

Plant Program Intellectual Property and Technology Transfer

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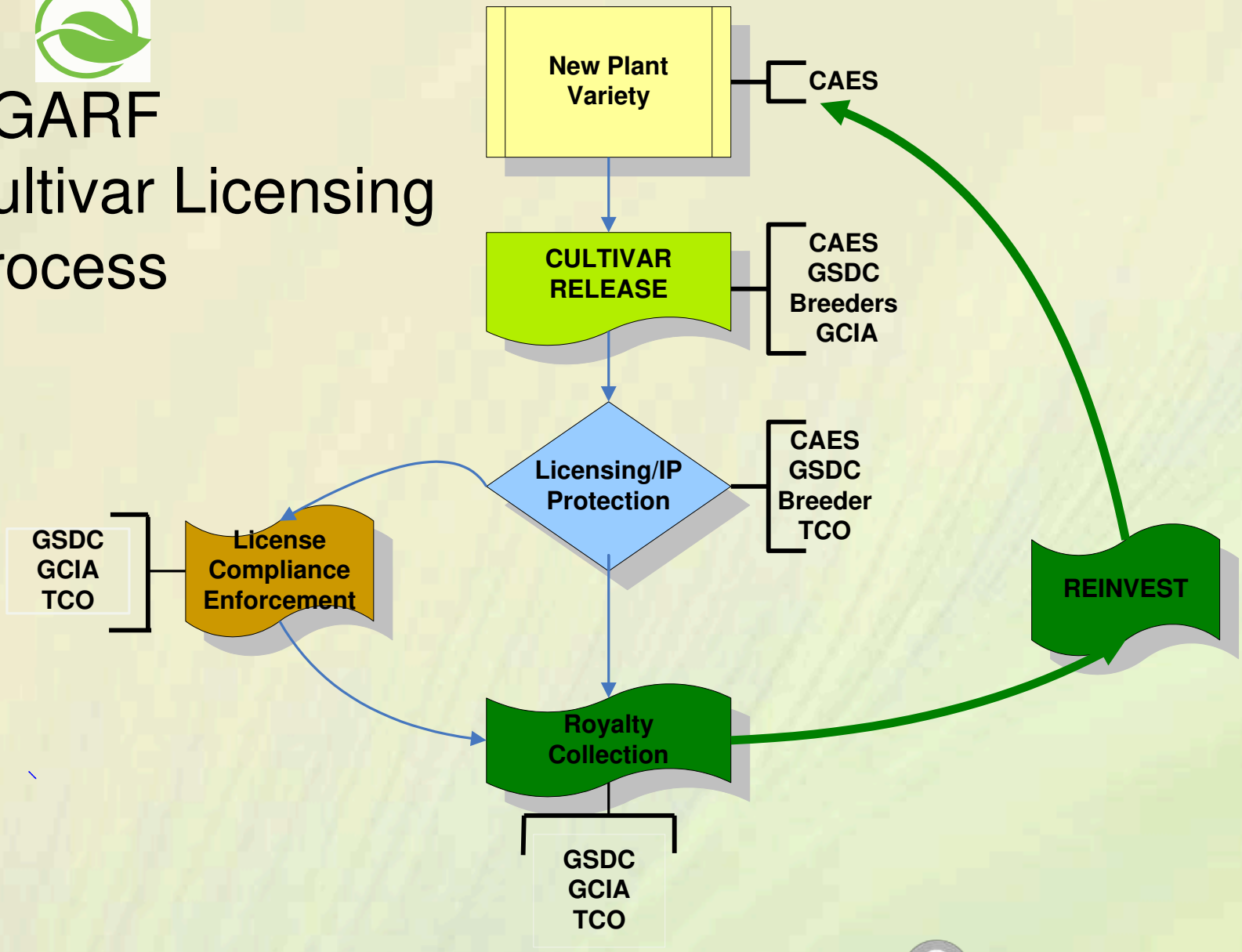
Topics to be Discussed

- New Plant Variety Process at UGA
- Plant Intellectual Property Protection
- Common Plant Licenses
- Examples of IP-protected plant varieties at UGA

TCO: Expertise and Experience

- Sohail Malik, Ph.D. , Director of Technology Commercialization
- Gennaro Gama, Ph.D., Senior Technology Manager
- Derek Eberhart, Ph.D., Senior Technology Manager
- Rachael Widener, Ph.D., Technology Manager
- Shelley Fincher, Technology Manager, Plant Program
- Brent Marable, Technology Manager, Plant Program
- Zameer Sheikh, J.D., MTA/ Compliance Manager
- Kathy Burggraf, Administrative Manager
- Debbie Kuppersmith, CPA, Senior Financial Accountant
- Kim Fleming, Assistant to the Director
- Angela Watson, Assistant to the Director, Plant Program
- John Ingle, Ph.D., Consultant to Plant Program

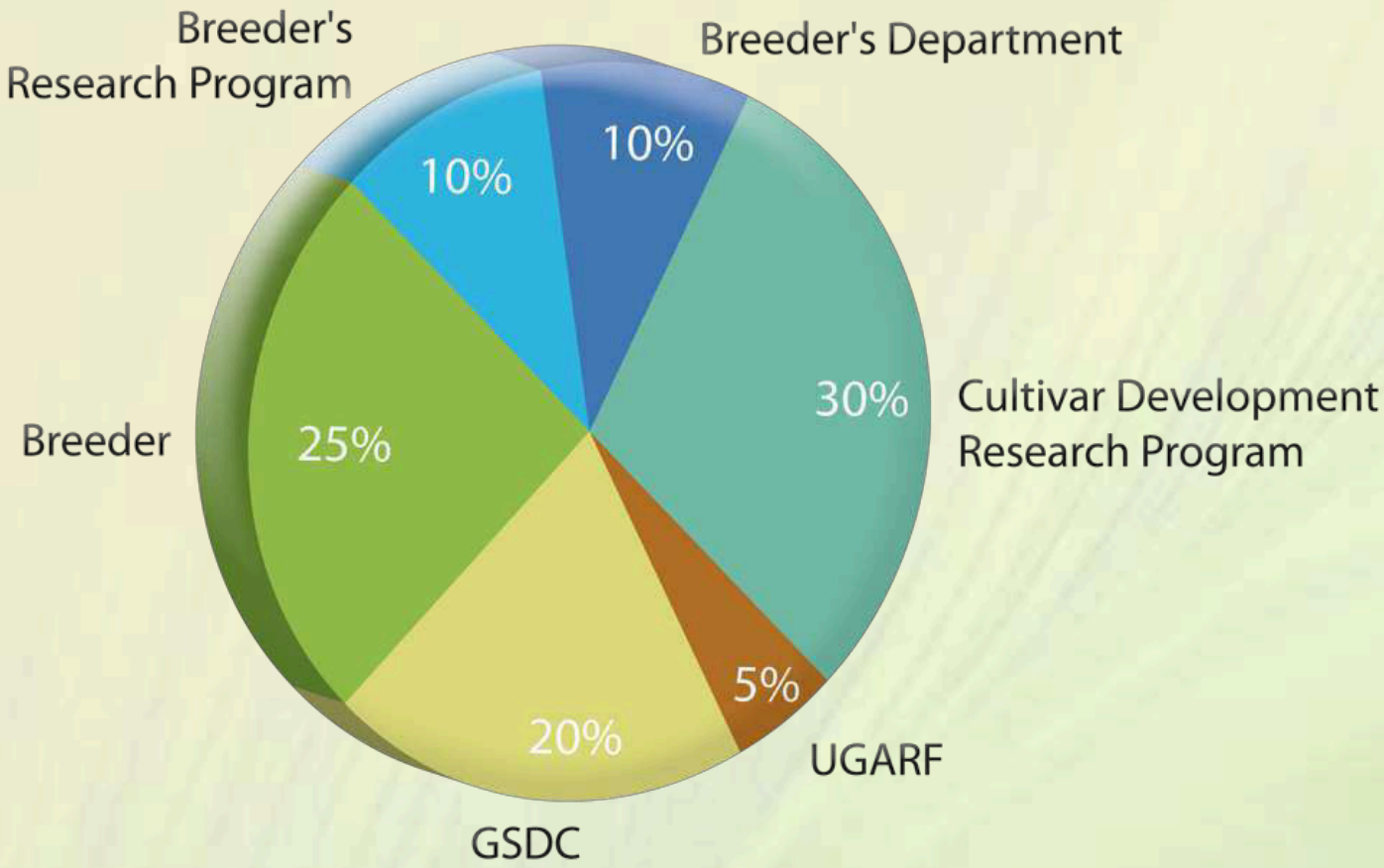
UGARF Cultivar Licensing Process



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Plant Licensing Revenue Distribution

After expenses, first $10K to breeder



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Why Patent a New Plant Variety?

- Prevents those without a license from propagating and selling the new variety
- Promotes research and development with a promise of material reward (royalty dollars) to the inventor and University

Types of Plant-Related Intellectual Property

- **US Patent and Trademark Office**
- US Plant Patent
- US Utility Patent
- US Provisional Patent Application
- Trademarks for Plant Varieties
- **USDA Agricultural Marketing Service**
- US Plant Variety Protection Certificate
- **Foreign Jurisdictions**
- Foreign Plant Variety Protection / Plant Breeders Rights

Types of IP Protection for Plants in U.S.

IP Protection	Requirements	Scope of Protection
Utility patent	Enabling disclosure (may require deposit to repository); nonobvious and novel over previously known, published, and used plant varieties; non-naturally occurring; useful	Non-naturally occurring plant or part thereof; could cover mutants; method of producing; method of use
Plant patent	Asexually reproduced; invented or discovered in a cultivated area; nonobvious and novel over previous plant varieties; not a tuber food part; distinct from related plants by at least one distinguishing characteristic	Plant variety itself
Plant Variety Protection Certificate (PVPA)	Sexually reproduced; viable seeds of the variety must be supplied, or if tuber, deposited; proof of uniformity and genetic stability; must be distinctive over varieties in the PVP database as well as other known and used varieties	Plant variety itself
Trademark	No scientific requirements; no need for registration (™), but can be registered ®	Prevents others from using registered plant names (Ex: TifEagle™, TifSport™, Team UGA®)

Plant Patents

- Protection for **asexually reproduced** plants (ornamentals, turfgrasses, trees, shrubs, vines…)
- except for tuber-propagated plants or plants found in an "uncultivated state"
- Relatively **Narrow** Protection – Right to Exclude Others From:
- asexual propagation of exact variety
- using, selling, offering for sale or importing patented plant or any of its parts in U.S.

Plant Patent

- Administered through the U.S. Patent & Trademark Office in the Department of Commerce
- Only one claim to the plant variety itself (for example, "A Bermudagrass plant substantially as described and illustrated in the specification herein")
- A patent is published so that others can be informed of the invention
- Good for 20 years after application's filing
- This time limited monopoly provides economic incentive for research and innovation
- Relatively inexpensive ($3,000 - $5,000) and easy to obtain
- No maintenance fees required after issuance, unlike utility patents

Plant Variety Protection (PVP) Certificate

- Administered by the Plant Variety Protection Office (PVPO), a department of the U.S. Department of Agriculture
- Governed by the Plant Variety Protection Act (PVPA)
- Provides legal Intellectual Property rights protection for new varieties of plants that are:
  - **Sexually reproduced** (crops, vegetables, some grasses, annual flowers…)
  - Tuber-propagated
- Costs around $5,000
- Good for 20 years

PVP

- **Prohibits others from**
- selling, soliciting an offer to purchase, importing or exporting variety
- sexually multiplying or propagating by tuber of variety
- producing a hybrid from variety
- **Exceptions for**
- researchers to use and reproduce variety for study
- farmers to save seed for on farm use
- **Requires**
- Deposit of 3000 viable untreated seed to repository
- Protected variety be sold by variety name

Types of Utility Patents

Provisional

- "Quick and cheap" ($200-$500) "placeholder:" preserves filing date for anything adequately disclosed (i.e., establishes a priority date)
- Useful to inventors about to publish data
- Valid for 12 months only; must file a non-provisional (utility) application by then to benefit from filing date
- Not examined by the US Patent Office

Non-Provisional

- Breadth of protection requires enablement (details of how to make & use the invention) and written description (multiple examples of what is claimed)
- Fully drafted and includes claims
- Starts examination process by US Patent Office
- Application is published for public view prior to issuance
- More labor-intensive and expensive ($8,000 to tens of thousands) than other forms of IP protection
- Maintenance fees required after issuance

Why Apply For a Utility Patent?

- Comprehensive in that it may cover similar plants with specific desirable features, method of obtaining the plant, and method of use
- Often used for genetically modified plants and mutants
- Potentially much broader protection than plant patents.

Foreign Jurisdictions

- **UPOV** – International Union for the Protection of New Varieties of Plants
  - Confers similar rights to PVP and plant patent in U.S.
  - Once a cultivar is protected in the U.S., applications can be filed in foreign countries
  - Foreign protection is only available if new variety has been sold no longer than 4 years
  - For both plants reproduced by seed and vegetatively propagated
  - Commonly referred to as Plant Breeders Rights
  - Annual patent maintenance fees apply
- **PCT** – Patent Cooperation Treaty

  Common route to apply for utility patents internationally

Trademark

- Administered through U.S. Patent & Trademark Office
- Intended to **identify the source or origin** of the product
- **Registered trademark should be different than generic term** used for plant variety name
- **May include a design / logo**



Common Licenses for Plant Cultivars

- Exclusive License: one company to exclusively produce, sell the cultivar and/or use Registered Trademark
- Non-exclusive License: several licensees may produce, sell the cultivar and/or use Registered Trademark
- Exclusive Option Agreement: Company has the first option to negotiate a license for the cultivar after a period of testing it in their environment. At the end of the term, the company may choose to "exercise their option" or not. An option fee is paid upfront for this privilege.
- Restricted Testing Agreement (RTA): Company may test the cultivar. No exclusivity in testing. No testing fee involved.
- Collaborative Research Agreement: Company and University work together to produce a new cultivar.

Examples of UGA Success Stories



- *Crapemyrtle 'GAMAD 1'*
- *Commercial Name – Cherry Dazzle*
- *U.S. Plant Patent – PP16917*
- *Date issued – 9/1/06*
- *Inventor – Dr. Michael Dirr*
- *Exclusively licensed*



- *Hydrangea macrophylla*
- *Commercial Name – Blushing Bride*
- *U.S. Plant Patent – PP17169*
- *Date issued – 10/24/06*
- *Inventor – Dr. Michael Dirr*
- *Exclusively licensed*

UGA Success Stories

- Soybean cultivar ‘Benning’
- PVP Certificate 9600358
- Issued 3/31/2000
- Inventor – Dr. Roger Boerma
- Exclusively licensed

- Peanut cultivar ‘Georgia Green’
- PVP Certificate 9500165
- Issued 6/28/96
- Inventor – Dr. Bill Branch
- Non-exclusively licensed

- White Clover cultivar ‘Durana’
- PVP Certificate 200300305
- Issued 12/7/07
- Inventors – Dr. Joe Bouton & Dr. Dereck Woodfield (New Zealand)
- Exclusively licensed

- Wheat cultivar ‘AGS 2031’
- PVP Certificate 200800006
- Issued 4/15/08
- Inventor – Dr. Jerry Johnson
- Exclusively licensed

UGA Programs and Marks





IMAGE GALLERY



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UGA Success Stories



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Esta é uma área de interesse para colaborações internacionais

- Professores visitantes
- Alunos de PG em tempo integral
- Alunos de PG “sandwich” (1-3 anos)
- Alunos de graduação com suporte financeiro do país de origem
- Projetos conjuntos para desenvolvimento e “aclimatação mútua” de cultivares

Summary

- Plant cultivars can be protected by U.S. Utility patent, Plant patent, PVP, and Trademarks, as well as internationally.
- Plant licenses may be exclusive, non-exclusive, testing, option, collaborations, and more.
- Plant cultivar license revenue is split between GSDC, UGARF, the plant breeder, the CDRP internal grant fund, the breeder's department, and the breeder's research program.

