

United States Senate Committee on the Judiciary

Intellectual Property – Driver of Innovation: Making Our Lives Healthier, Safer, and More Productive

May 2, 2017

Questions for the Record

QUESTIONS FROM SENATOR CHRIS COONS

For Dr. Gutterson:

1. How do patents facilitate DuPont Pioneer's ability to work with smaller biotechnology and agricultural companies and with universities?

Many of the technology patented innovations that DuPont Pioneer have applications outside agriculture or beyond the core crops of DuPont Pioneer's. DuPont Pioneer enters into collaborations with smaller biotechnology and agricultural companies and with universities to fully harness the potential of our technology innovations. As one example, DuPont Pioneer intends to enable others wanting to develop agricultural products using CRISPR-Cas through access to intellectual property (IP), technology capabilities, infrastructure and scientific expertise.

2. Approximately how long does it take for DuPont Pioneer to bring a new genetically engineered seed to market? What role does patent protection play in this process?

According to a September 2011 Phillips McDougall Consultancy Study for CropLife International, on average for all crops, it took 13.1 years to discover, develop and get authorization for a new plant biotech trait. The same study found that the mean cost associated with the discovery, development and authorization of a new biotechnology derived crop trait introduced in the 2008-2012 timeframe was \$136.0 million. Effective patent protection is essential to protect this investment in innovation. Patents in our industry encourage high levels of investment and innovation, leading to significant improvements in agricultural productivity and enabling growers to produce more and better food.

3. I understand that DuPont Pioneer has recently been vindicated in a case involving the criminal theft of trade secrets. How do you see the new civil right of action created last year by the Defend Trade Secrets Act as supplementing these criminal enforcement actions?

We see the Defend Trade Secrets Act as supplementing criminal enforcement actions in two important ways: (1) providing assured, direct access to federal court; and (2) reducing the risk of further trade secret dissemination or the destruction of evidence. First, the federal court's experience with litigating complex technologies for other intellectual property disputes is a valuable tool in addressing comparable complexities in trade secret cases. State court actions are inadequate to address the interstate and international nature of trade secret theft. Second, seeds and the trade secrets embodied in them, are highly portable and reproducible. The seizure provisions enable a trade secret owner under limited, controlled conditions, to proactively contain a theft before it progresses and the trade secret is lost.

4. How does DuPont Pioneer decide whether to protect a particular innovative development by either patents or trade secrets? Do you think changes to either of these legal regimes are needed to achieve a better balance between the two?

Many factors go into deciding whether to protect a particular innovation by patent or trade secret including the nature of the innovation, what is already known to the public in the area of that innovation in the form of patents or publications, and the likely scope of patent protection available for the innovation. Recent court decisions have called into question whether innovations in certain technical areas, such as biotechnology and computer-implemented processes, are patentable. This uncertainty about whether an innovation is patent-eligible subject matter may weigh in favor of keeping an innovation a trade secret and thus unavailable to the public.

5. Based on DuPont Pioneer's experience hiring a domestic workforce, have you been able to readily find a workforce sufficiently educated for your business needs? If not, do you believe there are any steps Congress could take to help address a shortage of skilled workers?

DuPont Pioneer employs an extremely wide-range of workers within the U.S. from 'unskilled' farm/field laborers to nationally esteemed scientific experts and business professionals. When considering the organization holistically, talent with the educational requirements and skilled in the competencies needed is generally available domestically. Therefore, the challenge with attracting and retaining this talent lies primarily within the space of marketplace competitiveness (e.g. pay relative to peer companies, employee value proposition, geographies in which we operate, etc.) Where we see the most challenge in terms of the availability of relevant talent would be on the bookends, the lower level laborers on one end and the more unique and/or highly-educated skill set on the other. For example, the challenge the agriculture industry faces at the lower skill levels, such as short-term field labor, is the availability of individuals willing to do this work on a temporary basis, in the numbers we need (tens of thousands pollinators and detasslers during peak seasons), and in the rural geographies we need them. On the other end, the domestic pool alone may not be deep or wide enough for agriculture to compete for niche talent. One positive step forward is to promote the applicability of various educational backgrounds and disciplines to the agricultural

industry. In essence, selling agriculture as an enticing, innovative, and socially relevant industry in a way that allows us to attract talent from a broader pool of industries, disciplines, and educational levels, not to mention the millennial and upcoming generations. Tying back to the goal of increasing innovation in the agriculture industry via a diverse workforce, it is important to recognize that diversity in educational background is also necessary.

6. Has DuPont Pioneer sought patent protection abroad? Are there actions the U.S. government could take to further facilitate the process of getting patent protection abroad?

DuPont Pioneer does seek patent protection abroad, but not all innovations that are patentable in the United States are patentable in other countries. For example, the United States is one of very few countries that provides utility patent protection for seeds. As a business, DuPont Pioneer supports the opportunity to obtain patents for plant-related inventions worldwide. We also support and encourage critical assessments and establishments of trade agreements to continue to ensure strong IP protection. All of agriculture benefits when we have stronger IP protection. Thus, we urge the Committee to continue to take an active role in influencing the global playing field to create an appropriate governance framework for stronger germplasm protection, agricultural research data collection including using UAVs and remote sensing, and the use of technologies like CRISPR-Cas enabled advanced breeding technology. As an industry, we use and need the same underlying technologies, benefit from the same advancements in genetics and new germplasm insights, and ultimately serve the same audience: growers and ultimately, consumers.