cottonseed oil is used as an ingredient in food products as well as being a premium cooking oil.

### **General Comments**

The dicamba herbicide has been registered in the U.S. since 1967, a period of 55 years. Dicamba currently has registrations in multiple agricultural crops (e.g. soybeans, cotton, corn, grains, and sorghum) as well as residential premises, rangeland, fallow fields, and turf. The use of dicamba in cotton and soybeans is a more recent event (after 2016) made possible by the development of DT traits. The expansive number of dicamba uses in the herbicide market speaks clearly to the weed control performance of this herbicide. For cotton, the introduction of elite cotton varieties

with the DT trait was timely to fulfill a need to control Palmer amaranth plants that had evolved resistance to multiple herbicide modes of action (MOA), including glyphosate. Cotton fields with glyphosate-resistant Palmer amaranth (first documented in Dooly County, GA) had become a challenge across most of the Cotton Belt.

The development of glyphosate-resistant Palmer amaranth is highly relevant to the registration decision of dicamba. The economics, management practices, loss of minimum till, harvest inefficiencies, and labor costs that producers experienced as a consequence of glyphosate-resistant Palmer amaranth would be similar, if not the same, to the loss of the dicamba use on dicamba-tolerant cotton.

## **Second Revision: Human Health Risk Assessment**

EPA notes that the toxicology database to assess Human Health is “extensive and complete with respect to 870 guideline requirements for characterizing the hazards of dicamba... No additional data are required.” The NCC (henceforth inclusive of SCG) appreciates the thoroughness of the dataset utilized for human health assessment. We respect the revisions to “Occupational Handler Exposure and Risk Assessment” related to mixing/loading dry flowable formulations and the alignment of reasonably similar U.S. and CODEX tolerances.

## **Draft Ecological Risk Assessment**

In the Executive Summary, Overview (p. 5), EPA discusses the availability of dicamba acid forms as well as seven dicamba salts. EPA then proceeds to discuss multiple uses (residential, rangeland, fallow fields, turf, soybeans, cotton, corn, grains, and sorghum). EPA clarifies that “the residue of concern (ROC) for ecological risk include dicamba and two of its degradates.” EPA then proceeds to address the draft risk assessment with “focus on areas where there have been updates since the most recent national-level risk assessment of dicamba...” Later (Plants, p. 7) EPA includes a narration of “thousands of reported incidents allegedly caused by dicamba exposure occurring at or near a wide variety of agricultural and non-agricultural use sites and affecting a wide variety of plant species ranging from grasses to woody shrubs and trees.” EPA notes the initial year where the increased alleged dicamba damaged coincided with the commercial release of DT soybeans and cotton. EPA highlights additional label restriction updates attempting to address alleged off-target damage.

The NCC is aware of the numerous allegations, although greatly reduced from initial commercialization of DT crops, and the burden these allegations have imposed on state lead agencies (SLA) that are seldom funded to investigate numerous allegations. Investigations are further challenged by inconsistencies of regulatory requirements, including record keeping, on the numerous dicamba labels. An additional frustration is added to investigation efforts by the inability to determine which dicamba product formulation (and its associated legal use) caused the damage. The lack of investigative tools to distinguish product formulations and their associated legal use likely impedes the motivation and moral of SLA with limited resources and staff. Thus, EPA’s restrictions continue to add burdens on legal users of dicamba without addressing technical needs for investigatory tools that should improve SLA ability to clarify if EPA’s restrictions on certain dicamba formulations are sufficient. It seems imperative for EPA

to have scientific evidence relating damage to the legal use before concluding that additional restrictions are needed.

If we consider the hypothetical scenarios of misuse of a dicamba product, it seems prudent to require a “marker” be added to all formulations of dicamba not labeled for use on DT crops. The numerous allegations imply an association of dicamba damage with DT crops. At first it may seem the formulations for DT crops should have the marker and therefore the lack of marker on the treated crop would imply illegal use. However, if we consider the case of multiple applications on a DT crop, the marker would be present with just one labeled use and this would fail to clarify if the second application legal. However, if the marker is in formulations not approved for application on DT crops, then the marker should not be found (assuming some degree of error) in DT crops. The concept is to enhance investigatory capability to clarify if current label restrictions are sufficient while deterring product misuse.

EPA should consider strengthening the label restrictions for dicamba products not labeled for DT crops. The current label restrictions for DT crops far exceeds any restrictions on dicamba products not labeled for DT crops. The perplexing fact is that the dicamba products labeled for use on DT crops have scientific studies demonstrating much lower volatilization when compared to dicamba products not labeled for DT crops. The logic supporting greater restrictions on products labeled for DT crops is defective. The relaxed restrictions on products not labeled for DT crops further impedes SLA investigations.

The NCC asserts EPA does not have data linking legal use of dicamba products labeled for use on DT crops to alleged off-target damage. EPA acknowledges dicamba damage allegations reported in association to lawn use and acknowledges a high variability in the volatilization of dicamba products. Regulations imposed by EPA have a strong history of reliance on science – not unsupported accusations and allegations. The NCC urges EPA to place focus on the tools needed to provide scientific support before imposing additional label burdens.

## **Data Needs**

The NCC appreciates EPA’s identification of data needs as follows:

1. Field volatility (OCSPP 835.8100) for products registered for post-emergent uses on corn and small grain.
2. Non-guideline Tier II: Field trial of residues in pollen and nectar
3. Non-guideline Tier II: Semi-field testing for pollinators
4. Vegetative vigor (OCSPP 850.4150; Tier II) (DEA salt: PC 029803; Na salt: PC 029806; K salt: PC 129043; and IPA salt: PC 128944) with terrestrial plant species (onion + 6 dicot species).
5. Foliar Dislodgeable Residue Dissipation Studies (DT-soybeans and DT-cotton).
6. Fate and ecological effects data for 6-CSA.
7. Chronic toxicity to freshwater invertebrate (OCSPP 850.1300; Water Flea; *Daphnia magna*) (dicamba acid; PC 029801).

The NCC strongly supports item 1, and notes EPA’s Second Revision: Human Health Risk Assessment reported modeling the volatilization of the DGA salt assuming 10x and 100x the

estimated flux rate from the flux study. “Air concentrations were still found to be negligible at the edge of the treated field, and not of concern.” The NCC believes item 1 is needed to clarify the science of volatility of older registered formulations.

As for the second and third item, the NCC continues to assert the need to incorporate an exposure component into bee risk assessments. The ongoing cage studies create an artificial forced diet, thereby inflating potential effects. The NCC appreciates EPA’s consideration of 75% exposure but believes even that is overly conservative. The NCC would appreciate clarification how many Tier II bee studies EPA has identified as acceptable. Realizing the costs of these studies, it would be helpful to utilize successful studies as guidance until EPA creates guidelines.

Population models have been developed to study various impacts on honeybee populations. Dr. Mike Caprio (Population Geneticist, Mississippi State University) has been developing a model component to evaluate pesticide exposure in an agro-ecosystem. The NCC, in collaboration with The Cotton Foundation, has been providing some funding to Dr. Mike Caprio and looks forward to sharing more details of this research with EPA.

The NCC supports EPA’s request for data related to Vegetative vigor (item 4) associated with the various dicamba salt formulations. The NCC appreciates EPA’s reliance on scientific data to clarify potential risks of various salt formulations rather than having uncertainty.

The NCC supports EPA’s Data Call In (DCI) for Foliar Dislodgeable Residue Dissipation Studies (item 5) as identified. The NCC regrets that a previous DCI erroneously identified an incorrect guideline, a costly mistake, and urges compliance with the new DCI.

The NCC supports item 6 and urges EPA to verify the need for item 7. The costly mistake associated with item 5 should be considered in conjunction with the need for item 7, given that EPA acknowledges the large toxicity order of magnitude that would be required to alter the risk conclusions.

Additionally, the NCC would appreciate EPA’s review of hooded sprayer studies in cotton. The NCC urges EPA to consider label allowances reflective of mitigations achieved with the use of a hooded sprayer as a mean to encourage adoption of more protective application equipment.

The NCC disagrees with EPA’s use of a 7-day retreatment interval and suggests a 14-day retreatment interval would be more appropriate. However, most producers would rotate to a different MOA chemistry before making a second application of dicamba.

EPA has identified a potential risk of concern (ROC) for some non-listed non-vascular plant species related to the DT cotton use. The NCC respects EPA’s use of potential risk and notes the small margin (0.15) above the LOC is likely associated with the numerous conservative steps in the calculations.

EPA identified a potential ROC for birds related to the DT cotton use. EPA states “There would still be a risk of concern if that same bird consumed 25% of its diet on treated fields (i.e., RQ

would be 1.01)”. The NCC argues that small grasses, etc. do not carry the DT trait, and thereby pose no greater ROC than non-DT fields. Insects feeding on DT plants may contain DCSA, but the question arises “What insects are feeding on cotton at this stage?” The NCC believes there is not sufficient numbers of insects that have fed on DT cotton to support this ROC. The NCC urges EPA to obtain scientific data for DT cotton plant metabolism that would the address remaining uncertainty.

The NCC appreciates EPA’s thorough review of all dicamba uses and the distinctions that highlight safety improvements accomplished through EPA imposed restrictions imposed on the dicamba formulations products for use on DT crops.

Dicamba formulations for use on DT crops represent the lowest volatility formulations, yet EPA has imposed more restrictions on them than more volatile formulations. Numerous areas of the U.S. have used the low volatility formulations as labeled without incident. The NCC believes EPA has sufficient data that warrants label changes to dicamba formulations not labeled for DT crops. The NCC believes dicamba formulations for use on DT crops, particularly cotton, contains more than sufficient restrictions for safe use on DT crops.

The NCC and the SCG appreciate the opportunity to provide these comments related to EPA’s “Dicamba. Second Revision: Human Health Risk Assessment Addendum for Registration Review” and EPA’s “Dicamba: Draft Ecological Risk Assessment for Registration Review.” We welcomes all opportunities to work with EPA to achieve safe use of all crop protection tools.

Regards,

National Cotton Council  
Southern Cotton Growers