

Federal Interagency Domiciled Feeding Center: Needs and Potential Benefits

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No disclosures.



Human Nutrition Research

“If a research project in the field is phenomenological, it is often classified as nutrition; when it becomes mechanistic, it is called something else.” *Levin & Bier. Research Directions in Nutrition: View from the NICHD. Am J Clin Nutr 1993*

Why we should care: i) nutrition is primarily about health maintenance; ii) nutrition science is transdisciplinary (i.e. cross all agencies; iii) after air, food is our largest environmental exposure; iv) federal missions require credible science; v) public wants credible nutrition information



The Challenges for Nutrition Science

- Scientific method (explicit question, explicit outcomes, intervention, replicability, predictability)
- Inherent difficulty measuring food intake
- Outcomes often take years to “develop” so biomarkers become important; diet may be the “first hit” but other factors may be more important
- Outcomes rarely accounted for solely by differences or variability in food composition



How Could a Domiciled Feeding Center Help?

- Known recipe, ingredients, amount
- Minimize chance to "cheat"
- Potentially larger sample size studied at one time
- Capacity to answer fundamental questions other entities cannot and to "validate" noisy data against more precise measures



What needs to be considered/done?

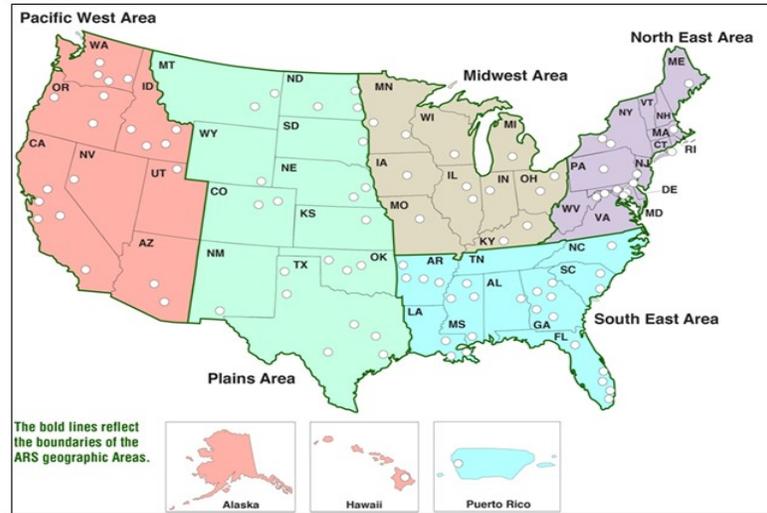
CONSENSUS Re Importance and Need

- Identify location (where, new or renovated building)
- Identify staffing and logistics (sustainable & flexible)
- Identify necessary research infrastructure (metabolic kitchen, imaging, physiology, analytical capacity-biochemical to "omics", phenotyping, socio-ecological, behavioral, etc.)
- Identify mechanism to evaluate and approve proposals based on available funding



ARS Profile

- ~750 research projects within 17 National Programs
- ~2,000 scientists & post docs
- ~90 + research locations including overseas laboratories
- ~6,000 other employees



Beltsville Human Nutrition Research Center



- Six Human Nutrition Research Centers
- BHNRC is the oldest of the six HNRC's
- Located on ~7,000 acres (crops, animals, labs)
- 1 of 3 Centers in Beltsville Location (BARC and National Arboretum)

Monitoring Food Composition

- *Provide U.S. Food Composition Data*
- *Determine Food Consumption and Dietary Patterns of Americans*

The USDA-ARS has held this responsibility for over 100 years.



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291

U. S. DEPARTMENT OF AGRICULTURE,
OFFICE OF EXPERIMENT STATIONS.

THE CHEMICAL COMPOSITION

OF

AMERICAN FOOD MATERIALS.

[Corrected April 14, 1906.]

BY

W. O. ATWATER, Ph. D.,

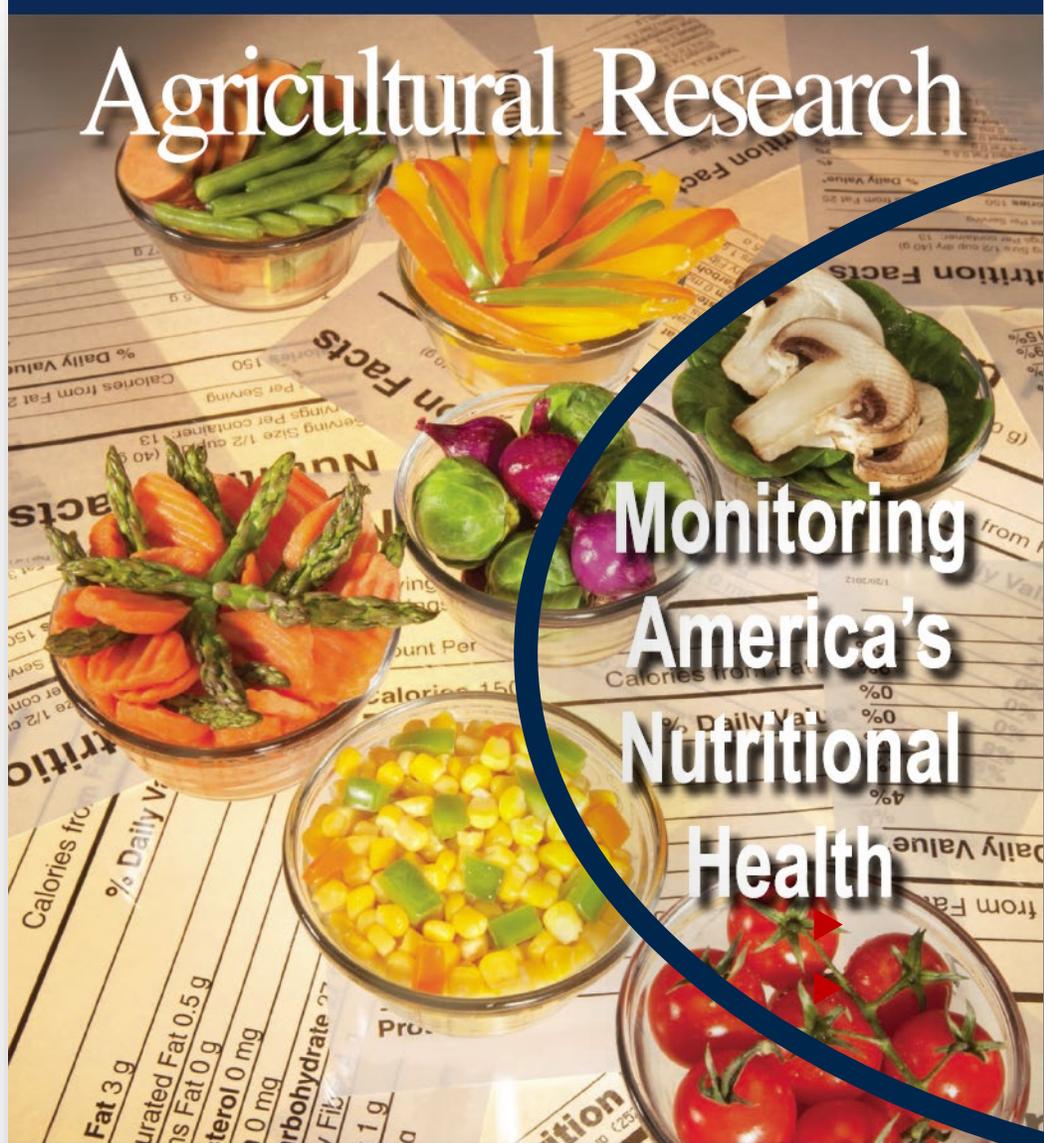
AND

A. P. BRYANT, M. S.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1906.

Agricultural Research



Monitoring America's Nutritional Health

Food Surveys Research Group

- ▶ conduct dietary surveys of U.S. population
- ▶ provide resulting data to public
- ▶ data used for food and nutrition programs and policy decisions

ICHNR Priorities

- Evaluation of DRI's (Klurfeld)
- FDA-food labeling, food safety, food integrity
- HHS & DOD-diet-related disease; evidence-based food/dietary pattern recommendations
- **COMMON GOAL**-assure/improve health of people and the planet



The Stage Has Been Set

- World population (7.5 billion) expected to reach 9.7 billion in 2050
- By 2050, > 1 in 5 people will be over 60 yr (80% in low- & middle- income countries.)
- Colliding epidemics (ID, NCD, food security)
- Challenges for Mother Earth (natural resources, clean water) and by Mother Nature (drought, floods, rising temp & seas)

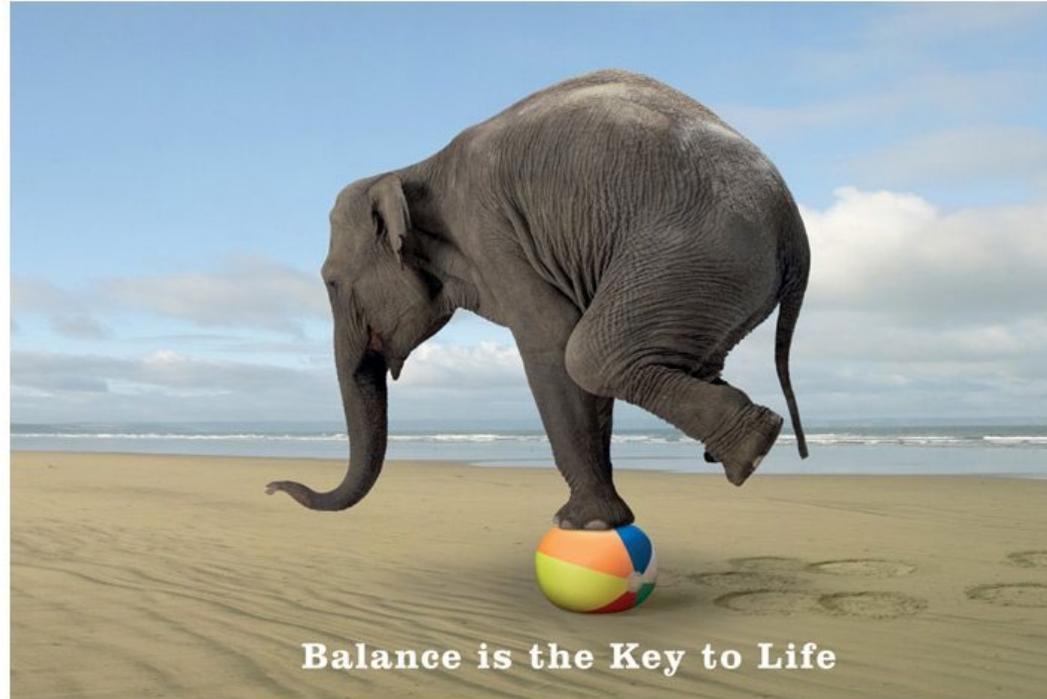


MAINTAINING EQUILIBRIUM

Nutritional Status

Dietary
Intake

Exercise



Chronic
diseases

Sarcopenia

What does a "healthy" plate look like?

How do we provide it?

It was simple in the beginning:

*"Let food be thy
medicine and
medicine thy food"*

Hippocrates

Pieter Bruegel - The
Harvesters, 1565



But our
perspective has
changed

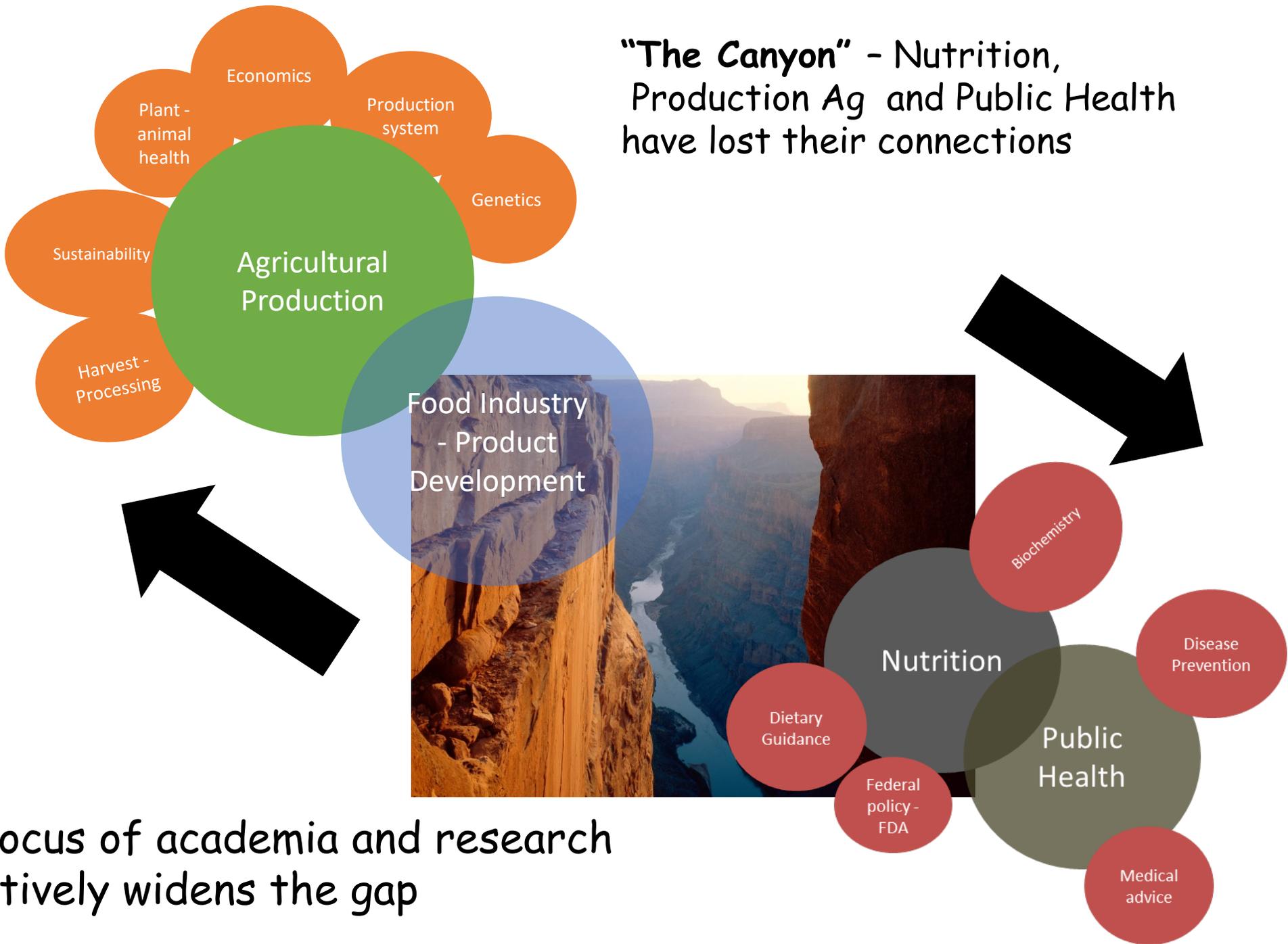


Claire Talbot, "Factory Farm"



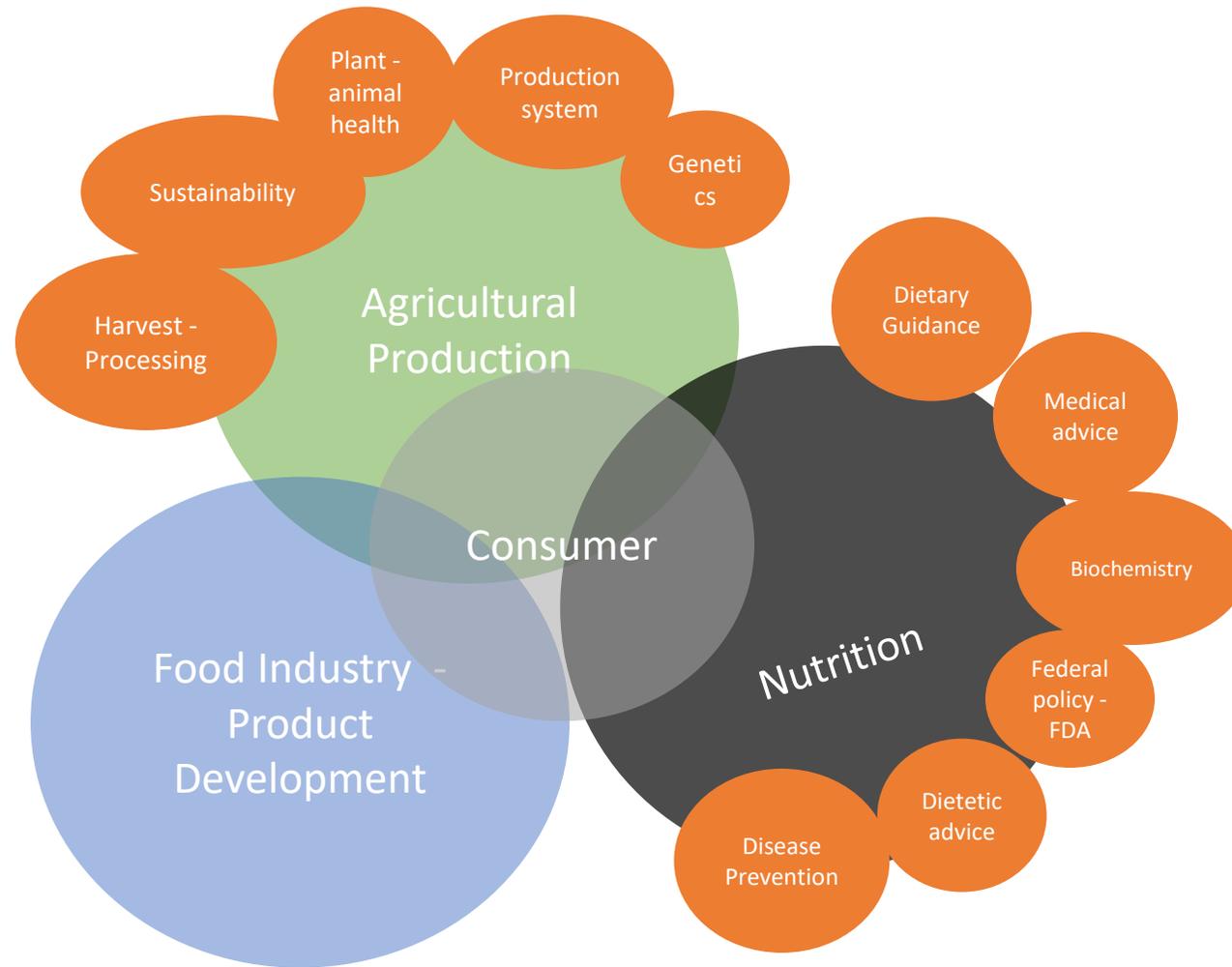
ANDREA DEL PESCO, "Supermarket"

"The Canyon" - Nutrition, Production Ag and Public Health have lost their connections



The focus of academia and research effectively widens the gap

Bringing it back together is the challenge....



ICHNR's Domiciled Feeding Center

- The Solution?
- Will not know unless we try.....
- When do we start?

