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August 2014

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NASDA Comments on WPS

NASDA represents the Commissioners, Secretaries, and Directors of the state departments of agriculture in all fifty states and four U.S. territories. State departments of agriculture are responsible for a wide range of programs including food safety, combating the spread of disease, and fostering the economic vitality of rural communities. Conservation and environmental protection are also among the chief responsibilities. In forty-three states, the state department of agriculture is the lead state agencies responsible for the regulation of pesticide use under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

In comments regarding the proposed revisions by the Environmental Protection Agency (EPA) to the current Agricultural Worker Protection Standard (WPS) regulations, NASDA questions some of the

EPA's findings and conclusions, which are cited as the basis for various provisions in the proposed WPS. The NASDA also has additional concerns with EPA's economic analysis, which does not fully and accurately account for the costs associated with implementing, complying, and enforcing the proposed changes, and is requesting an EPA update on the Economic Analysis for the proposed changes to better quantify the estimated costs to the FIFRA-state lead agencies (SLA), the state departments of agriculture, the regulated community, and other agricultural stakeholders.

For example, the proposed rule includes significant new training requirements for the Train-the Trainer program. One state's WPS specialist estimated current training time is approximately four hours, but the proposed training requirements will take an estimated two days. The same specialist estimated the worker training class time will double and handler training time will be increased by 50%, which does not include the necessary and additional preparation time. The proposed changes will require significant staff time to provide outreach to workers, handlers, applicators, agricultural employers, trainers and other stakeholders. Under the proposal, current trainers will become obsolete and will require retraining. In one state alone, there are an estimated 700 current trainers that will require retraining during the same period the SLA will be conducting outreach to the agricultural community under the proposed rule. In one state, the actual on-site inspection under the current WPS rule averages three hours in duration. Under the proposed rule, inspections in the same state are anticipated to require approximately 50% more time, due to review of the proposed additional record keeping and site information requirements. In another state, the estimated economic impact to carry out enforcement and compliance activities in the first year of implementation will be a minimum of $500,000.

The proposed changes to the WPS, as written, will require EPA to commit significant and sustained resources to the state regulatory partners to facilitate implementation and compliance needs, and the Agency must work with the state departments of agriculture, SFIREG, and AAPCO to identify the level and duration of the necessary funding streams to carry out educational, training, and compliance efforts prior to any further actions with this proposed rulemaking.

As such, the NASDA does not support comprehensive changes to the WPS regulations, and is confident the current WPS, complimented by the Agency's robust risk assessment process for individual pesticides, protects farm workers and handlers through an effective and efficient regulatory framework for the both the SLAs and the regulated community. Instead, we urge the agency to focus available resources to work with state departments of agriculture, the State-FIFRA Issues Research & Evaluation Group (SFIREG), the Association of American Pesticide Control Officials (AAPCO), the regulated community, and other agricultural stakeholders to identify and modernize specific provisions within the current WPS regulatory jurisdiction. (NASDA, 8/15/14).

Biopesticides Gain Traction

Biopesticides have become necessary tools for the preservation of trade around the world. The EU continues establishment of arbitrary maximum residue limits that create a *de facto* global standard. This regulatory reality is driving greater adoption of biopesticides, especially among horticulture producers. Global biopesticide sales are expected to

reach $2.8 billion next year, about 4% of the total crop protection market, according to CPL Scientific, an executive-search and business consultancy for companies working in specialty chemicals, biotechnology, animal health, pharmaceuticals and others. CPL estimates the sector will continue to grow 15% per year until 2020, when biological pesticide sales are projected to reach $6.6 billion.

Agriculture distributors are capitalizing on the heightened scrutiny generated by food safety laws by carrying more products to meet demand. In the 2014 Farm Chemicals International State of the Industry Survey, 78% of agriculture distributors, retailers and cooperatives reported an increased demand for biological products. Almost 40% of respondents from 46 countries are buying and selling biopesticides, up from 29% in 2009 when the survey began. Most interesting is why the growth has been so strong: About half of respondents say grassroots consumer demand for pesticide-free foods is the No. 1 driver behind heightened demand for biopesticide products. The No. 2 demand (27%) is reported to be purchasing policies by large grocery retailers. Environmental/food safety regulations and demand from agriculture retailers were cited as driving adoption as well.

Produce exporters from developed agriculture economies like the United States and Brazil and emerging agriculture economies in Africa and Southeast Asia all must adhere to agronomic practices that ensure the global viability of their produce and protect agricultural export GDP. In Turkey, for example, government subsidies have been put in place to encourage the use of integrated pest management and biological products to address the importance of the EU as a key destination of its produce. Turkey's Ministry of Agriculture is also reclassifying its pesticides based on residue limits. The Ministry is currently collecting residue data on crops and crop protection products to determine whether a product will be considered a plant health product or plant protection product. This reclassification using MRLs will allow farmers to apply plant health products, biological products and certain traditional chemistries that don't produce significant residues without a prescription, which applicators require in Turkey. Products that are classified as plant protection products will still require a prescription, and it is likely that any crop destined for sale in the EU will require prescriptions regardless of the products being used.

As a result of these measures, just about 1.5% of Turkey's produce is rejected for residues by the EU, Ministry of Agriculture Deputy Director General Dr. Nevzat Birisik told Meister Media in his office last year. Other countries, notably Brazil, are following suit with their own MRL thresholds that mimic the EU's standard to modernize their production infrastructure. China's new MRL regulations due out in August are expected to be stricter than the EU for some crops, potentially creating a boon for biological products in one of the largest agriculture producing and consuming countries on the planet. (*Farm Chemicals International*, 8/19/14).

Bees OK in Europe

New field data from nearly 400,000 bee colonies from 21 countries in Europe and the Mediterranean show that overwintering losses of honey bee colonies were at their lowest level in years in 2013/2014. The non-profit honey bee research association COLOSS (prevention of honey bee COlony LOSSes), which comprises more than 360

scientific professionals from 60 countries, has published new data showing that the overall mortality rate of bee colonies in the 2013/2014 winter was on average 9 percent – losses below 10 percent are considered to be normal. This compares with loss rates of up to 37 percent that were recorded from individual countries in previous years.

The coordinator of the COLOSS Working Group, Dr. Romée van der Zee from the Dutch Centre for Bee Research, explains, "The contributions of many factors which are correlated to colony losses seem to be very dependent on weather conditions. Colonies built their brood nests late because of the relatively cold spring in 2013. This may have decreased the number of reproductive cycles of the parasitic Varroa mite, producing fewer mites. Good weather in the summer then provided excellent foraging opportunities."

Bees in other non-native areas are also doing well. A parliamentary report on bee health published by the Primary Production Committee in New Zealand in July 2014 confirms, "There is currently no evidence of the [Colony Collapse] disorder in New Zealand, although these pesticides [neonicotinoids] are commonly used here as a seed dressing and as foliar sprays. We heard that when anecdotal evidence of losses is investigated, the causes seem to be mainly Varroa or starvation rather than pesticides." The report notes that honey production and exports are rising.

The regulatory authorities in Australia also investigated the potential effect of neonicotinoid seed treatments on bee health. Their report "Neonicotinoids and the health of honey bees in Australia," published in March 2014 confirms that the introduction of neonicotinoids in Australia has brought a number of benefits such as healthy crops and more productivity, noting also that they are considerably more favorable for humans (and other mammals) than the older products they have replaced. (*SeedQuest*, 8/11/14).

Genetic Legacy

Washington State University researchers say ancestral exposures to the pesticide methoxychlor may lead to adult onset kidney disease, ovarian disease and obesity in future generations. The findings of the study were published online in PLOS ONE (http://dx.plos.org/10.1371/journal.pone.0102091). The study was funded by the National Institutes of Health.

Methoxychlor—also known as Chemform, Methoxo, Metox or Moxie—was introduced in 1948 and widely used during the 1970s as a safer replacement for DDT. It was used on crops, ornamental plants, livestock and pets. It is still used in many countries around the world. It was banned in the U.S. in 2003 due to its toxicity and ability to disrupt endocrine systems. Methoxychlor can behave like the hormone estrogen and affect the reproductive system.

When WSU researchers exposed gestating rats to methoxychlor at a range typical of high environmental exposures, they saw increases in the incidence of kidney disease, ovary disease and obesity in offspring spanning three generations. The incidence of multiple diseases increased in the third generation or great-grandchildren. The researchers say the pesticide may be affecting how genes are turned on and off in the progeny of an exposed animal, even though its DNA and gene sequences

remain unchanged. This scenario is termed transgenerational epigenetic inheritance. In recent years, the Skinner lab has documented epigenetic effects from a host of environmental toxicants, including DDT, plastics, pesticides, fungicides, dioxins, hydrocarbons and the plasticizer bisphenol-A or BPA. The newest findings support those observations.

The work is the first to show that a majority of transgenerational disease traits can be transmitted primarily through the female line. Additionally, the study identified mutations in the sperm epigenome of great-grandchild male rats. The epigenome functions like a set of switches for regulating gene expression and can be altered by environmental conditions. The epigenetic changes observed were specific to methoxychlor exposure and may prove to be valuable biomarkers for future research on transgenerational disease. (*AG Professional*, 7/24/14).

Pesticide Registrations and Actions

Food Related Actions

- On June 30, the Florida Department of Agriculture and Consumer Services (FDACS) issued the special local needs registration,(FL SLN 140008) for the use of Revus® (mandipropamid) to control Phytophthora root rot in greenhouse container non-bearing citrus. The EPA registration number for the Syngenta product is 100-1254. (FDACS PREC Agenda, 8/7/14).

- On July 28, the FDACS issued the special local needs registration,(FL SLN 140009) for the use of Baythroid XL® (beta-cyfluthrin) to control Asian citrus psyllid on citrus. The EPA registration number for the Bayer CropScience product is 264-840. (FDACS PREC Agenda, 9/4/14).

- On July 28, the FDACS issued the special local needs registration,(FL SLN 140010) for the use of Tenacity® (mesotrione) to control select weeds in ornamental turfgrass. The EPA registration number for the Syngenta product is 100-1267. (FDACS PREC Agenda, 9/4/14).

Other Actions

- The U.S. House in late July passed legislation to eliminate a permit requirement for pesticides already subject to federal regulations. Passage of the bill, 267-161, comes three days after it failed to win approval under suspension of the rules. A two-thirds majority is needed for legislation to pass under suspension of the rules. With 401 members voting, it needed 268 to pass. It fell 15 votes short. But only a simple majority was needed after it came up under a rule. The legislation would prevent the Environmental Protection Agency from requiring a permit for the discharge of a regulated pesticide into navigable waters. Republicans said the extra permit requirement (NPDES) did not provide any health or environmental benefits while democrats said eliminating the permit would

potentially harm public health. (*The Hill*, 7/31/14).

- Registrants of the insecticide methomyl and the Environmental Protection Agency have agreed to mitigation measures that are designed to reduce dietary risk from drinking water exposure. Registrants include Chemtura Corp., DuPont, Glades Formulation Co., Rotam Ltd. and Sinon Corp. The measures will cancel the use of methomyl on barley, oats, and rye and restrict its use on wheat to Idaho, Oregon and Washington. In celery, head lettuce and peppers, the number of applications will be reduced by 20 percent and the seasonal maximum rate will be reduced by 12 percent to 20 percent. The number of applications for leaf lettuce, field corn, popcorn and seed corn will be reduced 25 percent to 50 percent. Although Florida and California area the greatest areas of concern for drinking water, the registrants have agreed to implement the measures nationwide. Methomyl, a carbamate, is a restricted-use broad-spectrum insecticide. Among its brand names are Lannate, Lanox, Methavin and Nudrin. (*USAgNet.com*, 8/19/14).

Pesticide Potpourri

- In Michigan, the town of St. Louis neighbors three Superfund sites that were once occupied by Velsicol Chemical Corp. plants that produced the pesticide DDT. When American robins, six European starlings and one bluebird, they found incredibly high levels of the pesticide. "I've never seen anything like it," said Michigan State University assistant professor of environmental toxicology Matt Zwiernik, who led the testing. "When people told me about it I didn't believe it. And then we ran these tests. These are some of the highest-ever recorded levels in wild birds." The birds' brains contained concentrations of DDE, a breakdown product of DDT, from 155 to 1,043 parts per million, with an average of 552. "Thirty in the brain is the threshold for acute death," Zwiernik said. "All the birds exceeded that by at least two- or three-fold, and many by much more than that." Twelve of the 29 birds had brain lesions or liver abnormalities. Velsicol Chemical Corp., formerly Michigan Chemical, manufactured pesticides until 1963, a year after Rachel Carson's book Silent Spring exposed the hazards of DDT, especially for birds. Populations of bald eagles and other birds crashed when DDT thinned their eggs, killing their embryos. The pesticide, known for accumulating in food webs and persisting for decades in soil and river sediment, was banned in the United States in 1972. Researchers speculate the birds were poisoned by eating contaminated earthworms on one of the Superfund sites. Much of the money allocated toward cleaning up the sites went toward removing DDT-laden sediment in the nearby Pine River, for which the EPA issued a no-consumption advisory. The level of the pesticide in fish downstream of sites has declined, but clearly the contamination hasn't fully degraded. (*Smithsonian*, 7/29/14).

- The U.S. Food and Drug Administration (FDA) confused Nigerians over its description of nano-silver as a pesticide as trials with the material as a cure for Ebola were beginning in that country. The FDA said it had received complaints about the Ebola claims. "Individuals promoting these unapproved and fraudulent products must take immediate action to correct or remove these claims or face potential FDA action," the agency said. Nigerians commented on social media of the need for their country to protect lives of its citizenry. The FDA stated that tiny silver particles known as nano-silver have controversially been incorporated into a variety of consumer products such as socks and bedding to help block growth of bacteria and mold. (*OsunDefender.org*, 8/17/14).

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