

*Licensing USDA Inventions
to Entrepreneurs and Small Businesses*

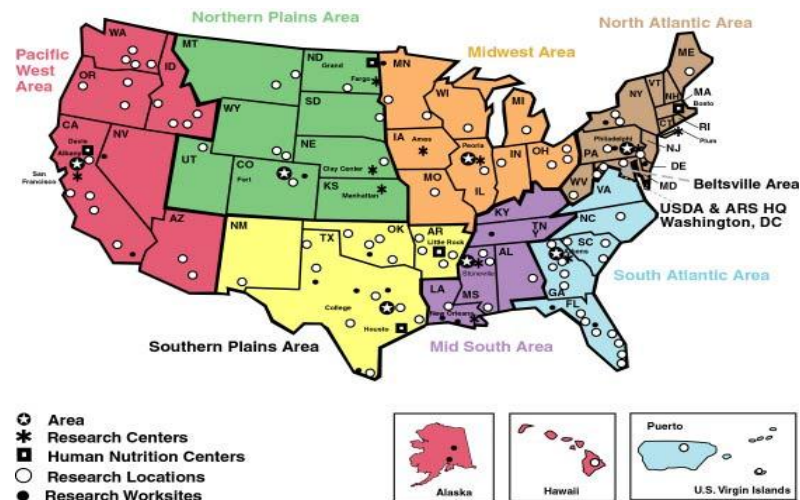
**United States
Department of Agriculture**

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Agricultural Research Service

- 100 research locations
- 1,200 research projects within 22 National Programs
- 2,100 scientists and engineers; 6,000 other employees



Office of Technology Transfer (ARS)

Manages intellectual property issues for the Secretary of Agriculture

- Has sole authority for licensing inventions arising from research ARS, Forest Service, and APHIS
- Has authority to develop and sign Cooperative Research and Development Agreements (CRADAs) for ARS, develop and review CRADAs for other USDA agencies
- Management of inventions resulting from USDA research grants is governed by the Bayh-Dole Act

Goals of USDA Invention Licensing Program

- Use the patent system to facilitate technology transfer
- Provide an incentive for investments by the private sector
- Support small business enterprises and entrepreneurs
- Support investments by U.S. businesses in international markets

USDA Invention Licensing Policies

- USDA does not require licenses for research only use of USDA inventions.
- Exclusive licenses for patented inventions reserve the right for our scientists engage in research with third parties on inventions covered by the patent.
- Exclusive licenses for protected plant varieties reserve the right to make the licensed varieties available to third parties for research and breeding.
- Unpatented inventions are licensed strictly on a non-exclusive basis.

Variety of USDA Technologies Licensed

- Veterinary diagnostics, vaccines & therapeutics
- Crop protection products, including biological pest control agents
- Food technologies
- New materials from agricultural products and by-products
- Textile finishing chemistries
- Farm equipment
- Plant varieties
- Biological materials

Licensing Data for FY 2010

- ***Active licenses*** **323**
- ***Licenses generating earned royalty income*** **125**
- ***Total license revenues*** **\$3.6 M**
- ***Median earned royalty income*** **\$4,911**

OTT Support for Small Businesses and Entrepreneurs

- The Agricultural Technology Research Innovation Partnership Program (ATIP) for Regional Economic Development
- Start-up businesses based on USDA technologies

ARS Agricultural Technology Innovation Partnership (ATIP)

- Through Partnership Intermediary Agreements (PIAs), partner with selected economic development entities to enhance the effectiveness of the ARS technology transfer program and expand its impact.
- Enhance the flow of ARS technologies to small and expanding businesses and encourage technology-based economic development.

Recent Start-up Businesses Based on ARS Technologies

- HepaLife Technologies, Inc. - medical device
- Leeward Biotechnology, Inc. - probiotic for livestock
- Antibacterial Resources, Inc. - textile chemistry
- 141 Repellent, Inc. – insect repellent
- Origami Foods, LLC - food processing
- Oser Technologies, LLC - food processing
- CrispTek LLC - food processing
- NutriGrown, LLC – soil nutrient products

Howard County Community College

- Entrepreneurship class selects from patented/patent pending technologies
- Builds a business plan
- Has access to our inventors for technical consultations
- Submits a license application
- Negotiates the deal

License Negotiation

- Team effort – requires technical, legal and business expertise
- Inventor input is essential for technical discussions with prospective licensees
- Inventor participation in business negotiations creates appearance of conflict of interest
- Market approach used for valuation
- Licensee receives a negotiable offer

What Business Terms Best Facilitate Technology Transfer

- Low up-front costs
 - Permits the licensee to use available funds to develop the technology
 - Licensor is sharing risk by deferring payments
- Meaningful maintenance fees
 - Easier to enforce than diligence requirements
 - Should escalate up to “real numbers”

What Business Terms Best Facilitate Technology Transfer

- Fair royalty payments
 - It is fair for royalty rates to be higher if the up-front payments are reduced
- Milestone payments
 - Used when there is major reduction in financial risk
 - Completion of clinical trials
 - Receipt of regulatory approval
 - Issuance of patent