A HISTORY OF Agriculture

		WORLD POPULATION	ATMOSPHERIC CO2
9500 BCE BIRTH OF AGRICULTURE	**Hunter-gatherers began to settle in small communities in the Levant, the "Fertile Crescent" between the Euphrates and the Tigris rivers. They learned to produce their own food as farmers began to plant harvest grains.**	4,000,000	280 PPM
8700 BCE CORN FARMED IN CENTRAL AMERICA			
8500 BCE CATTLE DOMESTICATED	Cattle domesticated from wild aurochs in Turkey and India		
7000 BCE CHINESE FARMERS BEGIN TO GROW RICE, GO ON TO DEVELOP WETLAND AGRICULTURE		7,000,000	
6700-6500 BCE SHEEP FARMED IN MESOPOTAMIA	As wild game populations became depleted, sheep, goats and pigs increasingly raised for food production. Consistent exposure to human settlements caused the animals to grow more tame and become an accessible food source.		
5000 BCE FARMERS HARVEST POTATOES IN CENTRAL AMERICA		27,000,000	
3500 BCE SQUASH AND BEANS DOMESTICATED			
300 BCE ANCIENT GREEKS DEVELOP PLANT GRAFTING	Grafting made the farming of woody plants, such as apples, pears and plums, possible.		
700-1200 CE ARAB AGRICULTURAL REVOLUTION	Development of agronomy, animal husbandry, irrigation		
900 CE IRON SMELTING, CROP ROTATIONS	By AD 900, developments in iron smelting allowed for increased production in Europe, leading to developments in the production of agricultural implements such as ploughs, hand tools and horse shoes. Enabled forest clearance, increase in production, population growth.	400,000,000	
	Some farmers switch to a three-field crop rotation enabling legume crops, improving nutrition and productivity.		
1492- COLUMBIAN EXCHANGE	Crops and livestock breeds move between the Old World and the New World across the Atlantic driving population growth.	600,000,000	
1650-1895 BRITISH AGRICULTURAL REVOLUTION	**Unprecedented increase in agricultural production due to increases in land and labour productivity driven by enclosure, mechanisation, four-field crop rotation, land conversion and drainage, and selective breeding. National free market develops. Improved transport infrastructure.** • 1701 Jethro Tull invents the seed drill • 1730 Four-course crop rotation • 1773 Enclosure Act passed • 1837 John Deere invents the steel plough • 1842 First artificial fertiliser manufactured • 1895 Refrigeration invented		
1910 HABER PROCESS COMMERCIALISED	The Haber-Bosch method for synthesizing ammonium nitrate allowed crop yields to overcome previous constraints.	1,750,000,000	300 PPM

INDUSTRIAL PARADIGM	ECOLOGICAL PARADIGM		
1920-1950 VITAMIN SUPPLEMENTS, ANTIBIOTICS AND VACCINES — Vitamin supplements enable chickens to be raised indoors. Antibiotics and vaccines reduce disease. Number of dairy cows doubles.	**1924** BIODYNAMIC FARMING — Rudolf Steiner's Agriculture course lays the foundations for biodynamic farming		
1939-1945 WORLD WAR II, FAO — Increase in use of fertilisers, organophosphate pesticides. UN Food and Agriculture Organization formed 1945.	**1940** ORGANIC FARMING — Albert Howard's book An Agricultural Testament adopts Walter James' term "organic farming"	2,300,000,000	
	1946 SOIL ASSOCIATION LAUNCHED — Soil Association is launched led by Lady Eve Balfour as a response to concerns over intensive agriculture		
1962 EU CAP — Agricultural production support and common markets increase productivity and stabilise markets. Removal of hedges, ponds, woodlands.	**1962** SILENT SPRING — Rachel Carson's book documents the indiscriminate use of DDT and other pesticides		
1970- GREEN REVOLUTION — R&D and technology transfer leading to increased crop yields. • High-yielding cereal and rice varieties • Controlled irrigation • Pesticides and fertilisers	**1970-** AGROECOLOGY — Growth in study of agroecology and agroecosystems	3,700,000,000	325 PPM
	1977 AGROFORESTRY — International Council for Research in Agroforestry (ICRAF) established		
1980- SUPERMARKET DOMINANCE AND AGRIBUSINESS — Creation of larger stores, acquisitions and investment in technology and supply chain management lead the 'big four' to dominate the UK grocery market	**1978** PERMACULTURE — Permaculture One published by Bill Mollison and David Holmgren		
		4,450,000,000	338 PPM
1991 CULTURED MEAT — Patent secured for production of tissue-engineered meat for human consumption		5,300,000,000	354 PPM
1994 GM FOOD — The Flavr Savr tomato, the first GM food, approved for commercial release			
2005- CONCENTRATED FEEDLOTS — Concentrated animal feeding operations dominate livestock production in the US		6,473,000,000	379 PPM
2016 BREXIT — UK votes to leave European Union and exit CAP.		7,325,000,000	404 PPM
2024		8,118,835,999	427 PPM

THE FUTURE

- Sustainable intensification
- Regen ag
- Direct drilling and min till
- Interest in regenerative ag from industry

- Precision fermentation / solein
- Biofuels

- Agrarian localism
- Short supply chains
- Low carbon

BASED ON A TIMELINE BY MARINA O'CONNELL IN HER BOOK 'DESIGNING REGENERATIVE FOOD SYSTEMS AND WHY WE NEED THEM NOW'

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