May 2, 2017

Christopher M. Wilson
Trial Attorney
U.S. Department of Justice
Antitrust Division - Transportation,
Energy & Agriculture Section
450 5th Street NW, Suite 8018
Washington, D.C. 20001
Christopher.Wilson5@usdoj.gov

Lowell Stern
Trial Attorney
U.S. Department of Justice
Antitrust Division – Transportation,
Energy & Agriculture Section
450 5th Street, NW
Washington, D.C. 20001
Lowell.stern@usdoj.gov

Dear Messrs. Wilson and Stern:

The National Corn Growers Association (NCGA) represents 40,000 dues-paying corn farmers nationwide and the interests of more than 300,000 growers who contribute through corn checkoff programs throughout the United States. Our members have a direct interest in ensuring a competitive marketplace for crop production inputs—including seeds and crop protection chemicals. On behalf of our members, I am writing to share our perspective on the proposed acquisition of Monsanto by Bayer.

This acquisition, along with the other proposed or recently approved combinations within the crop input industries, is taking place against a backdrop of challenging times within the farm economy and rural America. Net farm income has fallen 55% since 2013[1] and farm debt-to-asset ratios are climbing to levels not seen since 2002[2]. These financial indicators signal a weakness in the farm economy that is reverberating through the agribusiness industry. Layoffs in the agriculture equipment industry[3] and the crop input sector[4] are a natural and expected response to the drop in farm income. Just as lower commodity prices are forcing changes at the farm-level, agribusiness companies are, also, looking for ways to adapt to today's changing economic environment.

NCGA engaged outside experts to assist our analysis of the impacts this proposed acquisition would have on our farmer-members. Specifically, we asked these experts to compare the product lines of Bayer and Monsanto to identify areas of potential overlap and we sought a quantitative assessment of the various product categories using the Herfindahl-Hirschman Index. We further requested an analysis of existing trait pipeline research and development activities to assess future concentration issues. The analysis also attempted to identify potential benefits that may accrue to farmers.

[1] See http://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/2016-farm-sector-income-forecast.aspx.

[2] See http://www.ers.usda.gov/data-products/chart-gallery/detail.aspx?chartId=57202.

[3] See, e.g. https://www.deere.com/en_US/corporate/our_company/news_and_media/press_releases/2016/corporate/2016mar10-corporaterelease.page and http://www.thegazette.com/subject/news/business/economy/kinze-manufacturing-to-lay-off-121-20160419

[4] See http://www.usnews.com/news/business/articles/2016-01-06/monsanto-swings-to-1q-loss-amid-lower-seed-sales.

In addition to the above analysis, NCGA also sought input from other commodity groups, the merging companies, other agricultural input companies, and independent seed companies. Taking into account these varied perspectives, our Board of Directors had a robust debate regarding this acquisition and possible remedies to address areas of concern. The key points, below, reflect the position of our Board of Directors as well as prominent findings from our analysis.

1. **The proposed acquisition will not increase concentration in the seed corn industry**. Since Bayer does not currently operate a seed corn business in North America, we do not see any increased market concentration arising from this acquisition. While the seed corn business will remain highly concentrated (HHI 3,000), this will not change post-merger.

2. **The proposed acquisition will increase concentration of corn specific herbicides, but the merger will not impact corn insecticides or fungicides.**
   Over the past two decades, Bayer and Monsanto have pursued different strategies relative to the North American corn market. Monsanto's strategy was to focus on seeds and biotechnology trait development. In 2013, Monsanto acquired The Climate Corporation to build their ability to process agronomic data for their customers. Monsanto, however, has had a limited focus in crop protection products. While they own glyphosate (RoundUp®) herbicide, the largest selling herbicide in the world, they only own one other herbicide: acetochlor (marketed as Warrant®, Harness® or Guardian®). Despite Monsanto's limited presence in the corn herbicide market, the merger will result in an increase in market power. Our analysis indicates this highly concentrated market has a current HHI of 5,332 which would increase to 5,786 (+454) post acquisition. As noted below, this increase in concentration is occurring within the non-selective herbicide category.

   With respect to other crop protection chemicals, the acquisition does have several vertical or synergistic benefits. Monsanto has no real presence in the corn insecticide or fungicide market. By contrast, Bayer has focused on crop protection products and not seeds. The complementary nature of these two products lines could enhance farmer access to these technologies.

3. **The acquisition will lead to near monopolistic power in non-selective herbicides and crops resistant to non-selective herbicides.**
   The new proposed company will bring together the two leading non-selective herbicides: Monsanto's glyphosate (RoundUp®) and Bayer's glufosinate (Liberty®). Although there are generic glyphosates available to growers, some seed warranties are void if a generic chemical is used—which may limit the use of generic products. Nowhere is this increased market power more evident than the herbicide tolerant trait market. If the acquisition proceeds as proposed, one company will control +95 percent of the herbicide tolerant corn seed market. We acknowledge this level of penetration has been achieved through widespread licensing of these technologies, but the merger of these two companies could reduce the competitive environment for trait licensing. The only competition would be

from Dow’s Enlist® herbicide tolerant system which has not, as yet, been commercialized.

The concentration of non-selective herbicides and non-selective herbicide tolerant seeds was the focus of significant debate among our Board of Directors. Our Board did evaluate whether the divestiture of chemistry and traits would be an appropriate remedy to address the expected market dominance of the new company within these two areas. Our Board opted, however, to urge the Department to ensure that the new company broadly cross-license technologies as a means of addressing significant concerns we do maintain about existing, highly-concentrated, markets in agriculture.

4. **Current licensing practices are leading to a marked concentration in corn germplasm**.
   One issue of growing concern, not directly related to this acquisition, is whether the existing concentration of corn germplasm is limiting innovation in plant breeding and reducing genetic diversity. Prior to Monsanto’s acquisition of Holden’s Foundation Seeds and their distribution seed companies in 1997, many seed companies were able to purchase inbred lines to create their own hybrid combinations. This “open architecture” model allowed for significantly greater genetic diversity in the hybrid seed corn market. Following Monsanto’s acquisition of Holden’s and the push to broadly license corn biotech traits, a “hybrid seed” model has developed.

   Currently, most license agreements require a licensee to purchase the trait on a Monsanto developed hybrid. Monsanto has shared with us that the rationale for this practice is to ensure trait stability during the breeding process, ensure the protection of approved trait combinations, and to maintain seed and trait performance. Seed company acquisitions and the move to the “hybrid licensing model,” however, has led to a significant increase in the concentration of Monsanto germplasm that is well in excess of the data within our report shown for branded seed sales. Independent estimates place this concentration as high as 60 percent. This concentration of plant breeding material could limit the number of final hybrids available to growers. Ultimately, this lack of genetic diversity may increase corn’s susceptibility to unforeseen disease outbreaks.

   As mentioned previously, while this practice is not directly impacted by the acquisition, the percentage of germplasm controlled by two post-merger companies (Bayer-Monsanto and Dow-DuPont) is a significant concern to our farmer-leaders. While transitioning back to the “open architecture” model may not be a seamless remedy, we believe the Department of Justice does need to examine potential remedies that could enhance plant breeding innovations, foster competition, and expand corn’s genetic diversity.

5. **This acquisition presents opportunities for synergy and greater innovation benefitting farmers.**
   Given the rapid changes in the global seed and crop protection industry the Bayer-Monsanto combination brings together a global leader in crop protection and trait development with a global leader in seeds and traits. While we are concerned about the

loss of competitive market players, at the same time, we acknowledge that true competition isn't based solely upon the number of players within a given market. Strong competition can result from having evenly-matched companies fighting for share within the seed, chemistry, and trait development markets.

6. **Global challenges are affecting crop input market access and pricing.**
   With respect to any merger analysis, the common concerns revolve around how the merger might affect future innovation, product access, and pricing. While competition within the marketplace is certainly one factor affecting these elements, within the seed and crop protection markets, there are larger, global, forces that are having an even greater effect on product innovation, access, and affordability. Namely, domestic regulatory hurdles for crop protection chemicals and delays in international approvals for new seed traits are government actions that have erected barriers to market entry, slowed down or stopped new innovations coming to market, and driven up the cost of seed and chemistry products. For example, a recent estimate projects costs to launch a new seed trait at $136 million over 13 years.[5]

   Recent industry estimates calculate the cost to register and launch a new crop protection chemical at almost $300 million. These large capital investments, coupled with long lead times from innovation to product launch, result in fewer and fewer companies that are able to comply with the needed regulatory testing and/or have the ability to invest significant capital for long periods of time with no return. The resulting affects are: 1) less innovation—meaning that farmers have fewer tools to combat weed and insect pressure; and 2) higher costs—as companies have higher development costs and shorter cost recovery periods. These issues may not be directly on-point with the Department's merger analysis, but these issues are certainly relevant to the global business environment driving consolidation within the agribusiness sector.

We appreciate your consideration of the above points. While our analysis was previously submitted to you in February, we are reattaching the report for your convenience. We would continue to ask that you maintain this report as confidential and not for public distribution. We hope this information is useful as the Department completes its analysis of the proposed merger.

Sincerely,

Wesley Spurlock, President
National Corn Growers Association

Encl: Phillips McDougall Bayer-Monsanto Analysis

---

[5] *Genetically Engineered Crops: From Idea to Product*, Jose Rafael Prado, et al. Annual Review of Plant Biology, Vol. 65: 769-790 (April 2014)