



Plant Variety Protection Board Meeting Minutes Teleconference - December 14, 2021, 12 - 2:30 pm

12:00 pm Introduction and Opening Remarks by Ruihong Guo, Ph.D., Science & Technology Program Deputy Administrator. Welcome to the Plant Variety Protection (PVP) board members and roll call.

- Participants from USDA: Ruihong Guo, Jeff Haynes, Brian Ikenberry, Mara Sanders, Mark Hermeling, Kaylee Lewis, Erin Auger, and Jacquelyn Bryant
- Participating PVP Board Members: Audrey Charles, Thomas Day, Shannon Douglass, John Duesing, Kevin Early, Joshua Freeman, Patrick Kole, Heidi Nebel, Paul Nelson, Patricia Olosky, Margaret Rekoske, Brent Robertson, and Albert Tsui
- PVP Board Members unable to participate: Kelly Keithly
- Participants from industry: Abigail Struxness, Fan-li Chou, Barry Nelson, Stevan Madjarac, and Stephen Smith

12:15 pm Ethics Training by the USDA Office of Ethics, presentation by Erin Auger. The presentation provided the requirements of the Representative and Special Government Employee (SGE) members under the Federal Advisory Committee Act (FACA). Ethics training is a requirement for all board members.

12:45 pm Introduction of program update by Jeff Haynes, Commissioner of the Plant Variety Protection Office (PVPO). The PVPO consists of ten staff members including seven examiners, two program analysts, and Commissioner. The newest addition to the PVPO is Susan Martin, Program Analyst.

The responsibilities of the PVP board were explained. The PVP Act provides for a statutory board with the duties to advise the Secretary of Agriculture concerning the adoption of rules and regulations to facilitate the proper administration of the Act, provide advisory counsel to the Secretary on any appeals, and advise the Secretary on any other matters under the Regulations and Rules of Practice.

The PVPO staff duties were provided including the crops covered by the examination staff. Mark Hermeling examines small grains and vegetables, James Mantooth examines corn and melons, Mara Sanders examines lettuce, potato and asexual crops, Kaylee Lewis examines peanut, rice and asexual crops, Brian Ikenberry examines soybean and vegetables, David Chalkley examines grasses and ornamentals, and Leigh Wiltison-Combs examines vegetables and cotton. Each examiner also covers other lower volume crops not mentioned.

The support staff including Gwen Adams and Susan Martin handle application receipt, payment processing, certificate issuance and correspondence. During the pandemic, program operations are continuing with little disruption.

PVPO program accomplishments in FY 2021 included the examination of 450 applications, issuance of 425 certificates of protection, completion of release 6 of the electronic Plant Variety Protection (ePVP) system, the addition of 20 new Exhibit C (Objective Description of Variety) forms, and updates to the program financial tracking system to better track payments and expenses.

PVPO program initiatives in FY 2022 include the issuance of at least 400 certificates, the examination of 400 or more applications, cross training of the examination staff on the three propagation method crops, arranging crop tours with customers for additional learning by the staff.

Germplasm deposit repositories are still being investigated by the PVPO and will be confirmed after additional meetings are held. Once the crops that can be managed is confirmed the PVPO will implement agreements to accept asexually reproduced and hemp variety germplasm deposits. Information will be provided to customers and posted on the PVPO website in the fall of 2022. Currently seed hemp varieties can be deposited at the National Laboratory for Genetic Resources Preservation (NLGRP) in Fort Collins, Colorado.

PVPO is working on a plan to conduct pilot Distinctness, Uniformity, and Stability (DUS) examinations in the US with several customers. The pilot project will focus on asexually reproduced crops such as berries and ornamental varieties first to work our logistics. The goal of the project is to provide a voluntary program requested by customers to produce DUS reports that are accepted by other International Union for the Protection of New Varieties of Plants (UPOV) authorities.

Essentially Derived Variety (EDV) explanatory notes have been updated and are available for viewing from the UPOV website. John Duesing provided an overview and update on the EDV explanatory notes. Draft three of the explanatory notes have been reviewed and circulated to UPOV members for comment. If there are no comments, then the explanatory notes should be adopted by UPOV in February or March of 2022.

UPOV created a new working group on harvested material and unauthorized use of propagating material (WG-HRV) and they issued a call for a new working group on smallholder farmers in relation to private and non-commercial use (WG-SHF). More information can be found on the UPOV website. PVPO participates in meetings on these topics with the US Patent and Trademark Office (PTO), US State Department, the Foreign Agricultural Service (FAS), and the US Trade Representative (USTR). PTO will be the lead agency on these topics.

PVPO received more than 30 applications for asexually reproduced varieties including applications for almond, anthurium, apple, blackberry, calibrachoa, camellia, cherry, fuchsia, grapevine, hemp, magnolia, nightshade, orange, orchid, phlox, and raspberry. The program received many inquires so the forms that were produced were for those species, which equal 69 new forms created so far.

DUS reports are accepted by PVPO from other UPOV authorities for all asexually reproduced crops and all need seed crops. The program has successfully accepted DUS reports for anthurium, fuchsia, and several seed varieties. The DUS report replaces the Exhibit C form. The applicant must also submit Exhibits, A, B, and E unless that information is included in the DUS report. Once a DUS report is received it is checked for completeness and then the standard procedure for examination is conducted for newness and DUS by the examination staff. If the application variety meets the examination criteria the variety is recommended for protection.

1:15 pm

Presentation on the Soybean Molecular Marker Method and History by Barry Nelson with Corteva Agriscience. The Soybean Molecular Method (SMM) has been working on by the PVP Board Molecular Marker Subcommittee (SMM) and American Seed Trade Association (ASTA) Molecular Marker Working Group (MMWG) for more than seven years.

The PVP Board SMM and ASTA MMWG combined efforts and performed extensive analysis and achieved a publication in the Crop Science Journal of the method that was published online on August 6, 2020. The SMM is a Single-nucleotide Polymorphism (SNP) analytical method that can be used to show the genetic similarity between two soybean varieties. The similarity results are recorded as a SNP genetic similarity percentage.

The MMWG team determined that the soybean similarity threshold supporting distinctness was 96%. A Subject Variety (SV) and Most Similar Variety (MSV) can be compared by the SMM as described in the published method. If the SV has a similarity of 95% or less, then it can be considered distinct while a genetic similarity of 96% or higher may indicate that the two varieties are substantially similar.

It was important to note that this method can be used to support distinctness claims based on morphology and some varieties that have a similarity percentage of 96% or higher can still be determined to be distinct from the MSV using morphological characteristics. Soybean breeders have validated the threshold for use with current elite soybean varieties and agree with the 96% threshold for distinctness. This concluded the soybean method development by the MMWG.

2:00 pm

Presentation on Soybean Method Implementation by Jeff Haynes with PVPO. Around 2010, PVPO had interest in using molecular data to distinguish corn and soybean varieties. As examinations continued in subsequent years the focus

shifted from corn to soybean because soybean varieties were considered more difficult to distinguish due to the limited number of characteristics. At this same time the ASTA MMWG and PVP Board MMS merged to develop a method that could be used as a new type of characteristic to help with future distinctness determinations. While the MMWG was working on developing the method, PVPO continued to examine soybeans by implementing several improvements.

The improvements included revisions to the Exhibit C form to include additional characteristics, requests to customers to thoroughly complete the Exhibit C form, and the addition of additional characteristics from the UPOV Test Guidelines. As a result of these changes, there have been enough characteristics to determine distinctness and complete soybean examinations without much difficulty.

PVPO will coordinate more meetings with other UPOV authorities to pursue acceptance of the method for establishing distinctness. Moving forward PVPO will continue to examine soybean applications using current procedures but will look for ideal cases to test the SMM in real-time.

When a case is identified PVPO will contact the applicant and work closely with them to work out the procedure for testing the SV and MSV, and how they can provide the results to the office. Progress of the SMM implementation will be presented at a future UPOV technical meeting. PVPO appreciates the lengthy efforts of the MMWG and now has a new tool to aid with the examination of soybean applications.

2:15 pm

Discussion and comments. PVPO appreciated the presentations and questions from the PVP Board members and guests. Comments were received from PVP Board members regarding whether the PVPO needed additional assistance with the implementation of the SMM. PVPO responded that it had enough documentation and information to implement the SMM as a confirmatory tool for soybean examinations.

A PVP Board member asked if the PVPO could provide a presentation at a UPOV technical meeting in 2022 and PVPO was agreeable. As stated above, the progress of the SMM implementation will be presented at a future UPOV technical meeting as soon as pilot cases are examined, and the procedures refined.

Another question was raised regarding the cost of the on-site DUS examination service. PVPO responded that there will be costs associated with the voluntary service, but it will need to be determined as the procedures are worked out in the pilot programs. PVPO will continue learning and will work with other UPOV authorities to refine procedures and calculate realistic costs.

A PVP Board member asked how many asexually reproduced varieties had been examined and issued a certificate of protection. PVPO responded that approximately 15 of the 30 applications received were recommended and

approved for a certificate of protection, which would be issued in early 2022. In addition, a question was asked about a possible extension of the asexually reproduced variety deposit requirement to be implemented on January 6, 2023. PVPO responded that an extension will not be issued but there is a possibility that some species will continue to be granted germplasm deposit waivers due to the infeasibility of long-term storage for some of the crop kinds. More information will be provided on the requirements in mid-2022 to customers, stakeholders and posted on the PVPO website.

2:25 pm Meeting Summary. The program thanks the PVP Board for their service to the PVPO, the Secretary and the public. The thoughtful and useful presentations and feedback will be used to refine and improve operations. PVPO will continue working with the current PVP Board members through collaborative interaction and the planning of another meeting in 2022.

2:30 pm Adjourn