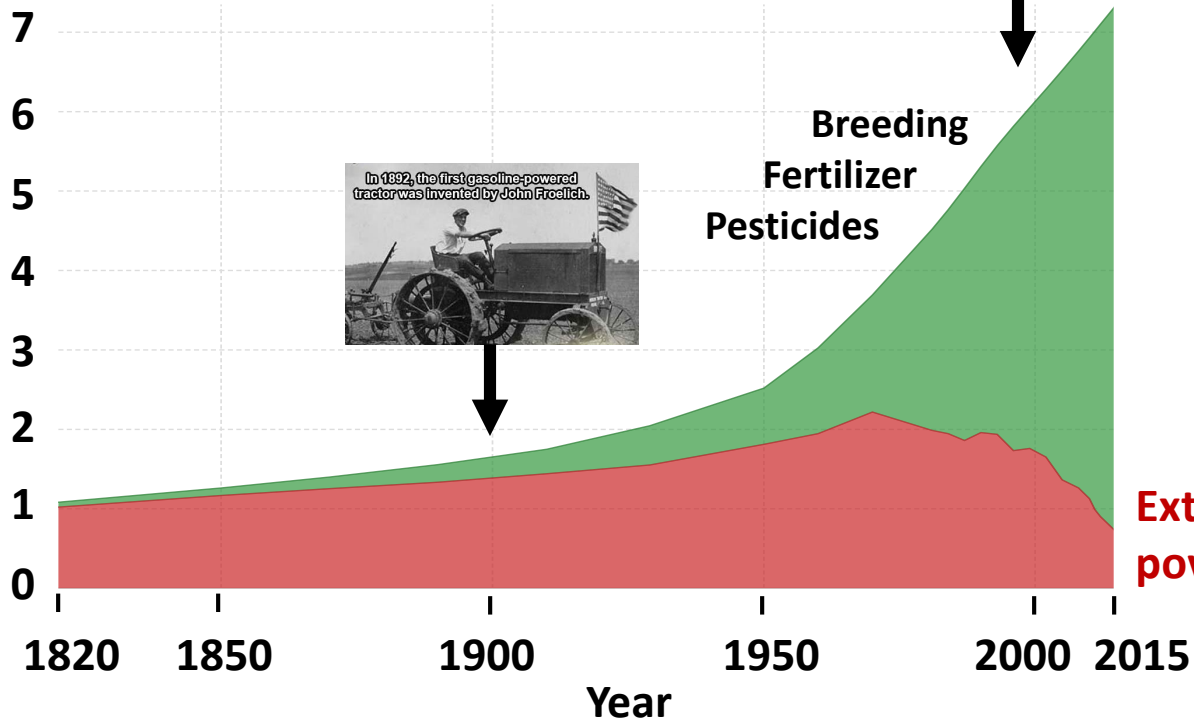


Future farms without farmers?

Senthold Asseng

Agriculture & population growth

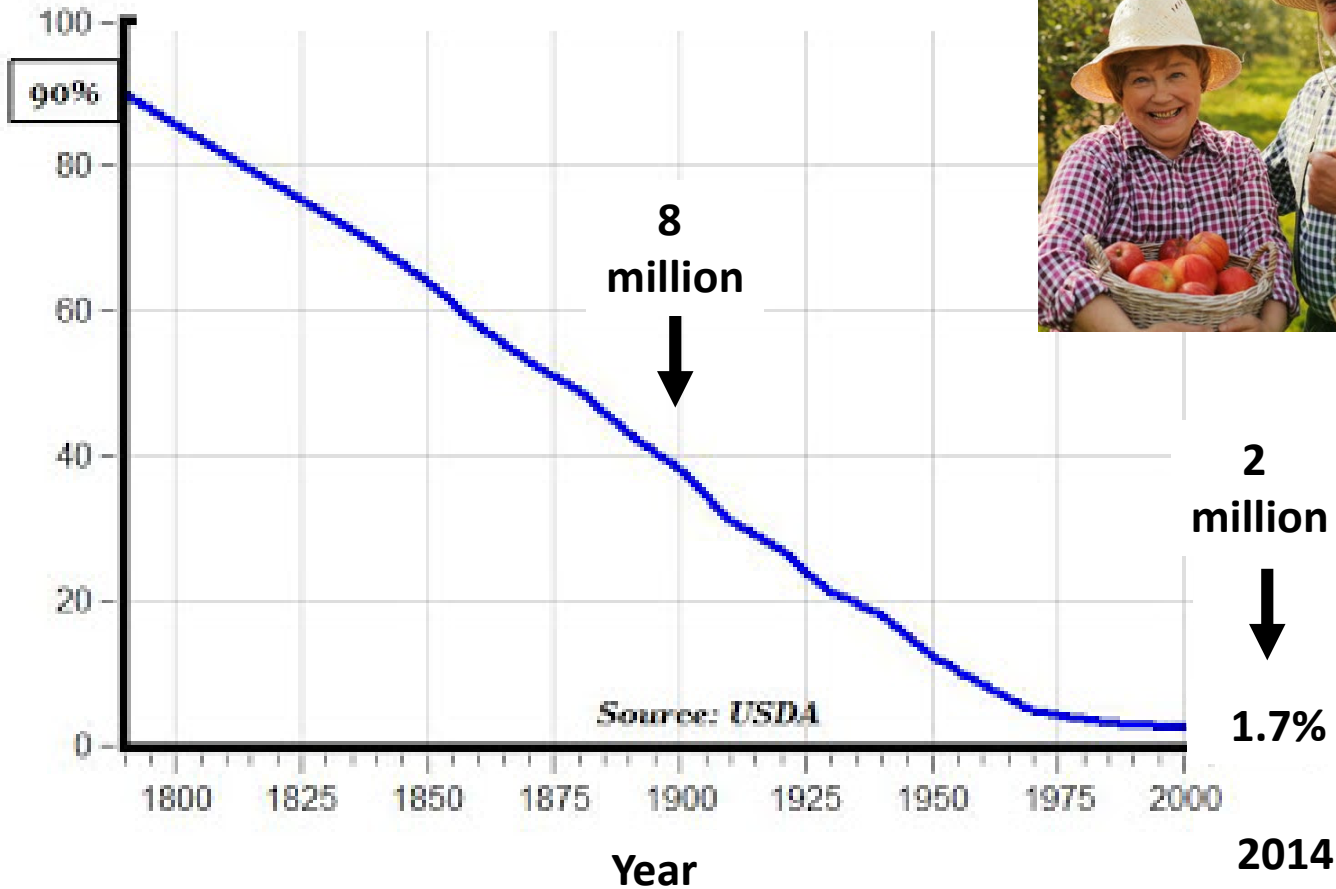
Global population (billion)



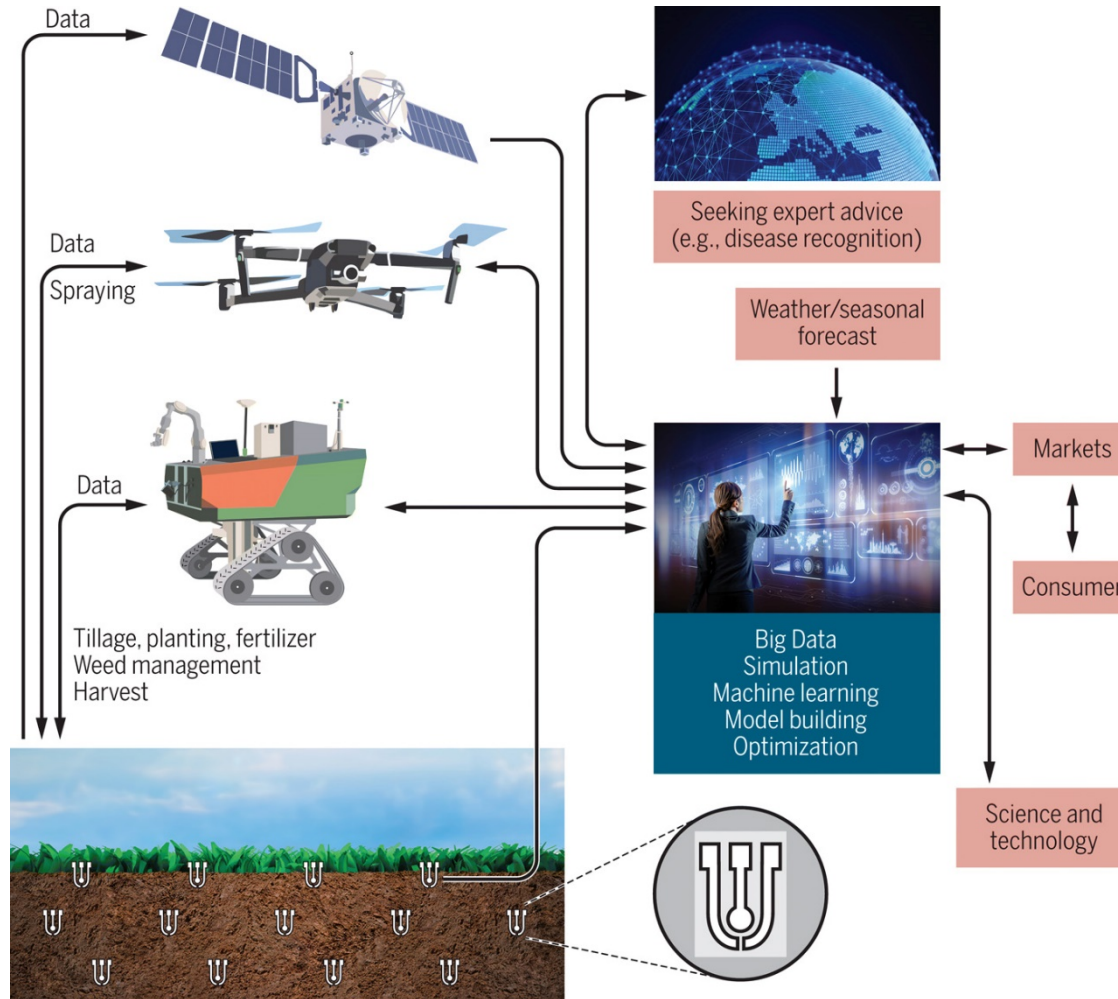
World Bank 2016, Bourguignon and Morrisson 2002

Where are the farmers?

Farm Jobs in % of total US Jobs



Future farms without farmers



- 1. Increased productivity**
 - a) Economy of scale less important
 - b) Reduced labor
 - c) Reduced inputs & higher yields through optimization

- 2. Reduced environmental impact**
 - a) Reduced soil compaction
 - b) Reduced pesticides
 - c) Reduced fertilizer
 - d) Opportunities for re-arranging fields

- 3. Traceability of food**
 - a) Early warning systems

- 4. New opportunities in R & D (new jobs)**

Senthold Asseng sasseng@ufl.edu