

# Recent History Of Farming

It All Started With A Big  
Lie



# Present Reality

- Toxic water, Toxic soil, Toxic food
  - Reasons
    - Fossil fuel based economy/society
    - Vested interests of the Chemical-Military-Agri industrial complex
  - The Solution
    - Solar economy/society

# The Chemical Age

- 19<sup>th</sup> century
- Von Liebig and reductionism
  - The NPK theory is born
    - Based on analysis of the dead plant (ash) instead of a living plant
    - Is not yet commercially exploited
      - The combustion engine is yet to be born
      - Road network not yet developed

# The Fertilizer Age

- First world war
  - Invention of the Nitro-Glycerine bomb to blow up enemy tanks
  - Results in development of economically viable process for synthesizing Nitrogen
- After the war
  - Huge stockpiles of Nitrogen based compounds after the war
  - Entrepreneur's find ways to use stockpiles for agriculture using Liebig's NPK theory

# The Pesticide Age

- Second world war
  - In the swamps of South East Asia and Japan, allied forces suffer more casualties from malaria than from the enemy gun
  - Scientists found DDT to combat the mosquito
- After the war
  - Huge stockpiles of DDT after the war
  - Conveniently, the use of fertilizers have created weak plants that are prone to pests
  - Entrepreneur's find ways to use stockpiles for agricultural pests
  - Pests develop resistance to DDT and the pesticides need to become more and more lethal
  - Harmful effects of pesticides on humans suppressed and advertisements depict them to perfectly innocuous

# Alarm Bells

- Rachel Carson (1907-1964)
  - Discovered that the beloved birds of her childhood had gone silent
  - Her research highlighted the adverse effects of the chemical pesticides on the bird population
    - American bald eagle was heading towards extinction
    - DDT was interfering with the calcium cycle making the egg shell very weak and unable to take the weight of the mother eagle
  - Wrote 'Silent Spring' alerting the world to the ill effects of the chemicals used in the farms

# The Organic Movement

- Sir. Albert Howard (1873-1947)/ Lady Howard
  - British botanist sent by her majesty to teach Indian farmers Western agricultural techniques
  - He found that the Indian farmers could in fact teach him much more
  - Wrote a classic 'An Agricultural Testament' based on his thirty years of observations and study of the Indian farming practices
  - Made the important observation that "the health of soil, plant, animal and man is one and indivisible."
  - Considered the father of the modern organic movement
  - Lady Eve Balfour (the Haughley Experiment, The Living Soil) and J.I. Rodale (Rodale Institute) furthered this movement

# The Organic Movement (Contd.)

- Ehrenfried Pfeiffer (1899-1961)
  - Student of Rudolph Steiner
  - Pioneer of biodynamic agriculture in America
  - Developed a sophisticated composting machine for municipal waste (Oakland, CA)
    - The fertilizer industry sent the mafia to stop his work prevent his work from becoming a threat to their industry
  - Invented the chromatography tests that could be used to gauge the quality and vitality of food, soil etc.



# History of Indian Agriculture

- Agricultural practices in ancient India very advanced based on observation of the natural world
- Disruption and breakdown and famines caused during British rule
  - Time tested farming practices ridiculed and labelled as superstitions
  - Zamindari system broke the vital link between the farm and its true custodian
- Partition of Bengal and the Punjab caused further disruption of agriculture and created artificial food shortages

# Green Revolution

- In the beginning (1960s)
  - Ford foundation offered the Urea/NPK/Hybrid seeds panacea
  - Punjab organic carbon content was 4-4.5%
  - Initial spectacular yields obtained because it was really using up the 4% organic carbon content
- Today
  - Organic carbon content is 0.32% in the Punjab and hence more and more fertilizers required
  - Ever increasing pest problem needing more and more toxic poisons
  - Permissible levels of pesticide residues exceeded by 50 times in rice to wheat to butter
  - Much of the previously fertile Punjab is now a cancer belt

# The BioDynamic Movement

- Rudolf Steiner (1861-1925)
  - Austrian herbalist, philosopher, literary scholar, educator, architect, artist, playwright, social thinker, and esotericist
  - Founder of Anthroposophy, Waldorf education, biodynamic agriculture, anthroposophical medicine and Eurythmy
  - Gave indications of how the vitality and dynamism of the soil could be improved through a series of eight lectures
    - The Biodynamic movement was launched
      - The BioDynamic preparations for the soil
      - Use of cosmic rhythms
      - Working with energies

# Liebig's Admission at the End of his Life

- “I have sinned against the wisdom of the creator and received my righteous punishment. I wished to improve his work and in my blindness believed that, in the marvelous chain of laws binding life on earth's surface and keeping it always new, a link had been forgotten which I weak and powerless worm must supply”