

# Principals of ARS Technology Transfer



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**Deputy Assistant Administrator**  
**Office of Technology Transfer**

# ARS Culture

- ✓ Integration of TT with research mission & priorities
- ✓ Prefer public release - examined on case-by-case basis to meet needs of a changing industry
- ✓ ARS protects IP **only when necessary** to transfer technology
- ✓ Goal of licensing is to facilitate technology transfer, **not to generate income**
- ✓ Permit license-free research with any ARS technology to promote further research

# Technology Transfer Goals

- Transfer of technology is **primary objective**, not income
- Facilitate research partnerships & adoption of federal research outcomes for **broad US public benefit**
- Protect (patent) intellectual property **primarily** if it enhances technology transfer,
- Enhance U.S. economic development, global competition, and sustainable economic security

# Technology Transfer Mechanisms

- **Scientific publications, conferences, workshops, field days**
- **Public germplasm releases**
- **National Agricultural Library**
- **Information Staff - ARS public affairs, Ag Research Magazine, news releases, exhibits, web page.**
- **Research Partnerships**
- **Patenting / Licensing**

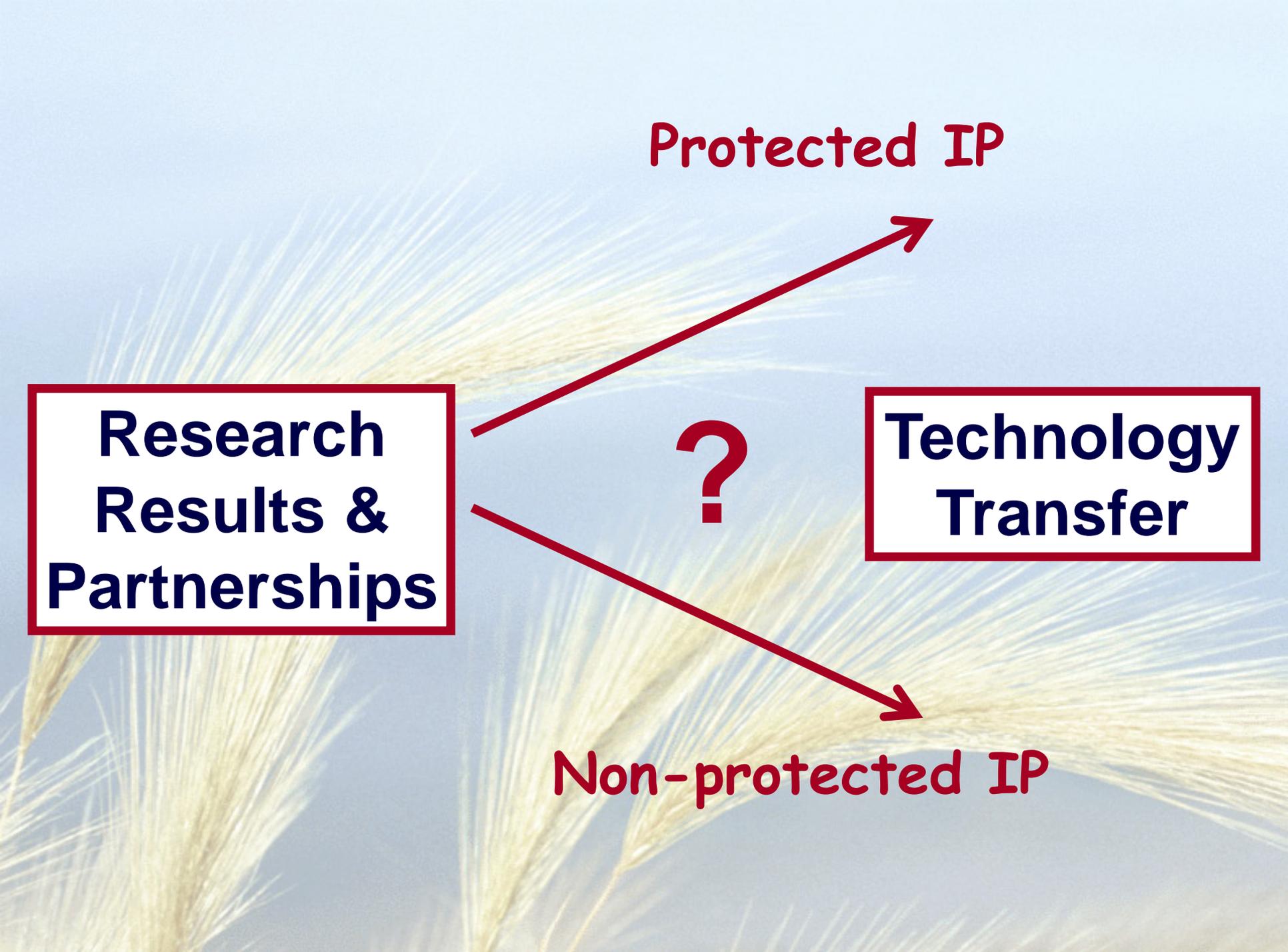
**Protected IP**

**Research  
Results &  
Partnerships**

**?**

**Technology  
Transfer**

**Non-protected IP**



**ONP**  
**Program**  
**Development**

**Area LM**  
**Program**  
**Implementation**



**OTT**  
**Technology**  
**Transfer**

# Office of Technology Transfer

- ✓ Centralized in policy, approvals, patenting, licensing, & marketing
- ✓ Decentralized in negotiation & implementation of CRADAs and MTAs.

## Patenting

- ✓ 9 Patent Agents
- ✓ 5 Assistants

## Licensing

- ✓ 5 Licensing Specialists
- ✓ 3 Assistants

## Partnerships

- ✓ 3 Liaisons
- ✓ 1 Assistant

# Patenting Section

- ✓ **Manages Patent Review Committees**
- ✓ **Prepares, files, & prosecutes U.S. patent & plant variety protection certificate applications**
- ✓ **Facilitates & directs foreign filings with contractor**
- ✓ **Obtain research results to maximize patentability**

# Licensing Section

- ✓ **Negotiates & monitors licenses**
- ✓ **Files appropriate FR notices of licensing intent**
- ✓ **Distributes royalties**
- ✓ **Obtain research results to maximize commercial partner success**

# Partnership Section

- ✓ Involved in negotiation of all foreign agreements
- ✓ Coordinates ATIP network
- ✓ Coordinates & reviews all TT award nominations
- ✓ Teams with ONP & LM to determine TT strategies

# Tech Transfer Coordinators

- ✓ **Coordinate TT training**
- ✓ **Negotiate & review CRADAs, MTAs, & CAs**
- ✓ **Reviews other agreements for IP management implications**

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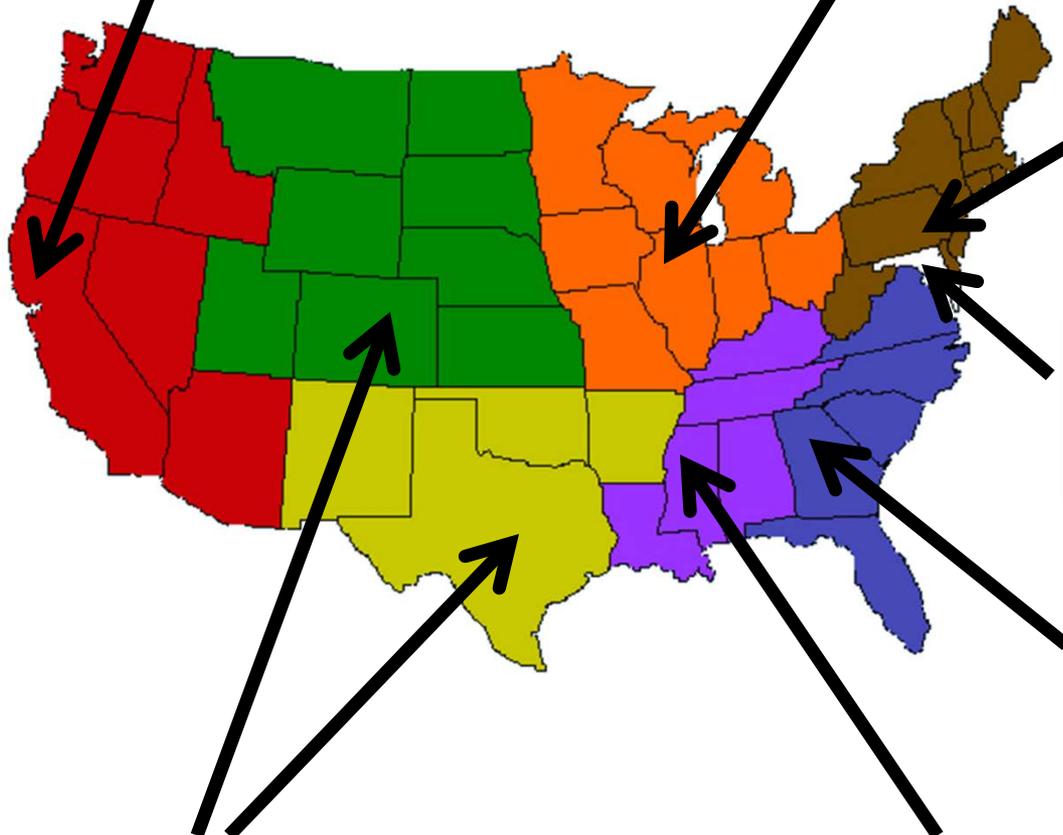
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# Technology Transfer Mechanisms

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- **Research Partnerships**
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# Research Partnerships

- Cooperative Research Agreements with IP protection **CA, CRADA, MTA, CRADA-MTA,**
- Cooperative Research Agreements without IP protection **TFCA, MTRA, SCA**
- Patenting & Licensing of Inventions
- Agricultural Technology Innovation Partnership **ATIP**

# TFCA Model

**ARS-Partner**

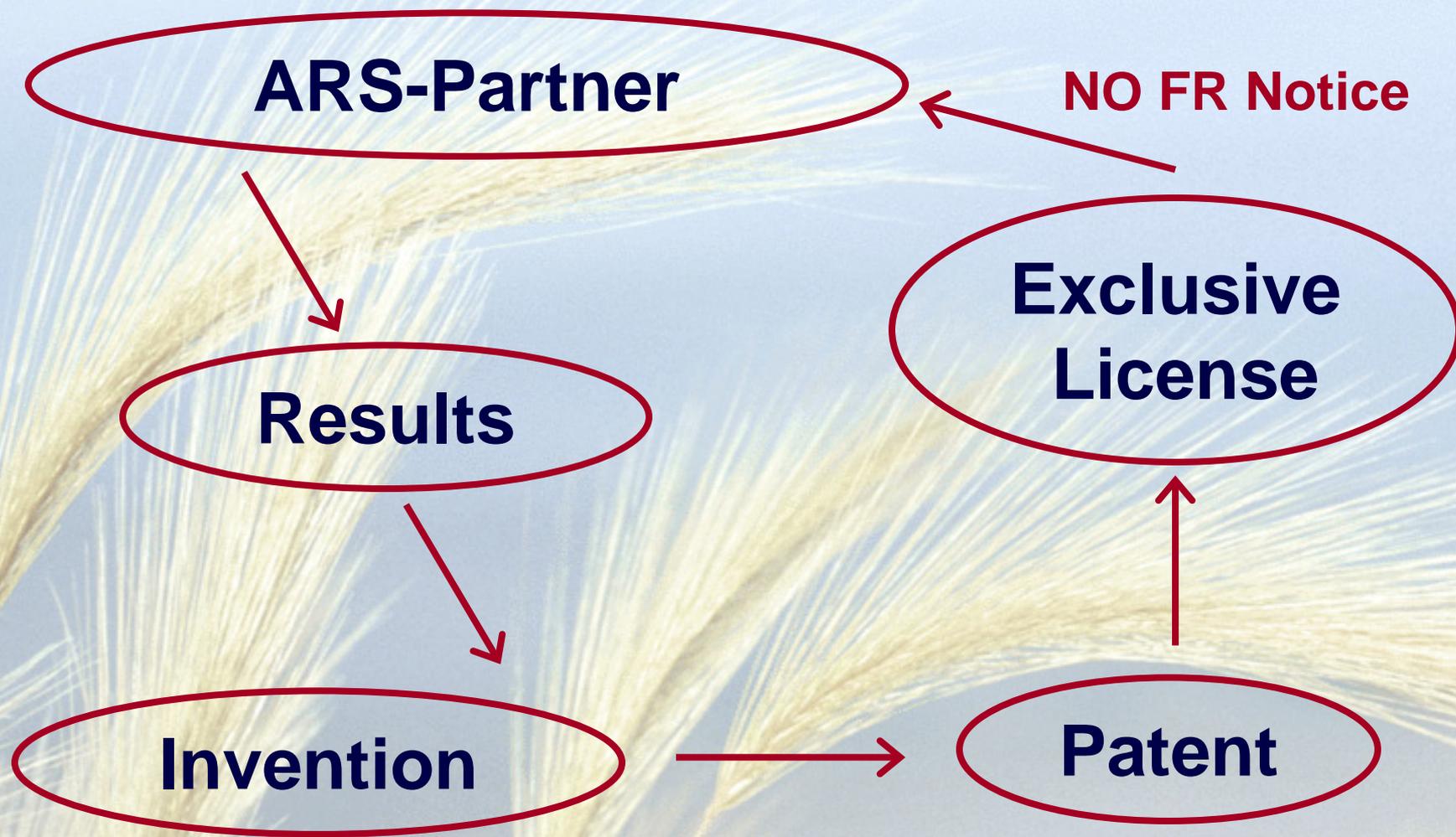


**Results**

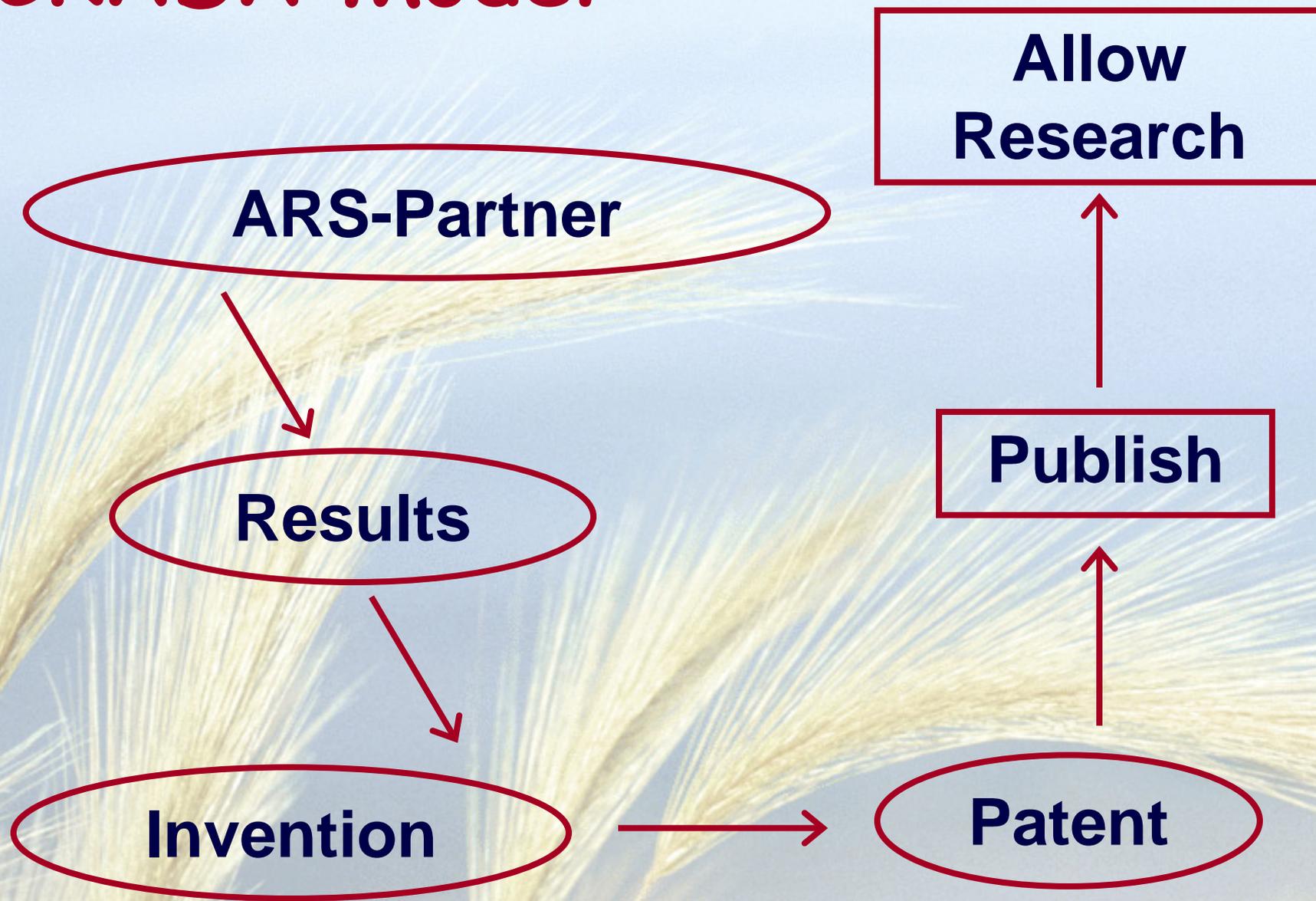


**Published**

# CRADA Model



# CRADA Model



## **CRADA**

- **One project  
One agreement**
- **Confidentiality provisions**
- **IP protection**
- **Right to negotiate exclusive license**

## **TFCA**

- **One project  
Multiple agreements**
- **No confidentiality provisions**
- **No IP protection**
- **No right to negotiate exclusive license**



# Successful Technology Transfer

# 1915-1927 Sewall Wright

Journal of Agricultural Research,  
Washington, D. C.

Vol. XXXI, No. 4  
Aug. 15, 1925



## AN APPROXIMATE METHOD OF CALCULATING COEFFICIENTS OF INBREEDING AND RELATIONSHIP FROM LIVESTOCK PEDIGREES<sup>1</sup>

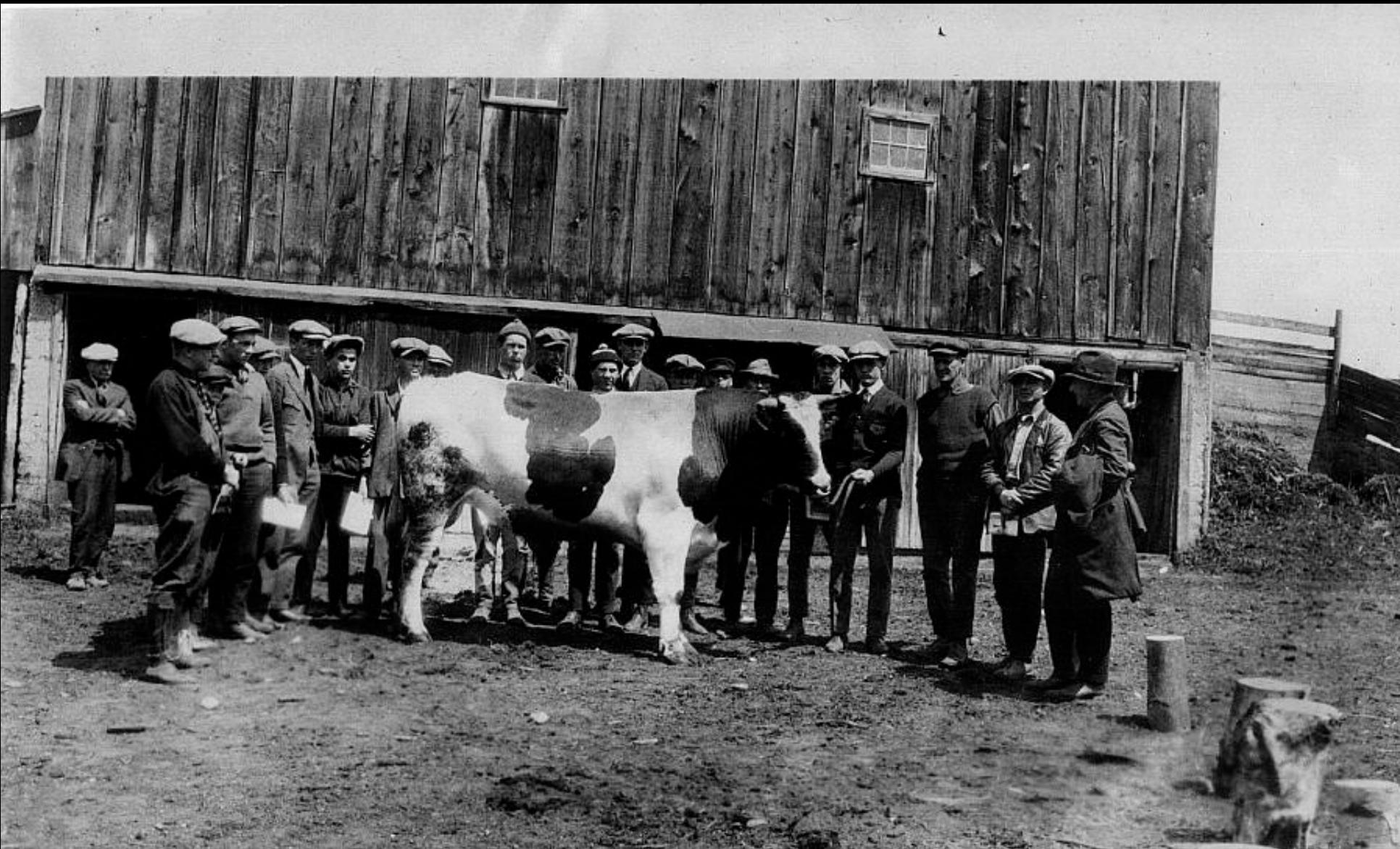
By SEWALL WRIGHT, *Animal Husbandman in Genetics*, and HUGH C. MCPHEE, *Associate Animal Husbandman in Genetics, Bureau of Animal Industry, United States Department of Agriculture*

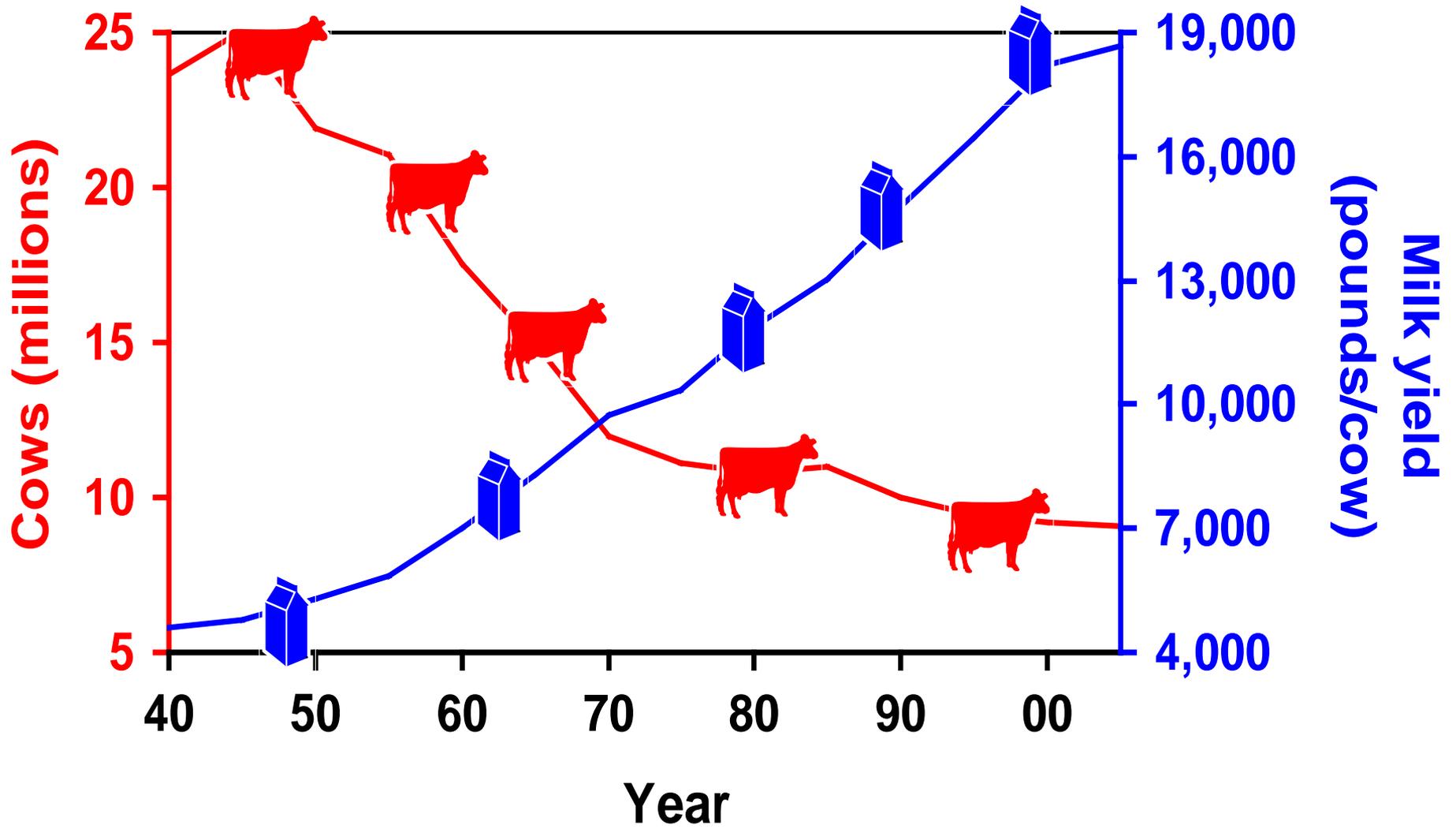
### INTRODUCTION

In previous papers<sup>2</sup> one of the writers has described coefficients of inbreeding and relationship designed to make possible the interpretation of livestock breed histories in terms of the Mendelian theory of inbreeding and crossbreeding. The formula for the coefficient of inbreeding may be repeated here for convenience:

$$F_x = \Sigma[(\frac{1}{2})^{n+n^{+1}}(1 + F_a)]$$

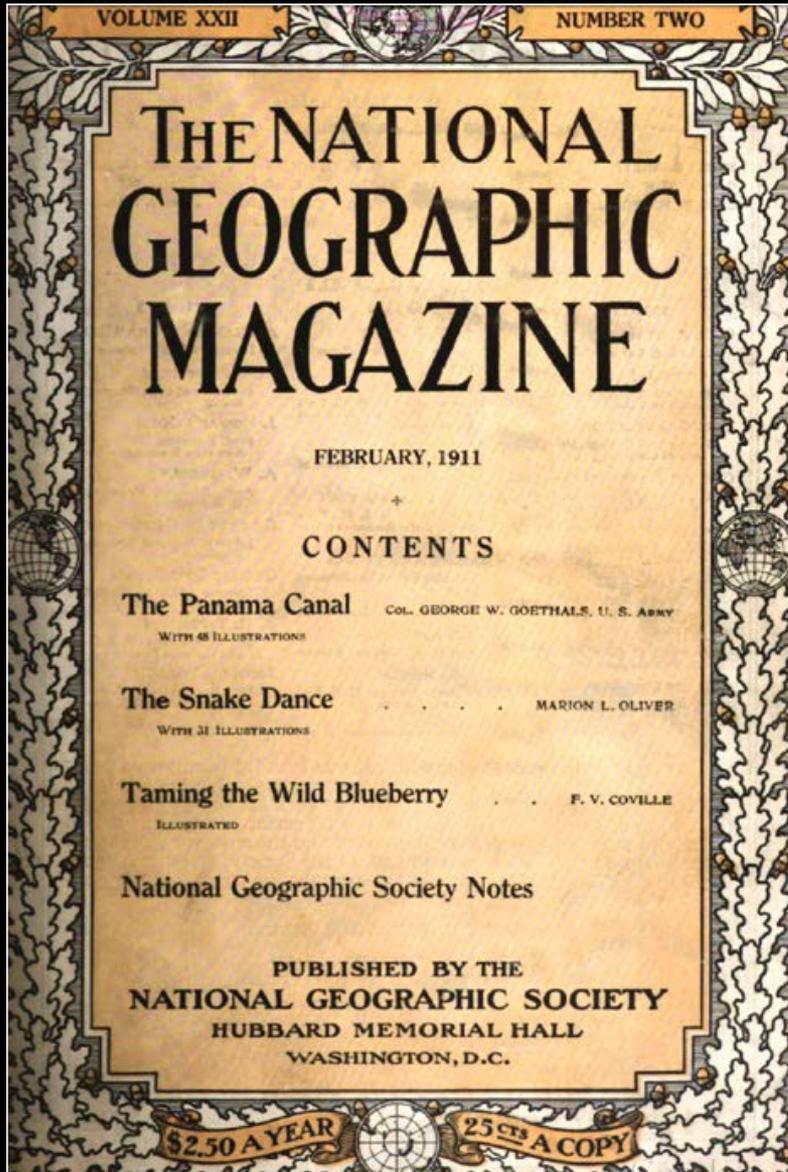
**1918-1958 1,200 bulls leased**





# Frederick Coville

1888-1937



1920 'Pioneer'  
1<sup>st</sup> artificially bred  
blueberry hybrid





UNITED STATES DEPARTMENT OF AGRICULTURE



**BULLETIN No. 974**



Contribution from the Bureau of Plant Industry  
WM. A. TAYLOR, Chief

Washington, D. C.

PROFESSIONAL PAPER

October 15, 1921

**DIRECTIONS FOR BLUEBERRY CULTURE, 1921.<sup>1</sup>**

By FREDERICK V. COVILLE, *Botanist.*

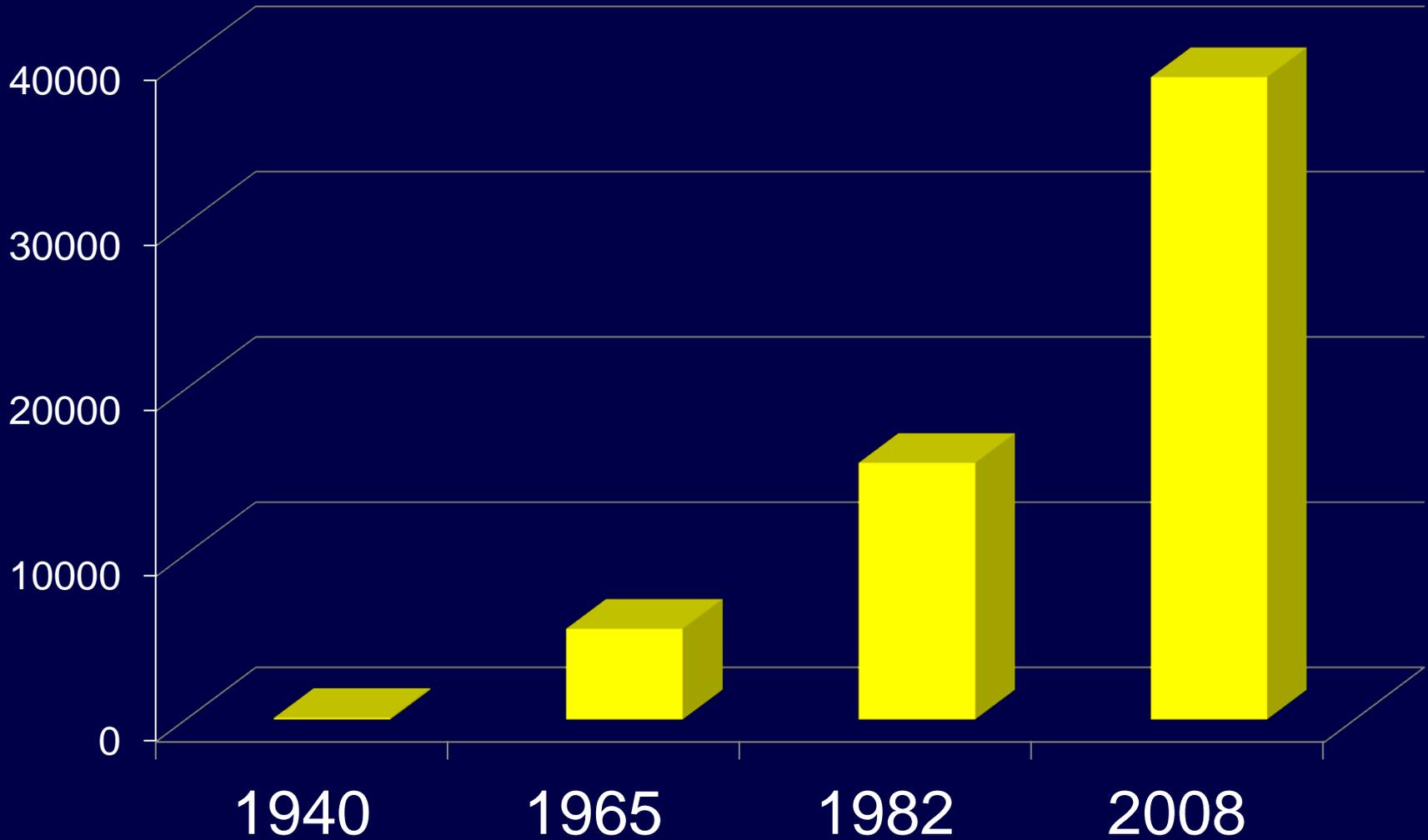
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**EARLY EXPERIMENTS WITH BLUEBERRIES.**

The experiments which have led to the present publication were begun in 1906. The work of the first four years resulted in a publication entitled "Experiments in Blueberry Culture," issued in 1910.<sup>2</sup> This work was widely distributed, and a copy came into the hands of Miss Elizabeth C. White, New Lisbon, N. J. Miss White at once perceived the significance of the experiments and the importance of testing their application to the waste lands surrounding her father's cranberry bogs. An informal agreement of cooperation resulted. In 1913 this was replaced by a formal contract, the object of which was to provide suitable conditions for a field test of the blueberry hybrids produced in the course of the experiments at Washington, D. C. The location of the testing plantation is at Whitesbog, 4 miles east of Browns Mills, N. J., in the sandy, peaty, acid soil of the pine barrens. Up to the present time 16 acres have been planted with 27,000 different hybrid seedlings. Thus far, about 18,000 of these

# Hectares of US Blueberry Production





"Our Banner in the Sky" by Frederic Edwin Church, 1861