



John Kempf



advancing eco-agriculture



John Kempf





advancingecoag.com



Regenerative Agriculture Systems



Why do you farm?



John Kempf



advancing eco-agriculture



John Kempf



advancing eco-agriculture





John Kempf



Advancing eco-agriculture



John Kempf





John Kempf



advancing eco-agriculture

What does it mean to be a “Practical Farmer” ?



Practical farming has to be:

- economically viable
- environmentally sound



Iowa loses 2 pounds of soil for each pound
of corn produced





2 pounds



**Current Iowa corn and soybean
production does not qualify**



Midwest farmers have two tremendous opportunities:



John Kempf



1. Replacing West Coast vegetable production

2. Addressing plant health challenges at the source, rather than band-aiding them



West Coast production, the big picture:

California is a desert that has already happened

People will be relocating east

Food production will be moving



John Kempf



California is losing its historical competitive advantages:

- Readily available labor
- Plentiful irrigation water



John Kempf



**Before 1940 Iowa was 6th in apple
production**



In 1949 Iowa had 12,000 acres of potatoes



**Forest City, Iowa was heart of the largest
flax production region in the world**



2. Addressing plant health challenges at the source, rather than band-aiding them



John Kempf



2. Addressing plant health challenges at the source, rather than band-aiding them



John Kempf



-
- 1. Carbohydrates - soil borne pathogens**
 - 2. Proteins - sucking and chewing insects**
 - 3. Lipids - air borne pathogens**
 - 4. PSM's - beetles**

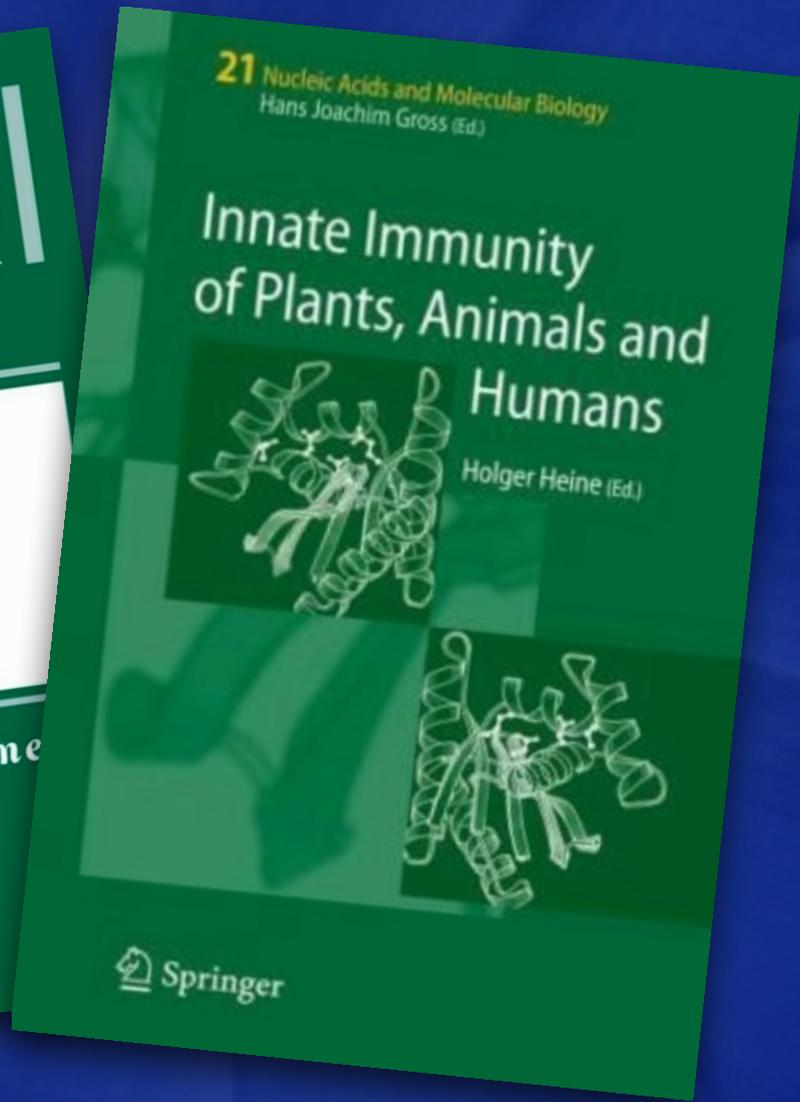
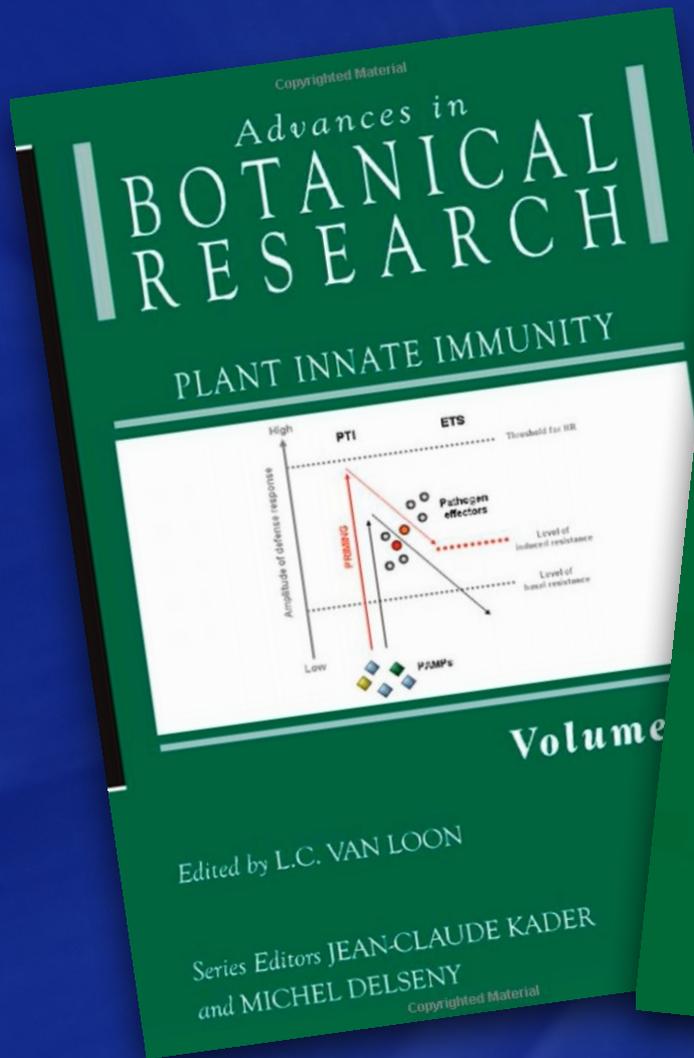
Farming is a profession of generalists

Research is a profession of specialists



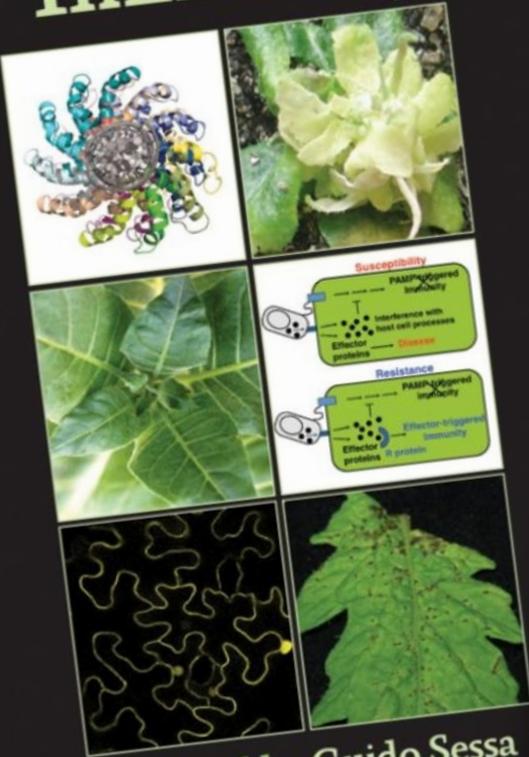
**There is a large disconnect between research
and practical application**





Copyrighted Material

Molecular Plant Immunity



Edited by Guido Sessa

 **WILEY-BLACKWELL**
Copyrighted Material

Methods in
Molecular Biology 712

Springer Protocols

John M. McDowell *Editor*

Plant Immunity

Methods and Protocols

 Humana Press



advancing eco-agriculture

Back

MINERAL NUTRITION AND PLANT DISEASE



Edited by
Lawrence E. Datnoff,
Wade H. Elmer,
and Don M. Huber



John Kempf



advancing eco-agriculture

Bio-Technology



Genetics



Epi-Genetics



John Kempf



advancing eco-agriculture

Environment determines genetic expression



Environment is climate mediated by nutrition



**Nutrition is the foundation of yield, quality, and
plant immunity**



Results of regenerative farming systems



Regenerate soils while growing a crop



Food as Medicine





Nutrition

Balanced for Health

not ONLY Yield



Principles perform consistently



John Kempf



advancing eco-agriculture

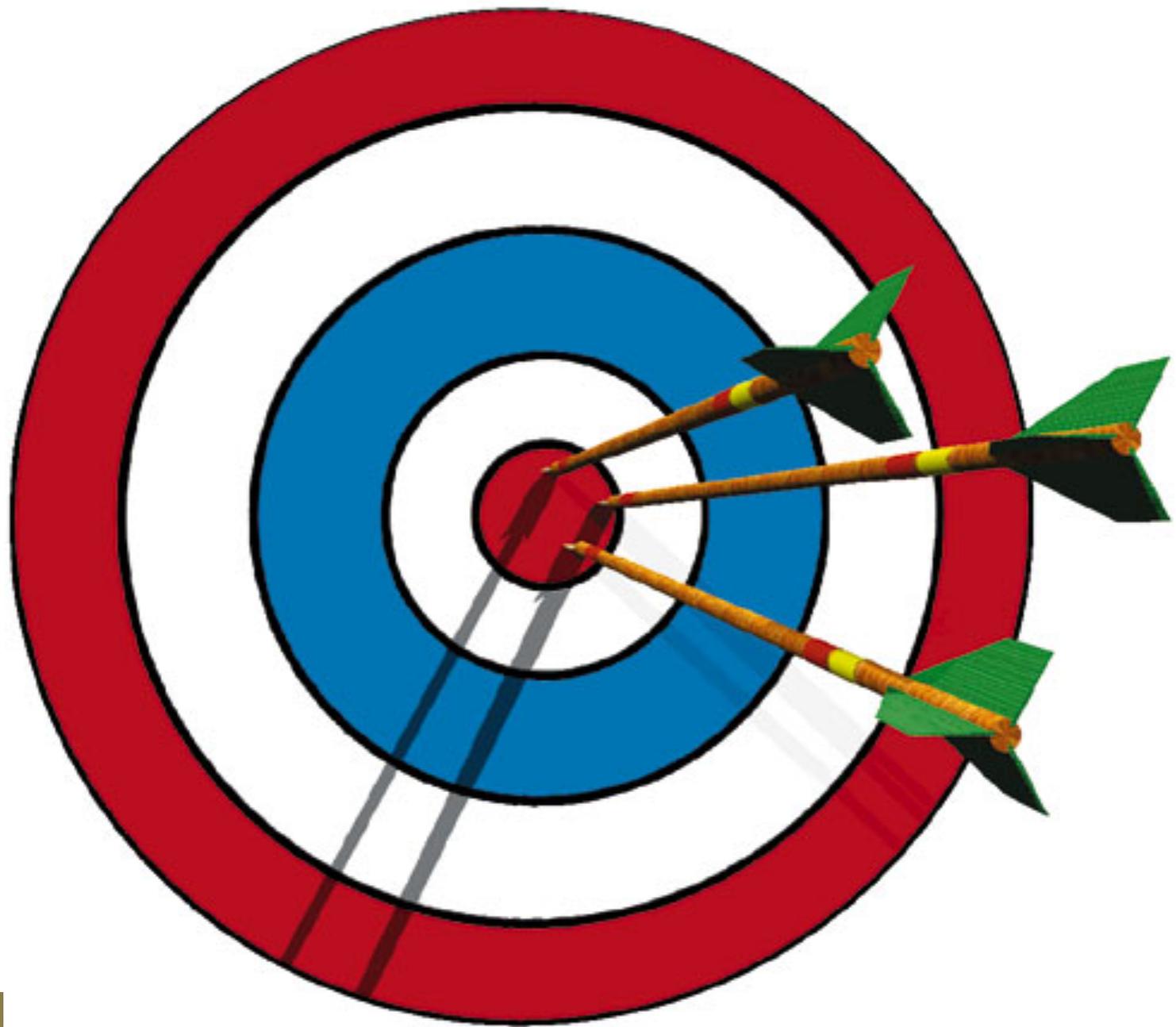
Sustainability is not enough



John Kempf



advancing ag-ed culture



John Kempf



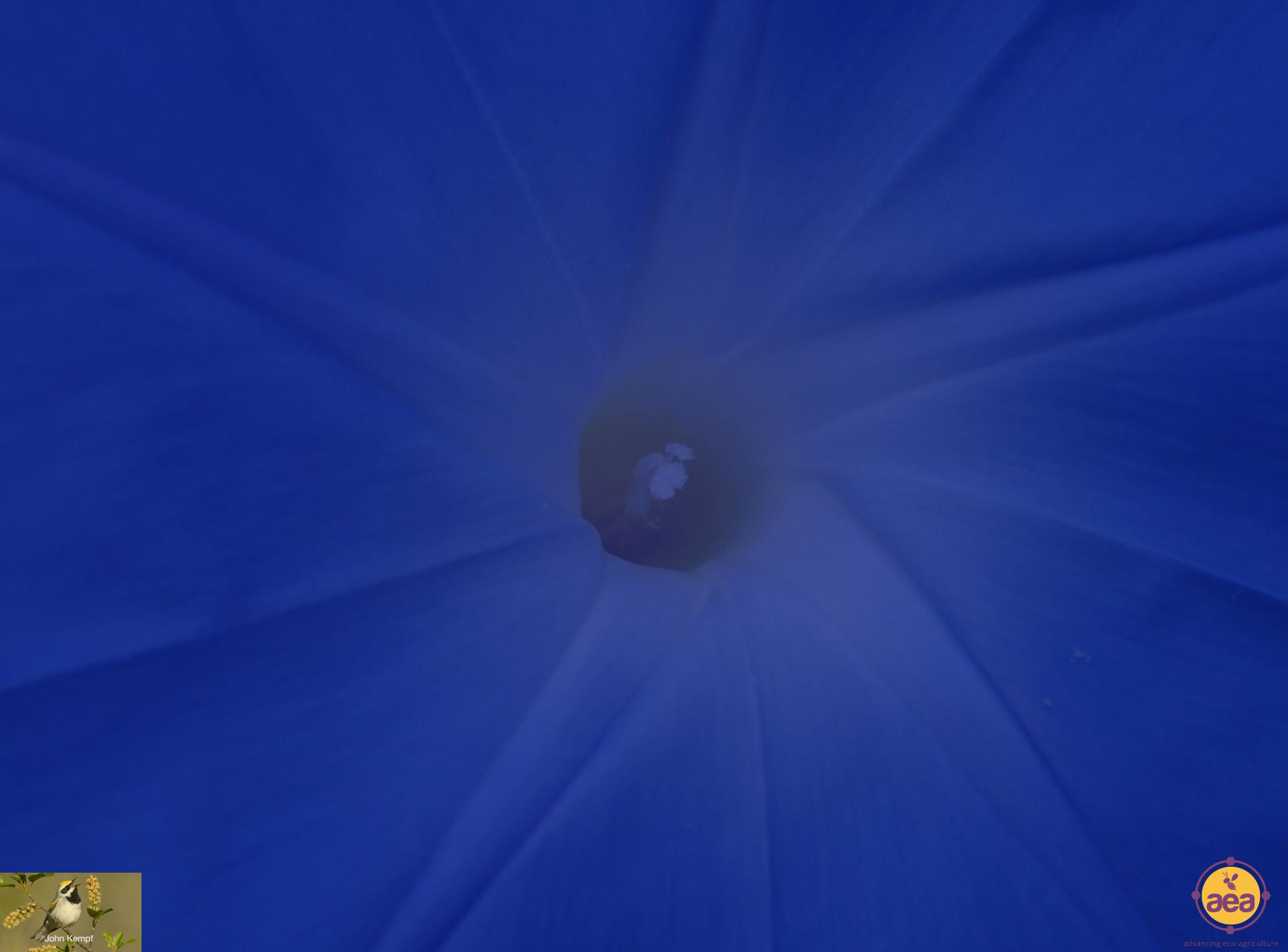
We have the knowledge



John Kempf



advancing eco-agriculture



John Kempf



advancing eco-agriculture

The challenge?

Where we look for answers.....



Managing Priorities, the key to farming success



John Kempf



advancing eco-agriculture

Are you really growing food?



The information is there, what will you do with it?



John Kempf



advancing eco-agriculture