

**Technical Working Party for Fruit Crops****TWF/54/5****Fifty-Fourth Session  
Nîmes, France, July 3 to 7, 2023****Original:** English  
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**EXPERIENCES WITH NEW TYPES AND SPECIES***Document prepared by an expert from the United States of America**Disclaimer: this document does not represent UPOV policies or guidance*

The annex to this document contains a copy of a presentation “US Plant Variety Protection Office”, to be made by an expert from the United States of America, at the fifty-fourth session of the Technical Working Party for Fruit Crops (TWF).

[Annex follows]

**USDA** Agricultural Marketing Service  
U.S. DEPARTMENT OF AGRICULTURE



## US Plant Variety Protection Office

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# AMS

Creating Opportunities for  
American Farms & Businesses

## US Plant IP Rights

- **US Department of Agriculture**
  - **Plant Variety Protection Office**
    - Plant Variety Protection Certificate: seed, tuber, and asexually reproduced plants
  - **Applications accepted for varieties sold for no more than one year in the US and four years Internationally**
- **US Department of Commerce**
  - **Patent and Trademark Office**
    - Plant Patents: asexually reproduced plants
    - Utility Patents: genes, traits, methods, plant parts, and plants
  - **Applications must be filed within one year of the date of sale, both in the US and Internationally**

## US Plant IP Rights

Production Type	PVP	Plant Patent	Utility Patent
Asexual	Yes	Yes	Yes
Sexual	Yes	No	Yes

## PVPO History

- **1970**
  - Plant Variety Protection Act Published
- **1972**
  - Plant Variety Protection Office opens
- **1973**
  - First PVP Certificate Issued for 'Green Ice' Lettuce
- **1981**
  - US Joins UPOV (1978 Convention)
- **1995**
  - Potato is added to crops eligible for protection
- **1999**
  - US Joins UPOV 1991 Convention
- **2018**
  - US adds Asexually Reproduced varieties
- **2020**
  - First Asexually Reproduced Applications Received

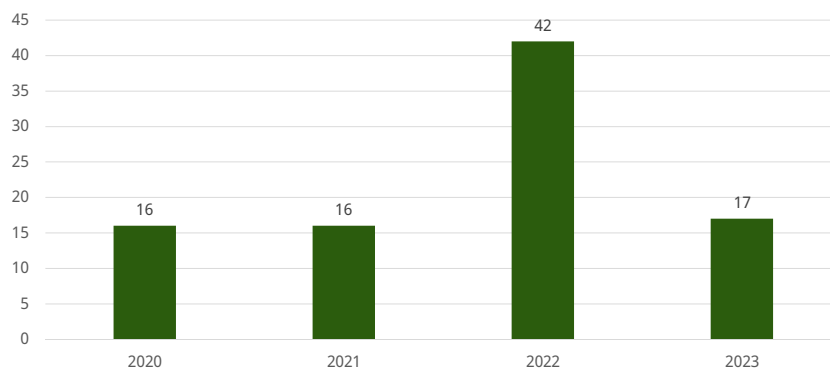
## PVPO Quick Facts

- Office is located in Washington, DC
- Has 10 staff members
- Receives about 500 applications each year
- Protects over 400 species
- Has over 8,000 PVP certificates in effect

## Addition of Asexual Varieties

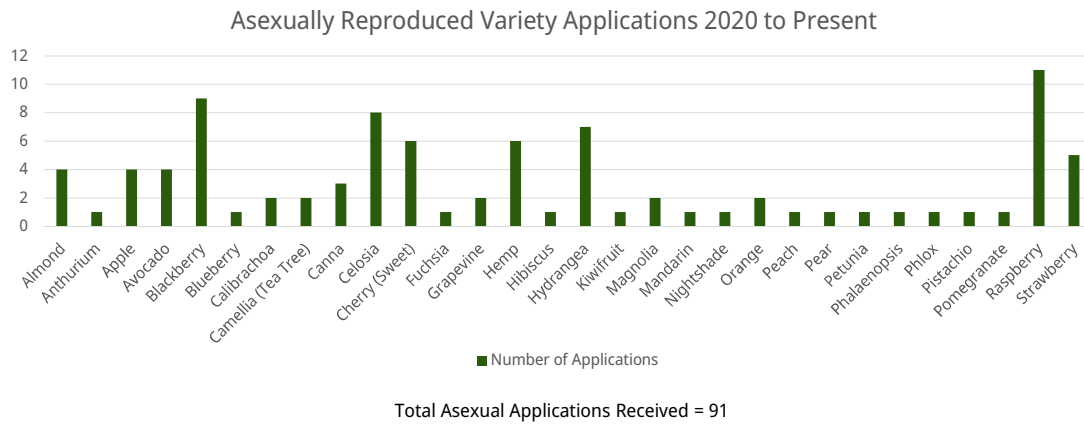
- The Agriculture Improvement Act of 2018 (USDA Farm Bill) amended the Plant Variety Protection (PVP) Act to include the protection of asexually reproduced varieties. Previously, a Plant Patent was the only avenue for protecting asexual plant innovations.
- Breeders can now pursue the PVP option to complement their plant patent and/or utility patent, and enjoy the benefits of the close alignment with the UPOV system.
- Office started accepting asexual plant variety applications in January 2020.
- Germplasm deposit requirement is postponed until further notice.

## Asexually Reproduced Varieties Received



**Crop types received:** Almond, Anthurium, Apple, Avocado, Blackberry, Blueberry, Calibrachoa, Camellia, Canna, Celosia, Cherry, Fuchsia, Grapevine, Hemp, Hibiscus, Hydrangea, Kiwifruit, Magnolia, Mandarin, Nightshade, Orange, Peach, Pear, Petunia, Phalaenopsis, Phlox, Pistachio, Pomegranate, Raspberry, and Strawberry.

## All Asexually Reproduced Crops Received



## Eligibility Requirements for Protection

- **New**
  - Not sold commercially or
  - Not sold for more than a year in US or more than 4 years Internationally (6 for trees and woody vines)
- **Distinct**
  - Distinguishable from any other publicly known variety
- **Uniform**
  - Any variations are describable, predictable, and commercially acceptable
- **Stable**
  - When reproduced, the variety will remain unchanged from the described characteristics
- **Appropriately named**



## Demonstrating DUS

- DUS is demonstrated and accomplished through field trials.
- Under UPOV, field trials can be conducted by one of three parties: (1) a government authority conducts the field trials itself; (2) a government authority arranges for another party to conduct the field trials; or (3) a government authority considers the results of field trials carried out by the applicant/breeder.
- The US PVPO adopts the applicant-conducted field trials system.



## Breeder Conducted DUS Trials

- PVPO follows UPOV guidelines and requires applicants to follow the UPOV Test Guideline documents to conduct field trials for their relevant varieties.
- Trials between the applicant variety and 1-3 most similar varieties (a variety of common knowledge) need to be conducted for a minimum of two years at one location or for one year at two locations.
- Information describing the site location(s), the test parameters for the trial (e.g., plot size, planting density of plots, number of replications, number of plants, plant spacing, number of pots per variety, size of pots, number of plants per pot, application of plant growth regulator, etc.) is provided as part of the application.

## **DUS Reports from Other Authorities**

- PVPO accepts DUS reports produced by other UPOV authorities for all asexually reproduced crops as long as they follow the UPOV TGs for that species.
- PVPO has completed examinations and granted PVP certificates, using DUS reports from other authorities.

## **Pilot Project: PVPO-Conducted DUS Examinations**

- On-Site DUS examinations are offered on a voluntary and pilot basis for asexually reproduced crops.
- The goal is to produce DUS reports that are accepted by other UPOV members.
- Procedures, checklists, observation form templates, list of tools needed, and example DUS reports have been developed and are in place.
- Shadowed and trained with Canada at on-site DUS examinations.
- Conducted mock onsite trial examinations in California.
- Working with various UPOV members to share DUS reports.

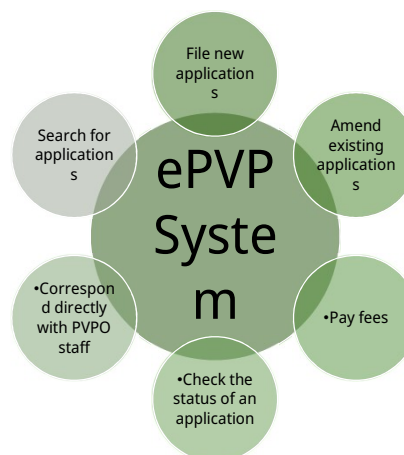


## Application Components

- Applicants must complete all sections of the application (ST-470)
  - General Owner Information (ST-470)
  - Exhibit A: Variety Origin and Breeding History
  - Exhibit B: Statement of Distinctness
  - Exhibit C: Objective Description of Variety (equivalent to Table of Characteristics of UPOV TG Guidelines)
  - Exhibit D: Optional Additional Information
  - Exhibit E: Statement of the Basis of Ownership

## The electronic Plant Variety Protection (ePVP) System

- The ePVP System is the best way to apply and can be accessed anywhere in the world
  - You can also apply via PDF emailed or mailed to our office





## **Examination Process**

### **Distinctness Examination**

- **During this process, examiners:**
  - Verify that complete characteristic data is provided
  - Confirm that the most similar variety is adequately described
  - Develop appropriate distinctness search parameters to compare the subject variety against all other varieties in the ePVP database
  - Determine other search tools needed depending on crop
  - Generate examination report



## Searching the ePVP Database

- The database contains all protected varieties and known varieties that are adequately described
  - The search is unique for each crop kind and includes qualitative traits and quantitative ranges
  - The developed search parameters are loaded into the application record in the database
  - When the search is run, the parameters exclude competing varieties
  - The subject variety is shown as either unique or not

## Distinctness Search Example

- Subject Variety



- Most Similar Variety



Number of Varieties	Plant Characteristic	Varieties
10	Total Plants in Database (Same Crop Kind)	
8	Plant Type (Compact)	
5	Number of Flower Petals (Three - Six Petals)	
2	Leaf Color (Dark Green)	
1	Flower Color (Red)	

## Additional Search Tools

- These databases are used for:
  - Building databases for new crops
  - Comparing crops with few incoming applications
  - As an additional search for crops with limited database records



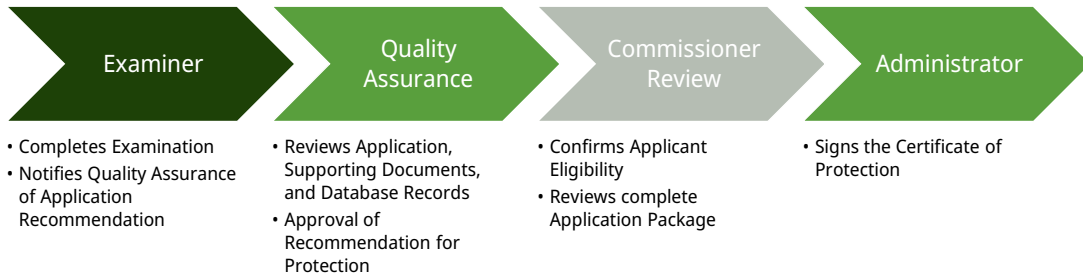
## Examination Report

- The examinations report includes:
  - Eligibility information
  - Denomination clearance
  - Breeding history
  - Statement of distinctness
  - Descriptive information
  - Basis of ownership
  - Examination search results

Search Verification for the Common Wheat 'UI Magic' PV# 201600300	
Application:	All Items completed satisfactory. The Filing Date of this application is July 5, 2016. 'UI Magic' was not released, disposed, transferred, or sold more than one year prior to filing in the United States or more than four years prior to filing outside the United States.
Name:	Variety name created by the USDA, AMS, Livestock & Seed, Federal Seed Lab.
Exhibit A:	Indicates 'UI Magic' is derived from the cross: 07-688-10 / Bitterroot. 07-688-10 is an experimental line from University of Idaho used as a Donor of the two landrace/wild-type herbicide resistance genes. The selection criteria used to develop 'UI Magic' were: earliness, height, disease and herbicide resistance, vigor, yield, and regional adaptation. The applicant states 'UI Magic' has been observed uniform and stable for three generations with the following variants: up to 5 per 1000 of awnless plants, up to 3 per 1000 later flowering or greener plants, and up to 2 per 1000 taller plants - up to 6 inches above the canopy height and up to 0.75 percent red seed.
Exhibit B:	'UI Magic' is most similar to 'Skiles', however, 'UI Magic' differs from 'Skiles' in landrace/wild-type herbicide tolerance (tolerant vs. susceptible, respectively). 'UI Magic' has the <i>dtc-1</i> and <i>dtc-2</i> resistance genes, while 'Skiles' does not.
Exhibit C:	Satisfactorily completed.
Exhibit E:	Information satisfactory.
Search:	A database record 'UI Magic' was created in the wheat database PUVWHEA (#582). The wheat database was then searched for varieties similar to 'UI Magic'. One variety, the application variety, was recovered by the search criteria. See attachments for a printout of the search.  All potentially competing varieties were distinguished from 'UI Magic'.



## Application Quality Control



## USDA Plant Variety Protection Office

Website: <https://www.ams.usda.gov/services/plant-variety-protection>

Email: [PVP@mail.usda.gov](mailto:PVP@mail.usda.gov)