

Research in Food Science

*METODOLOGI PENELITIAN
ILMU PANGAN*

Purwiyatno Hariyadi

Dept of Food Science & Technology

Bogor Agricultural University

Bacaan :

Daryl B. Lund (2002). Food Engineering in the 21st Century. College of Agriculture and Life Sciences, Cornell University, Ithaca, NY

Berbagai sumber Internet

Definition of the Field of Study

Food Science is a convenient name used to describe the application of scientific principles to create and maintain a wholesome food supply

(Dept of Food Science & Technology, UC-Davis)

Food Science is a very applied field, one that requires in-depth knowledge in several disciplines

(Hartel, UW-Madison)

Definition of the Field of Study

MICHIGAN STATE
UNIVERSITY

Food Science & Human Nutrition

Food science is the science of food.

Food science is a **multidisciplinary** field that applies disciplines such as chemistry, microbiology, engineering and nutrition to develop new food products and design new processes to improve the safety and quality of foods.

Food scientists use cutting-edge technology to develop new foods, add value to raw food commodities and improve the quality and safety of existing food products.

Definition of the Field of Study



Food Science is the **multidisciplinary** study of food and the application of knowledge thus gained to the development of food products and processes, the preservation and storage of foods, and the assurance of food safety and quality.

Definition of the Field of Study



Food Science is the discipline in which the **engineering**, **biological**, and **physical** sciences are used to study the nature of foods, the causes of deterioration, the principles underlying food processing, and the improvement of foods for the consuming public.

Food Technology is the application of food science to the selection, preservation, processing, packaging, distribution, and use of safe, nutritious, and wholesome food.

(In practice, the terms food science and food technology are often used interchangeably).

Definition of the Field of Study



Departemen Ilmu dan Teknologi Pangan, Fateta, IPB

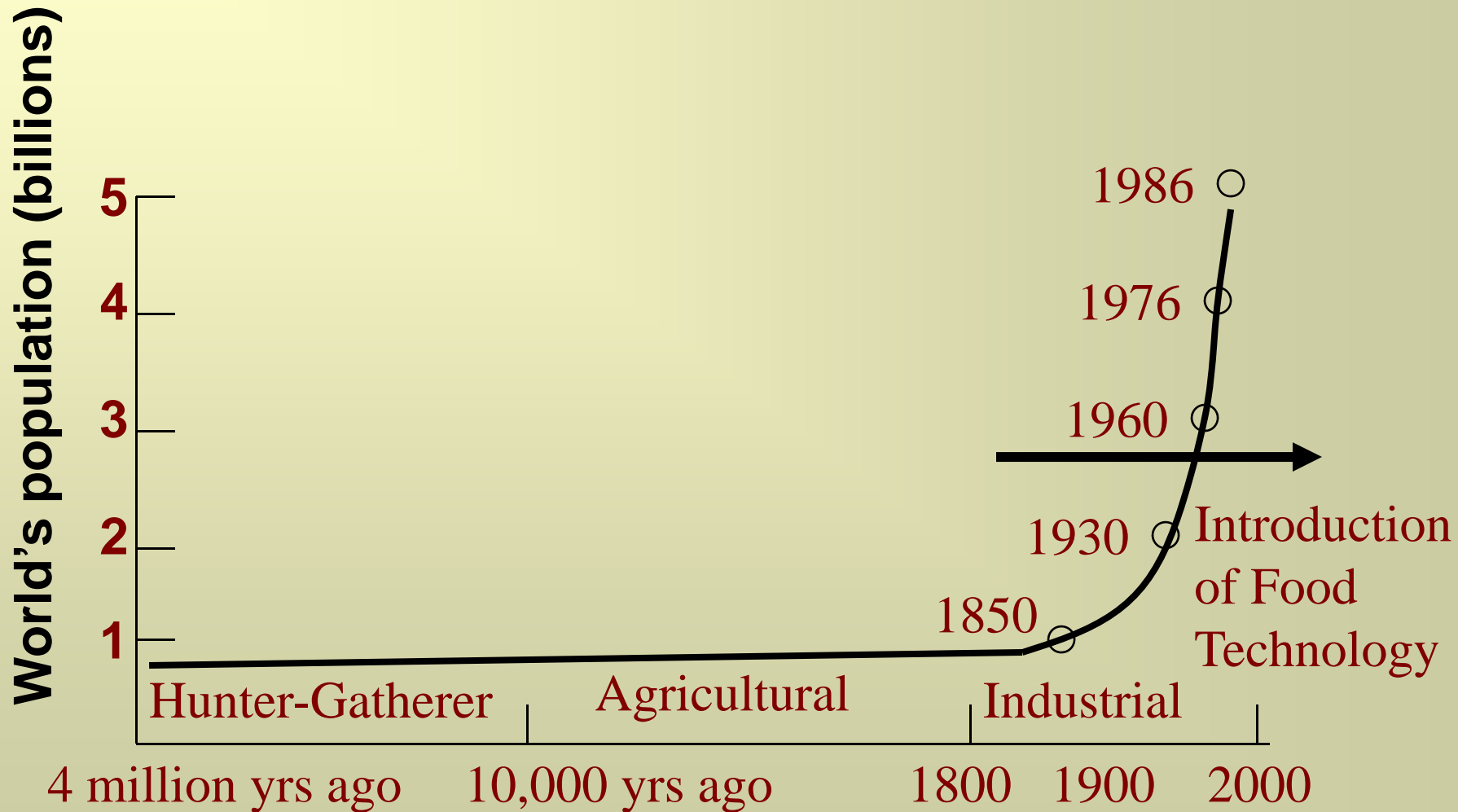
Ilmu pangan : ilmu dasar yang menggabungkan prinsip-prinsip ilmu biologi, kimia, fisika dan teknik (*engineering*) yang digunakan mempelajari karakteristik bahan pangan, mekanisme kerusakan dan pencegahannya, serta dasar-dasar pengolahannya.

Teknologi pangan : aplikasi **ilmu pangan** kedalam sistim seleksi, pengawetan, pengolahan, pengemasan, distribusi, dan pemanfaatan bahan pangan yang baik, aman, dan **bergizi**.

Food Science Research?

- Ten billion by the first quarter of 22nd Century
- Lessons of the 20th century:
 - Science and its application can enhance our ability to produce food
 - Equally important to have the capacity to preserve the food for our use
- Population increases related to increased capacity of man to cultivate and domesticate animals

Food Science Research?



(Henry, 1997)

Food Science Research?


- Jumlah penduduk miskin (penduduk yang berada dibawah Garis Kemiskinan) di Indonesia pada bulan Maret 2007 sebesar 37,17 juta atau 16,58 persen dari populasi (BPS (2007)).
- Umumnya 3 x jumlah tersebut beresiko tinggi mengalami kekurangan zat gizi mikro.
- Kekurangan zat gizi mikro akan berakibat pada :
 - Penurunan kemampuan kognitif
 - Meningkatkan kematian Ibu Melahirkan
 - Bayi yang dilahirkan rentan cacat dan penyakit
 - Produktivitas rendah

What is Research?

 R I S E T = R E S E A R C H

 R I S E T = R E + S E A R C H

 *there is no guaranteed recipe for success at research*

 *Research = experiment*

What is Research?

*Research is not a
vocation but a way of
living*

What is Research?

- A diligent and systematic* inquiry or investigation into a subject in order to discover or revise facts, theories, applications etc.

*having, showing or involving a system, method or plan

History of Research

- Humans have been researching since the beginning of time
 - Invention of the wheel
 - Building material
 - Weapons
 - Agriculture
 - Medicine
 - And on and on and on...

Research

- The *systematic* part of this activity is what allows us to fly into space, cure diseases, feed the hungry and live fruitful lives
- Through research, we build on the discoveries of those who have investigated before us and often improve their findings

Research

- Research often results in a synergy or the putting together of two or more ideas to arrive at a new or better solution
- Academic research *could be* reading the works of several scholars about a particular topic and then forming and reporting your own opinion about the same topic

Research

- The value added is that you have the luxury of reviewing the work of many researchers who may have individually worked only on one facet of a research question
- You get the advantage of seeing the big picture
- You get to put it all together!

Research

- It's hard to put together a jigsaw puzzle when you have only one piece
- It's somewhat easier when you have all the pieces
- It's far easier when you see the entire picture

What Research *IS NOT*!

- Moving information from one place or source to another
- Paraphrasing or rearranging the work of others
- Cutting and pasting the work of others
 - There is no value added
 - There is no room for it in academia

What is Plagiarism?

- Presenting as one's own the ideas, words, or products of another
- “Kidnapping” the work of another
- Plagiarism includes use of any source to complete academic assignments without proper acknowledgement of the source

The Cost of Plagiarism

- Could include:
 - *A failing grade on an assignment*
 - *A failing grade for the course*
 - *Suspension from the university*
 - *Dismissal from the university*

The Cost of Plagiarism

- Plagiarism is stealing
 - Robs an author or researcher of money, respect and prestige in his or her industry for work honestly performed
- Plagiarism steals from you
 - You do not learn so you lose
 - You do not practice research skills so you lose out on training your mind to think and organize

Recycling

- Rehashing material you already know thoroughly or, without your professor's permission, submitting a paper that you have completed for another course

- Diskusi?
- Tugas membuat essay pendek ttg :
“Perananan food science dalam pembangunan di Indonesia”