



FEDERAL LABORATORY CONSORTIUM  
**FLC**  
FOR TECHNOLOGY TRANSFER

*The Only Government-wide  
Forum for Technology  
Transfer*

**Structure, Function,  
and Metrics of a  
GOGO Office of  
Technology Transfer:  
the Case of the USDA**

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## ***RICK BRENNER***

- Assistant Administrator, USDA Agricultural Research Service (ARS)
- Director, ARS Office of Technology Transfer (OTT)
- FLC Member-at-Large (2004-present)
- FLC Executive Board, Program Committee (national and Mid-Atlantic Region), Education and Training (E&T) Committee
- USDA Agency Representative to FLC
- Recipient of FLC Technology Transfer Award (1989), ARS Technology Transfer Awards (2), ARS Outstanding Scientist of the Year Award (1997)
- 20 years as ARS research scientist, including 7 as Research Leader
- Ph.D., Medical Entomology



## ***OVERVIEW***

- USDA's Agricultural Research Service (ARS) – who we are and what we do
- Office of Technology Transfer – structure, function, agency culture
- CRADA Partnerships
- Patent Section – procedures to serve the scientists and agency
- Annual Report Metrics



# ***ARS: THE LARGEST AGRICULTURAL RESEARCH ORGANIZATION IN THE WORLD***

***Mission: Conduct research to develop and transfer solutions to agricultural problems of high national priority (\$1.1B budget)***

- 1200 research projects (congressional appropriations) in 21 national programs (national program staff) peer reviewed (external) every 5 years
- Over 100 research locations
- Frequent stakeholder/customer meetings to help define relevance and priorities
- 2000+ extramural projects *must be relevant to mission and priorities*, and are evaluated annually
  - Conducted under CRADA authority or three research authorities unique to ARS



## ***OFFICE OF TECHNOLOGY TRANSFER***

- Manages intellectual property issues for the Secretary of Agriculture
  - Has sole authority for licensing any inventions developed within any of the USDA agencies (including Forest Service, Food Safety Inspection Service (FSIS), Animal Plant Health Inspection Service (APHIS))
- Has authority to develop and sign Cooperative Research and Development Agreements (CRADAs) for ARS (reviews for other USDA agencies)
- Coordinates all technology transfer activities in ARS



# ***MECHANISMS OF TECHNOLOGY TRANSFER***

- Publications (tracked and summaries released in TEKTRAN through National Ag Library)
- Trade publications (also through TEKTRAN)
- Seminars/workshops
- Field days
- Release of public plant varieties
- Management of intellectual property rights (IPR)

*All of these are considered evidence of IMPACT for scientists' annual performance appraisals and mandatory career promotion reviews under the Research Position Evaluation System (RPES)*



# OFFICE OF TECHNOLOGY TRANSFER

Centralized in policy and approvals, licensing, marketing;  
 decentralized in negotiation and implementation of CRADAs

## Patenting

- 8 registered patent agents
- Located in Beltsville, MD; Peoria, IL; Albany, CA

## Marketing

- Targeted marketing
- Web subscribe *Tech Alerts*
- Partnering opportunities

## Licensing

- 4 senior licensing specialists
- HQ-based

## Tech Transfer Coordinators

- 7 specialists (GS-15) with life science/ag background
- Distributed across geographic areas of ARS





## ***CULTURE OF ARS: "THE PEOPLE'S DEPARTMENT"***

- Integration of T2 with research mission and priorities
- ARS protects intellectual property *principally when necessary* to transfer technology (e.g., necessary for further research investments)
  - Prefer public release of plant varieties for broad availability – examined on case-by-case basis (meets needs of a changing industry)
  - Do not patent animals or research tools (could change)
- Goal of licensing is to facilitate technology transfer
- Permit license-free research with any ARS technology to promote further research



## 5-YEAR RESEARCH CYCLE

1. Stakeholder workshop  
(customers, scientists,  
National Program Staff,  
Center Directors, Area  
Directors define priorities)

2. National program is  
developed; location  
assignments are  
determined for each  
objective

3. Program  
direction &  
resource allocations  
are finalized and  
sent to each  
location

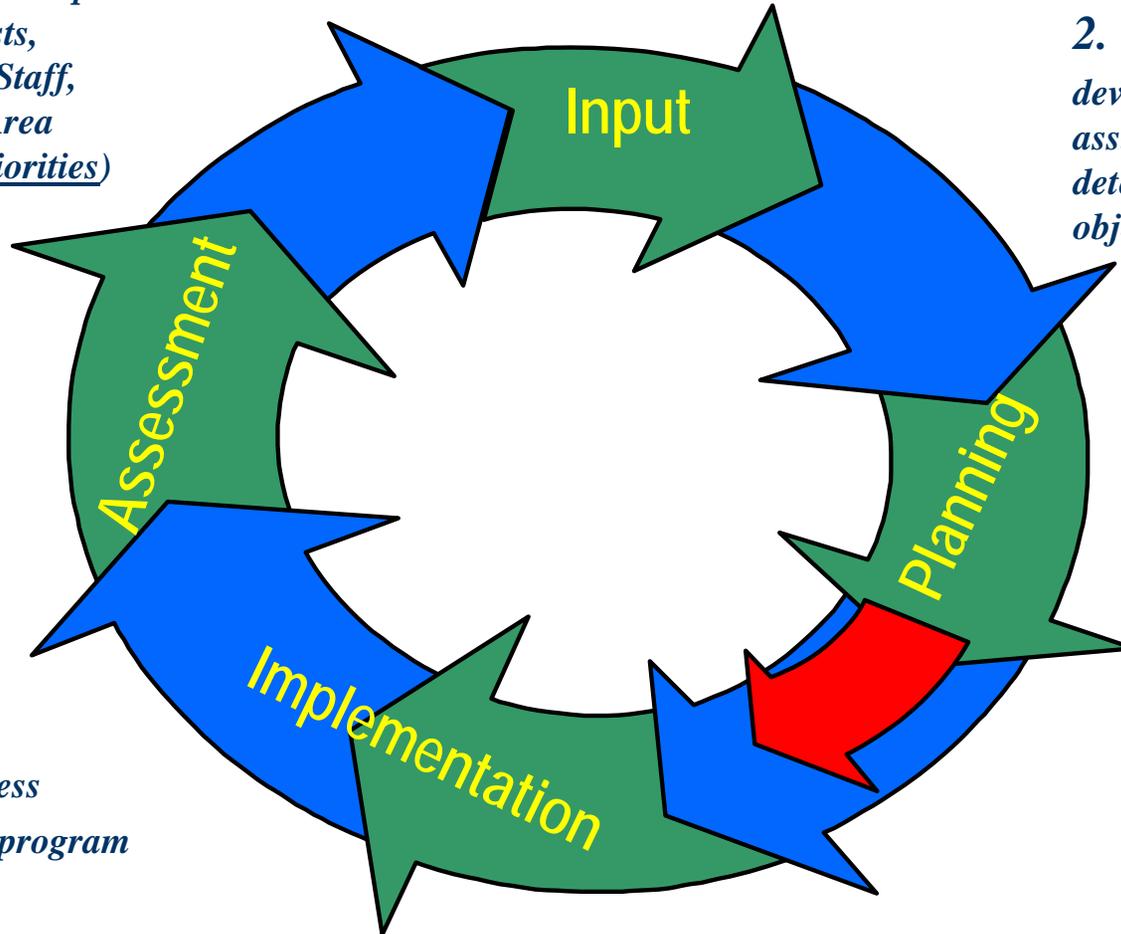
4. Research project  
plan describing  
research is prepared  
by each location

5. Office of Scientific Quality Review (OSQR): panel  
evaluates & certifies quality of research project plan

6. Research is initiated

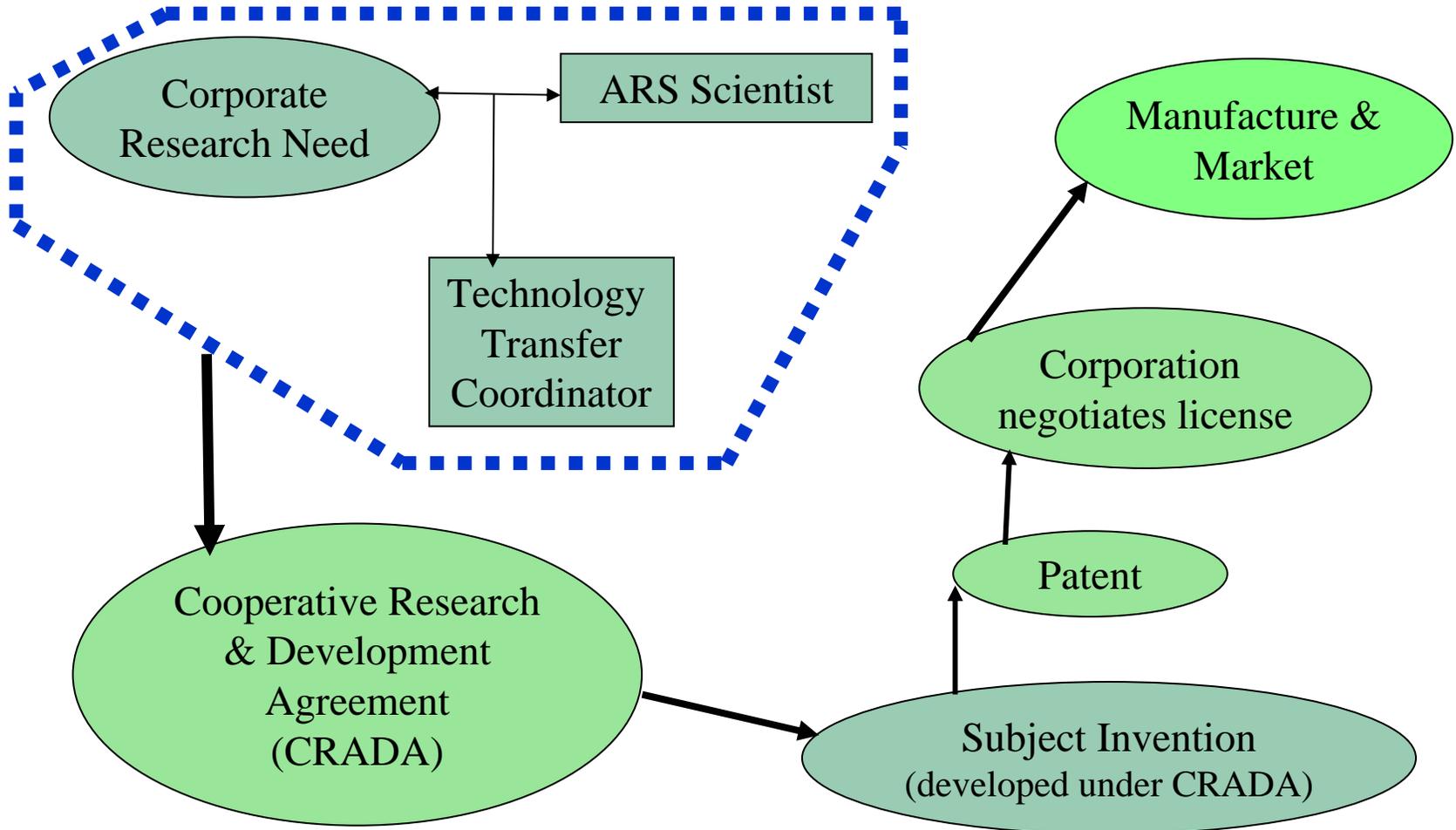
7. Annual progress  
reviews (line and program  
managers)

8. Retrospective  
evaluation  
(customers,  
stakeholders, line &  
program  
management)





# ***CRADA MODEL FOR DEVELOPING & TRANSFERRING TECHNOLOGIES TO THE PRIVATE SECTOR***





# ***OFFICE OF TECHNOLOGY TRANSFER***

- CRADA Process: Nurturing Partnerships
- At earliest stages of discussion...
  - ARS evaluates federal scientist and company for any concerns on conflict of interest (Ethics Office signs off)
  - Line management (supervisors) informed of discussions; approve plan to enter into CRADA and allocate ARS resources to the effort
  - Program management evaluates for relevance to mission, appropriateness of Statement of Work
- Technology Transfer Coordinator conducts negotiation, sends final document to OTT HQ for signature
- Interim and Final Report from CRADA identifies inventions or improvements resulting



# ***PATENT COMMITTEES: THREE SUBJECT MATTERS***

- Life Sciences Committee
- Chemical Committee
- Mechanical and Measurement Committee



# ***PATENT COMMITTEE VOTING MEMBERS AND PARTICIPANTS***

- Voting members: 9 ARS scientists
  - One in-depth reviewer
- Others present
  - Deputy Asst. Admin. (tie-vote breaker)
  - Patent Section (Chair)
  - Licensing specialist
  - Marketing specialist
  - Technology Transfer Coordinator
  - Information Staff member
  - National Program Leader (invited)



## ***SCHEDULING PATENT COMMITTEES***

- Meet quarterly
- Scheduled at the beginning of fiscal year
- One in-person meeting of each committee/year—budget permitting

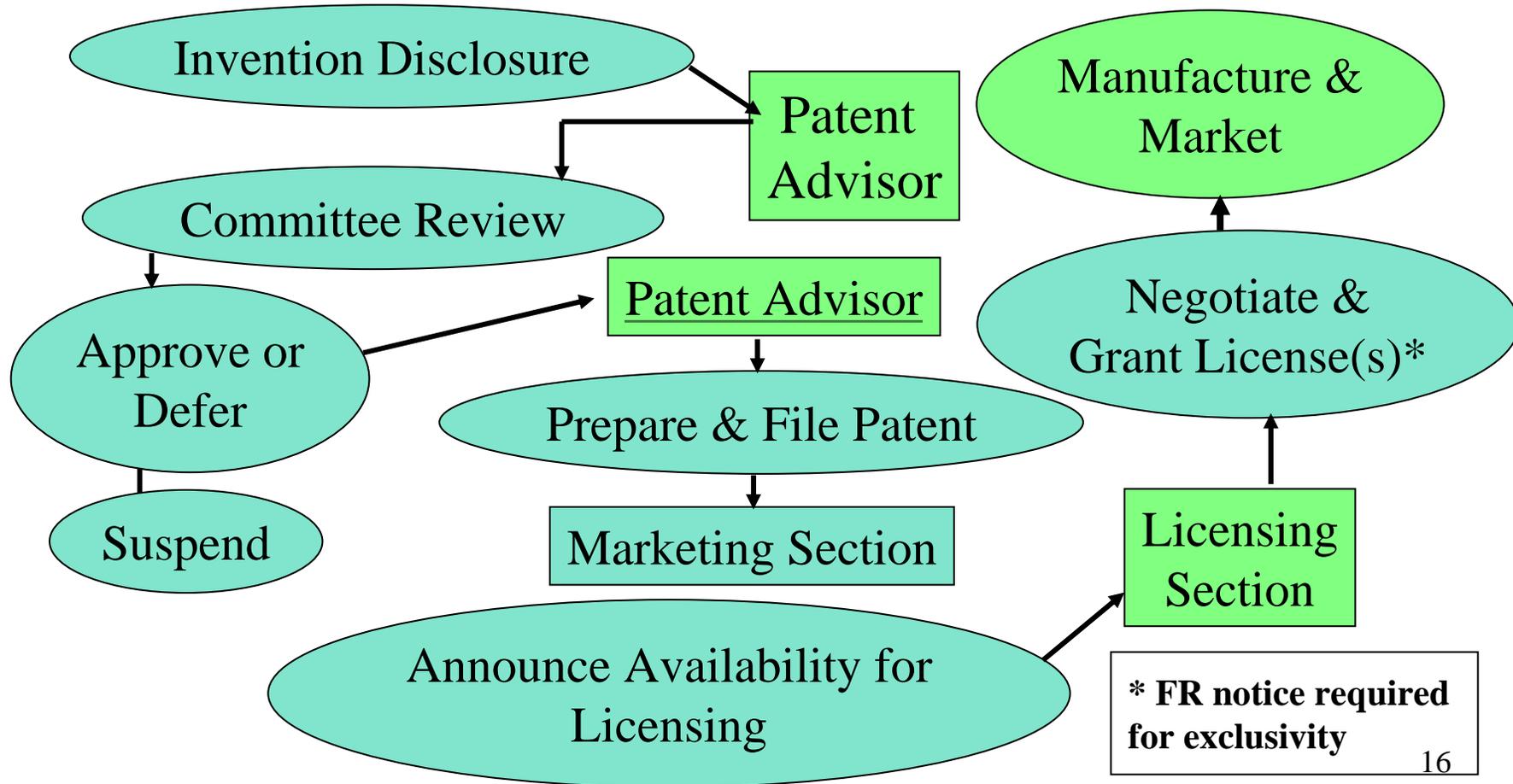


## ***ADVANTAGES TO THE AGENCY***

- Uniform committee recommendations across the agency
- Committee recommendation within three months of filing an Invention Disclosure
- Scientists and management notified upfront of committee dates for the year at the beginning of each fiscal year

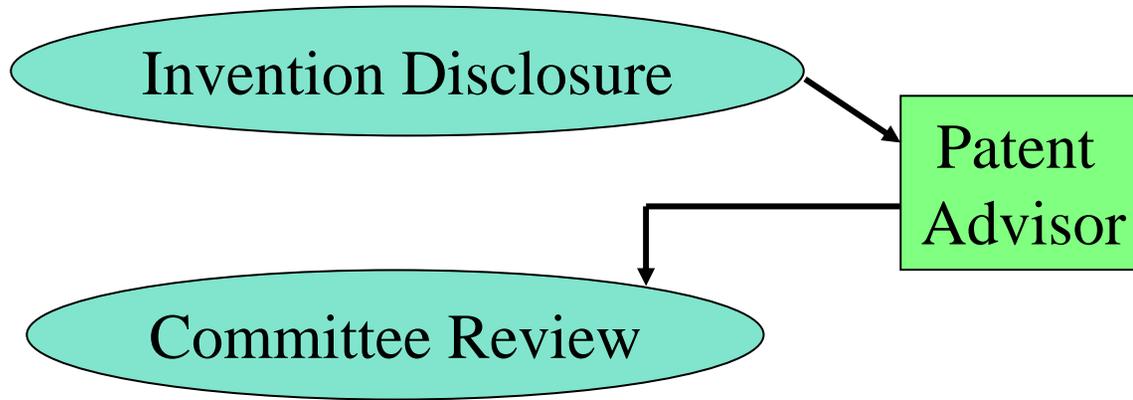


# ***PROCESS FOR PROTECTING INTELLECTUAL PROPERTY FOR COMMERCIALIZATION***





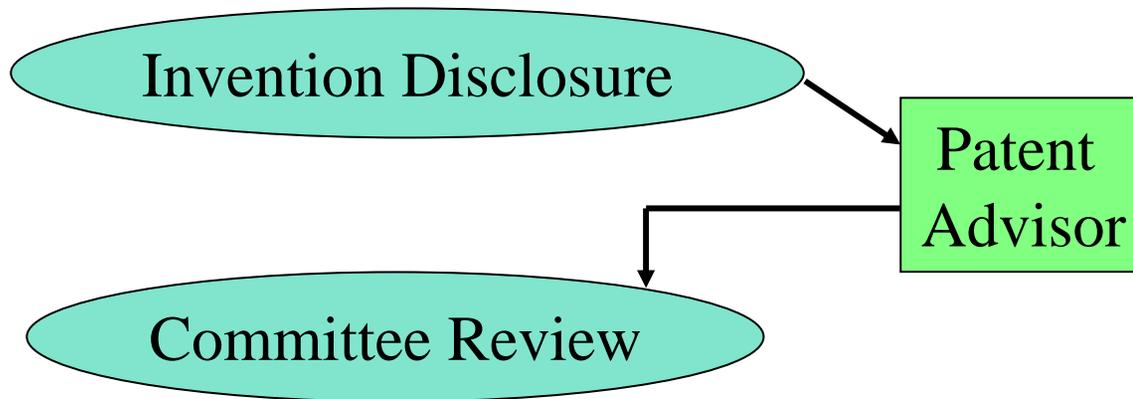
## ***PATENT COMMITTEE CRITERIA***



***Five major criteria for determining whether agency will patent an invention***



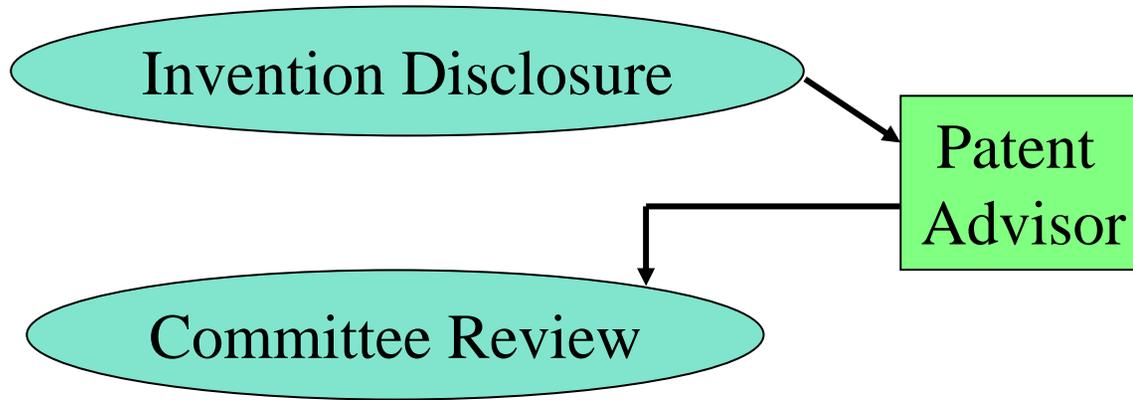
## ***PATENT COMMITTEE CRITERIA (Cont.)***



**Q1:** *Is there current commercial interest in the invention or a high probability of commercialization in the future?*



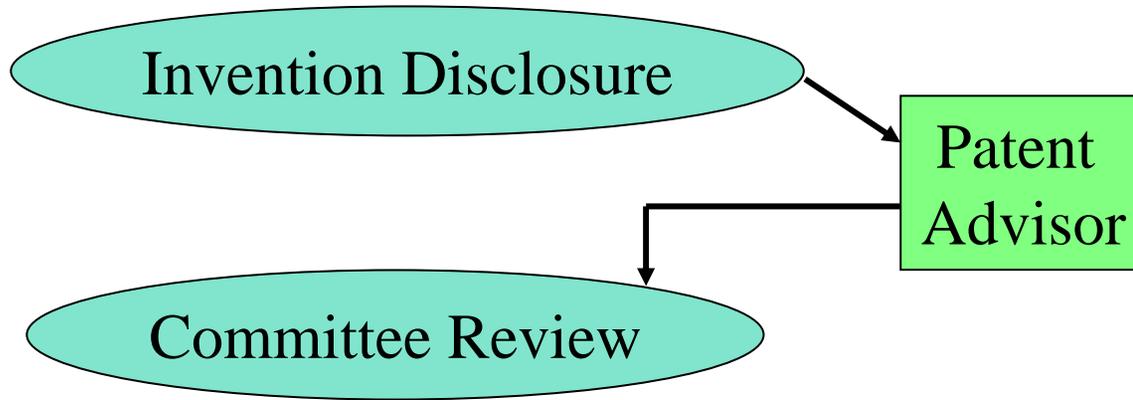
## ***PATENT COMMITTEE CRITERIA (Cont.)***



***Q2: Is the magnitude of the market relative to the cost of commercialization sufficiently large to warrant a patent?***



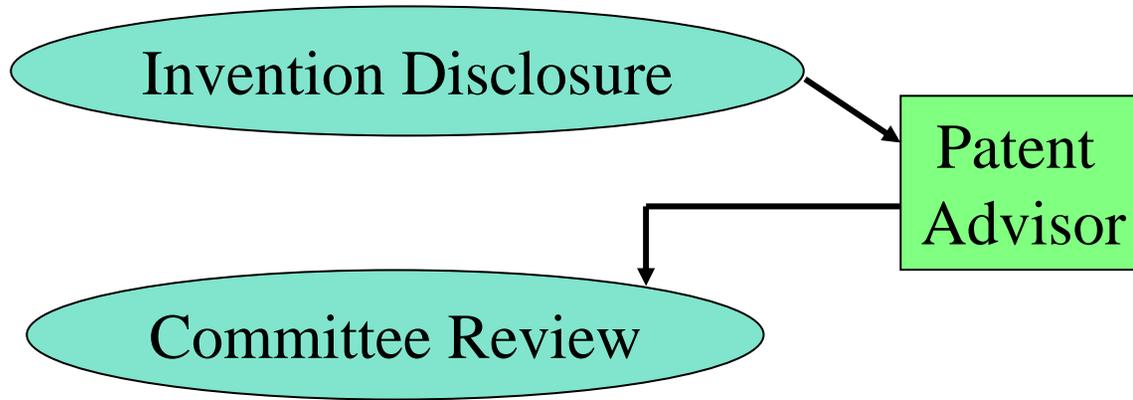
## ***PATENT COMMITTEE CRITERIA (Cont.)***



**Q3:** *Would the patent likely play a significant role in transferring the technology to the user?*



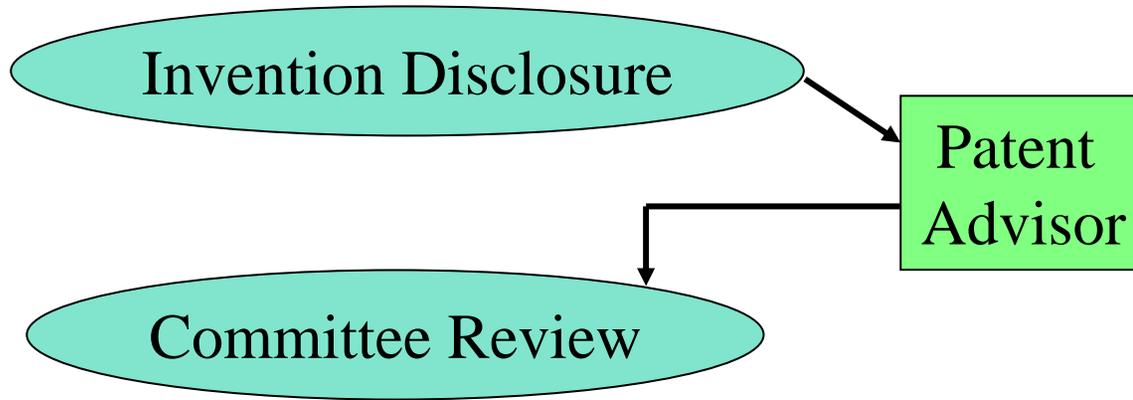
## ***PATENT COMMITTEE CRITERIA (Cont.)***



**Q4:** *Would a patent be enforceable, i.e., is the invention drawn to or does it employ a unique and readily identifiable material or device that could be bought or sold?*



## ***PATENT COMMITTEE CRITERIA (Cont.)***



**Q5:** *Is the invention of sufficient scope to justify patenting?*



# THE ANNUAL REPORT ON TECHNOLOGY TRANSFER

**U.S. Department of Agriculture**  
*FY 2006 Annual Reporting on Agency Technology Transfer*

Cover Photo: An experimental pepper line developed at the Agricultural Research Service

Release Date: December 15, 2006

## Downstream Outcomes from Technology Transfer Activities

Selected examples of Technology Transfer Outcomes in FY 2006:

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### Animal and Plant Health Inspection Service (APHIS)



**Controlling Canada Geese.** Researchers at APHIS-WS National Wildlife Research Center in Fort Collins, CO in collaboration with Imuolytics, LLC of Rancho Santa Fe, CA developed new technology designed to humanely reduce the growing Canada goose population in the United States. WS researchers developed a "birth control" bait that when fed to geese, prevents eggs from hatching. Canada geese can lay 2 to 9 eggs each per breeding season. The OvoControl™ bait has regulatory approval from the U.S. Environmental Protection Agency (EPA) to help reduce geese populations during breeding season. USDA, EPA and Fish and Wildlife Services officials were instrumental in evaluating the bait for safety and effectiveness. The baiting design limits exposure to other birds. Also, the effects on future bird hatches are fully reversible and the product does not harm the geese. According to the Humane Society's Urban Wildlife Program in Washington, DC the new technology provides a safe and humane means of controlling certain bird populations, which can pose increased risks to aircraft and conflict with people at parks, golf courses, and other public areas.

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Geese are fed treated bait during their breeding season in March and April by trained technicians from licensed pest control companies and Wildlife Services to prevent eggs from hatching. An over population of Canada geese the last few years has become an increasing nuisance to community residents. This new technology should provide a solution to the nuisance Canada geese problem.

A registration application for similar technology in pigeons is pending EPA approval.



## ***TRACKING AND REPORTING METRICS FOR THE ANNUAL REPORT***

- The usual: # CRADAs, invention disclosures, patent applications, patents issued, and licensing info
- Established internal database for tracking MTAs and CAs
  - About 70% of MTAs are for materials (research outcomes) going to non-ARS entities
- CRADA amendments extending time, scope of work, or funds to ARS (an indication of success in partnerships)
- Other research instruments (Trust Fund Agreement, Specific Cooperative Agreement, Reimbursable Agreement)



## ***OTHER DATA COLLECTING FOR “DOWNSTREAM OUTCOMES” FOR THE ANNUAL REPORT***

- CRADA interim and final report identifies inventions/improvements
- Annual ARS and FLC Technology Transfer Award nominations highlight impact
- Tech Transfer Coordinators are polled for success stories from partnerships
- Ag Research Magazine, weekly news feeds, etc., from Information Staff
- Licensing royalty reports
- May begin to use iEdison reports from university partnerships



Photo: Quiet Waters Park, Annapolis, MD  
(Joann Perkins)

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