

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 CHUCK GRASSLEY

For Dr. Gutterson:

1. I understand that DuPont Pioneer has partnered with unmanned aerial vehicle companies to help provide data inputs. Can you explain more about how new drone technology is playing a part DuPont Pioneer's data-driven agricultural technology?

Yes, DuPont Pioneer uses unmanned aerial vehicles across the organization, including in R&D, Production, and the Commercial divisions. In our R&D division, we have partnered with UAV companies to help develop systems for field research trial data collection. Drone technology and field imaging analytics have been playing a part DuPont Pioneer's data-driven agricultural technology since 2014 when we first flew approximately 25 of our research locations for corn in the United States. This was undertaken with three UAVs. This year we will have approximately 100 UAVs imaging five crops across 15 countries (roughly 1,000 research locations). We have developed and implemented analytical systems to transform the digital images to useful insights. The data informs our researchers on such observations as crop stand establishment, plant height, and crop canopy health – all of which are important crop attributes that our researchers and farmers care about. The insights gained through this technology enable our teams to have higher quality data and improve product development.

In conjunction with R&D, our Production division will use UAVs this summer to collect data from approximately 200 internal seed production fields to assess plant stand count. Data of this sort can be combined with other information, like satellite imagery and soil composition to gain even deeper insights. When stand count varies greatly across a field, we can use the data to help improve in-season yield estimates. A more accurate in-season yield estimate allows for more informed operational decisions and improved product supply availability for our customers.
