



Identifying the Educational Challenges Forum Presentation

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Keeping Pace with Change(s)



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UNIVERSITY OF SASKATCHEWAN

College of Agriculture
and Bioresources

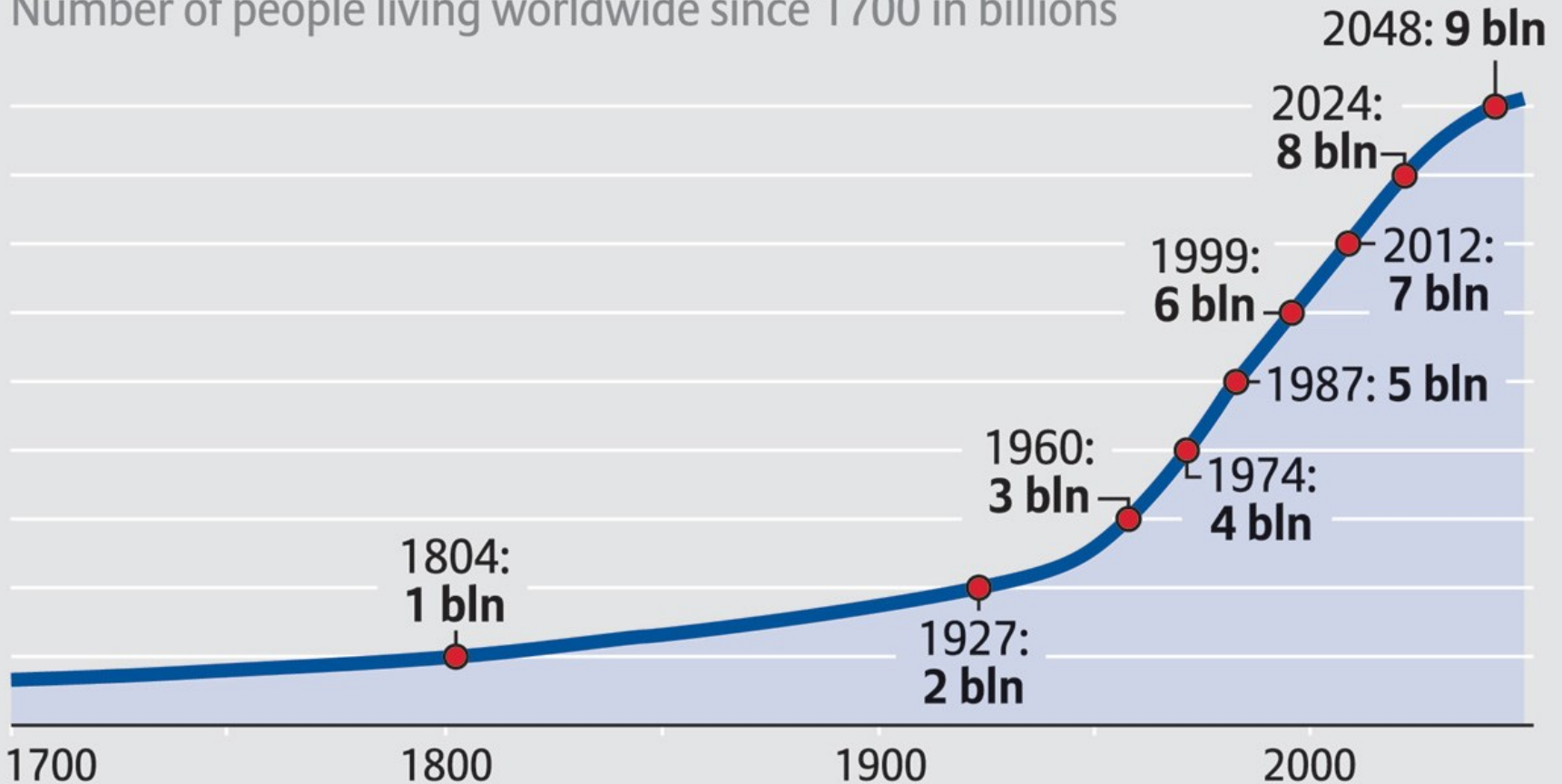
AGBIO.USASK.CA

www.agbio.usask.ca

POPULATION OF THE EARTH

Allianz 

Number of people living worldwide since 1700 in billions

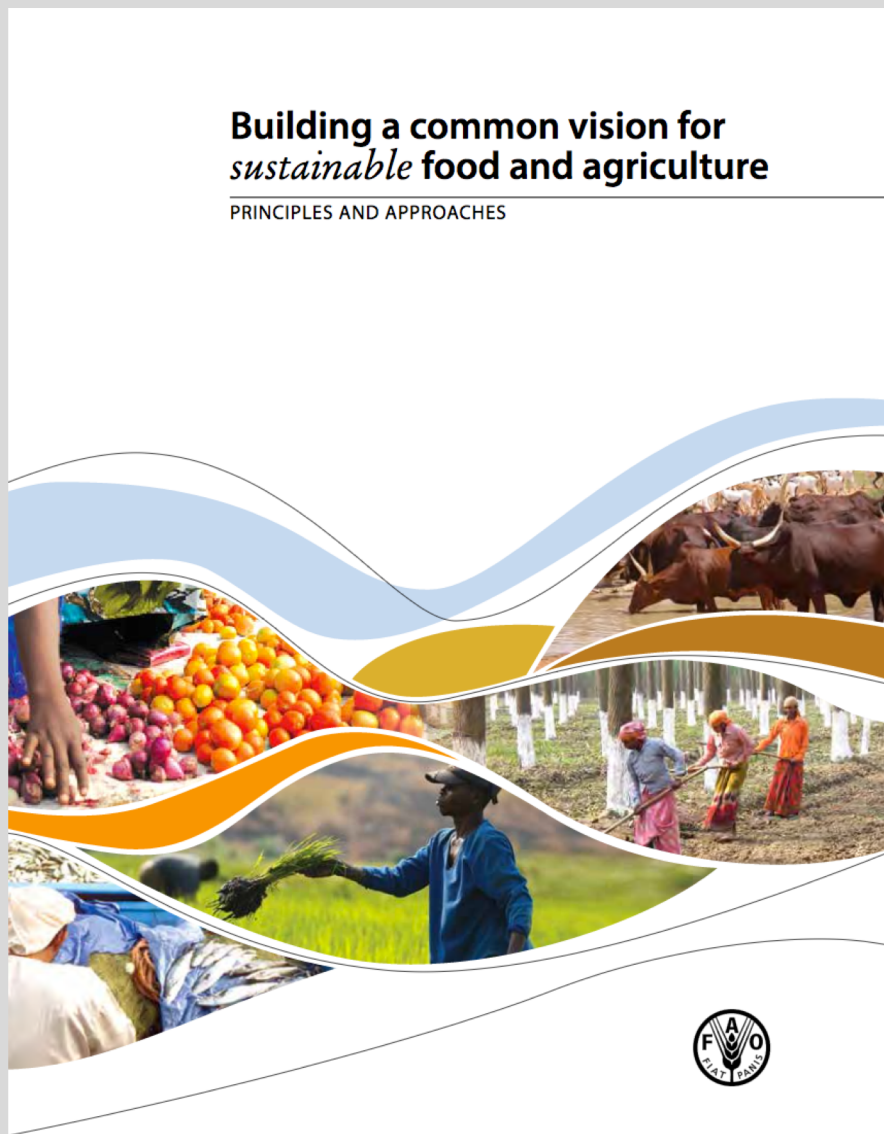


Source: United Nations World Population Prospects, Deutsche Stiftung Weltbevölkerung

For further information please visit: www.knowledge.allianz.com



Food and Agriculture Organization 2014



“Over the coming 35 years, agriculture will face an unprecedented confluence of pressures, including a 30 percent increase in the global population, intensifying competition for increasingly scarce land, water and energy resources, and the existential threat of climate change.”

Article

Motivating Action through Fostering Climate Change Hope and Concern and Avoiding Despair among Adolescents

Kathryn Stevenson ^{†,*} and Nils Peterson [†]

Fisheries, Wildlife & Conservation Biology Program, Department of Forestry & Environmental Resources, North Carolina State University, Raleigh, NC 27695, USA

Journal of Youth Studies, 2014

Vol. 17, No. 6, 778–793, <http://dx.doi.org/10.1080/13676>

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EMPIRICAL RESEARCH

Hope in the Face of Climate Change: Associations With Environmental Engagement and Student Perceptions of Teachers' Emotion Communication Style and Future Orientation

Maria Ojala

Uppsala University, Uppsala, Sweden

‘Without hope everything would be doom and gloom’: young people talk about the importance of hope in their lives

Emily Caroline Bishop^a and Karen Willis^{b,*}



SUSTAINABILITY

Only 60 Years of Farming Left If Soil Degradation Continues

Generating three centimeters of top soil takes 1,000 years, and if current rates of degradation continue all of the world's top soil could be gone within 60 years, a senior UN official said

Chris Arsenault Dec. 5, 2014. Scientific American

“Generating three centimeters of top soil takes 1,000 years, and if current rates of degradation continue all of the world's top soil could be gone within 60 years, a senior UN official said on Friday.”





“Change” is integral to the agriculture industry

- Technological changes
- Plant breeding/improvement
- GMO's
- Farming practices (family farm?)
- Crop rotations
- Marketing
- Transportation
- Policy
- Public perceptions of food safety (social license)
- Recognition of mental health issues
- Agriculture student demographics and expectations
- etc.



Changing farm size

Number of farms, farm area, and average farm size by province, with percent change since 2006, Canada and the provinces, 2011

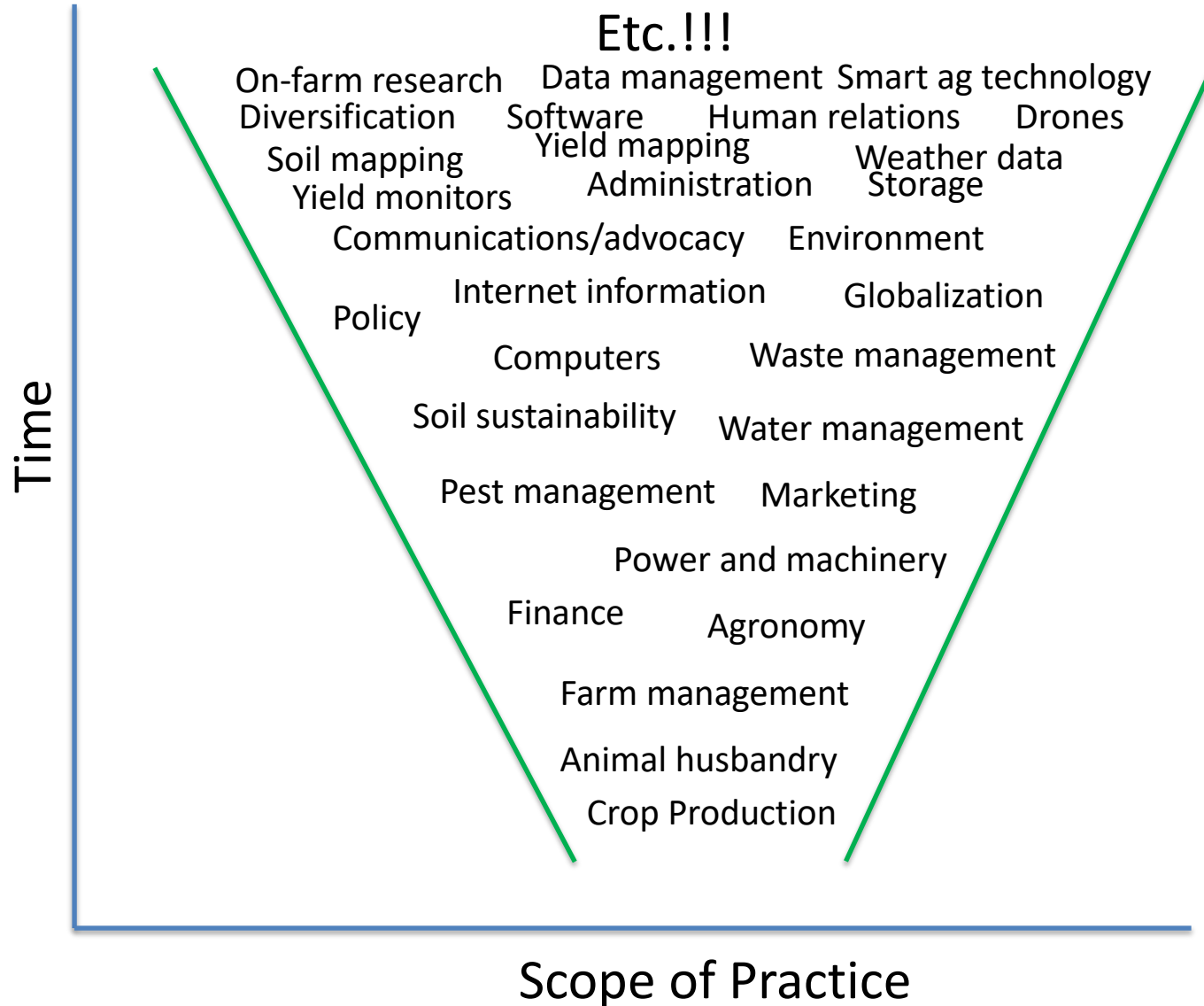
Province	Number of Farms 		Area (acres)		Average Farm Size (acres) 	
	2011	Percent change, 2006 to 2011	2011	Percent change, 2006 to 2011	2011	Percent change, 2006 to 2011
Newfoundland and Labrador	510	-8.6	77,349	-13.5	152	-5.0
Prince Edward Island	1,495	-12.1	594,324	-4.1	398	9.0
Nova Scotia	3,905	2.9	1,018,075	2.2	261	-0.4
New Brunswick	2,611	-5.9	937,829	-4.0	359	2.0
Quebec	29,437	-4.0	8,256,614	-3.5	280	0.4
Ontario	51,950	-9.2	12,668,236	-4.8	244	4.7
Manitoba	15,877	-16.7	18,023,472	-5.5	1,135	13.4
Saskatchewan	36,952	-16.6	61,628,148	-4.1	1,668	1,784 15.1
Alberta	43,234	-12.5	50,498,834	-3.1	1,168	10.7
British Columbia	19,759	-0.4	6,452,867	-7.9	327	-7.4
Canada	205,730	193,492 -10.3	160,155,748	-4.1	778	6.9


Source: Statistics Canada, Census of Agriculture, 2006 and 2011

<http://www.statcan.gc.ca/pub/95-640-x/2011001/p1/p1-01-eng.htm>



Today's Farmer



 **Humboldt Broncos Tragedy** [Learn more](#) +

EN

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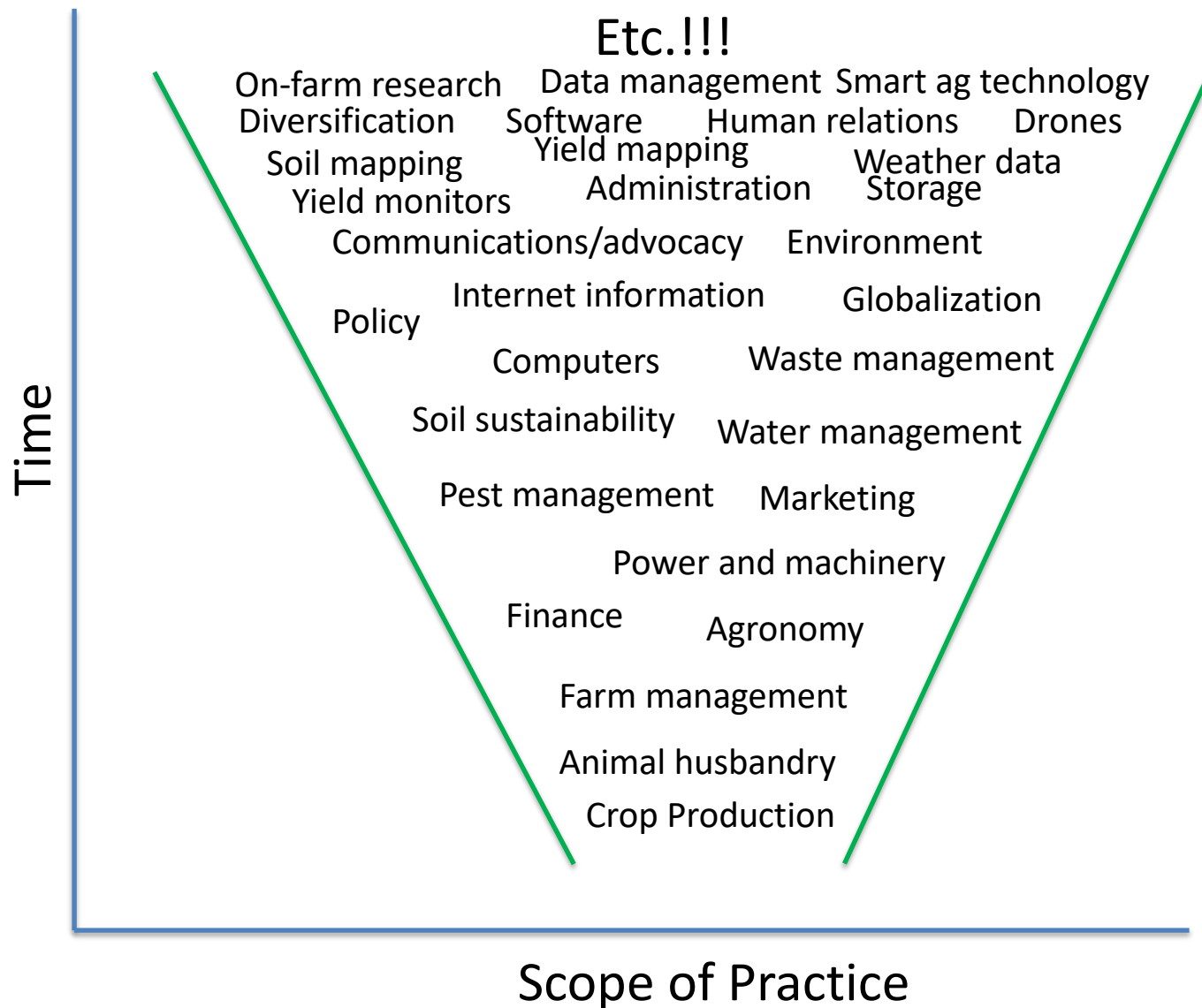
Farm Stress Line

Calls to the Farm Stress Line are answered by Mobile Crisis Services, a non-profit, community based agency providing crisis intervention services in Saskatchewan since 1974.

Whether it is information, conflict or crisis, the first step is communication. Call before the problem becomes a crisis. The Farm Stress Line can help if you are managing farm difficulties by providing support for farmers and ranchers.

<https://www.saskatchewan.ca/business/agriculture-natural-resources-and-industry/agribusiness-farmers-and-ranchers/programs-and-services/farm-stress-line#>

Today's Student?



Changing technology



<https://sloansupport.com/>

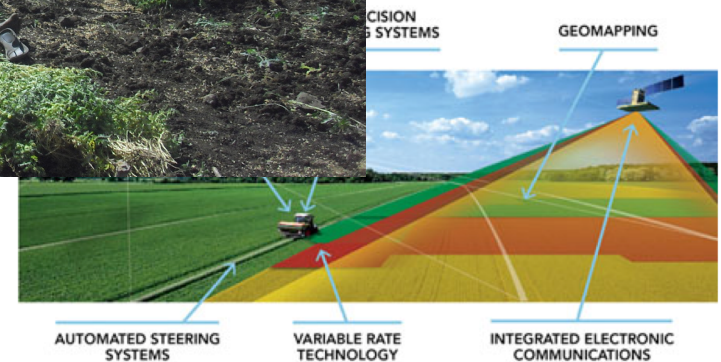


<https://www.farmersedge.ca/satellite-imagery/>



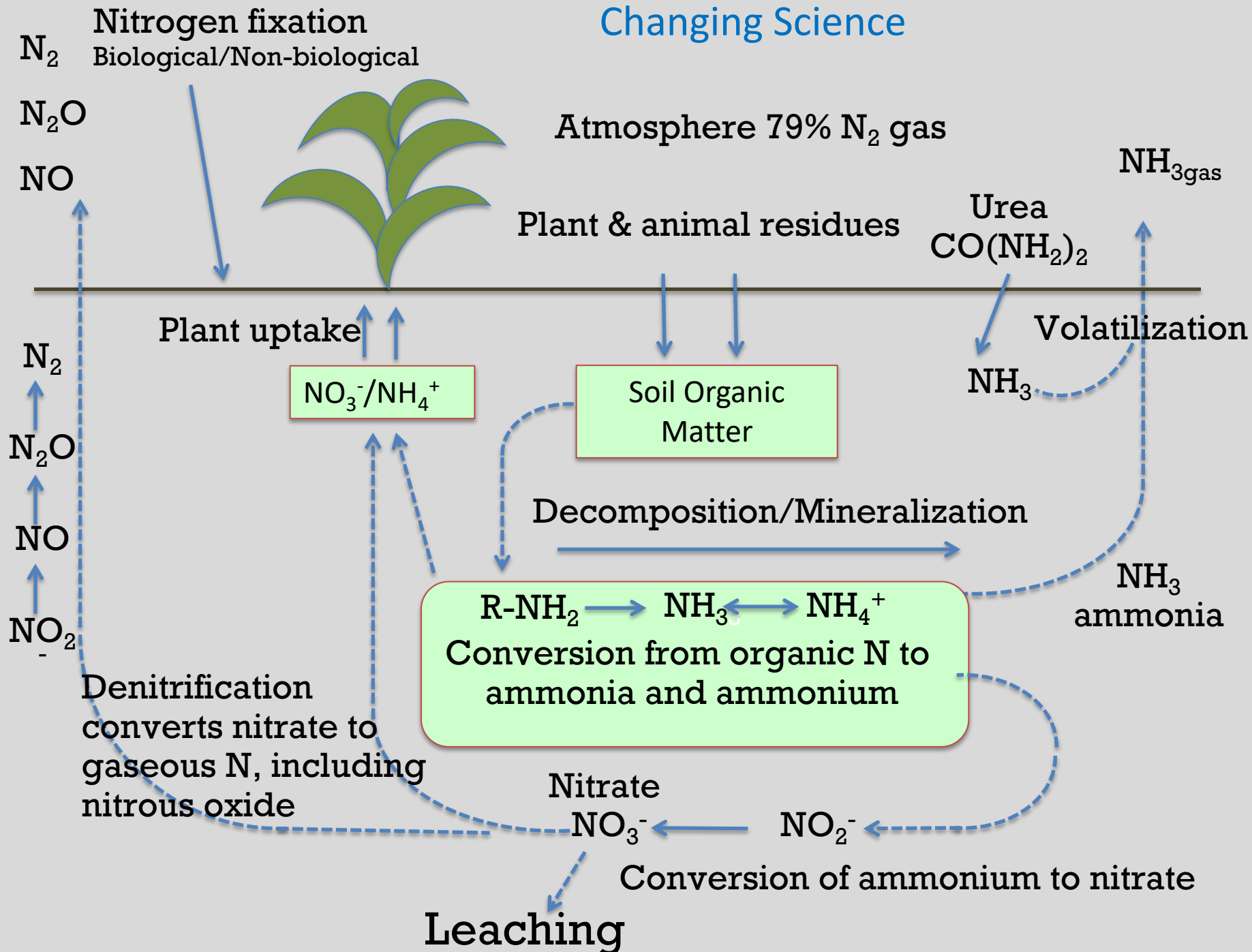
management.pro

Technologies & concepts



<http://cema-agri.org/page/precision-farming-key-technologies-concepts>

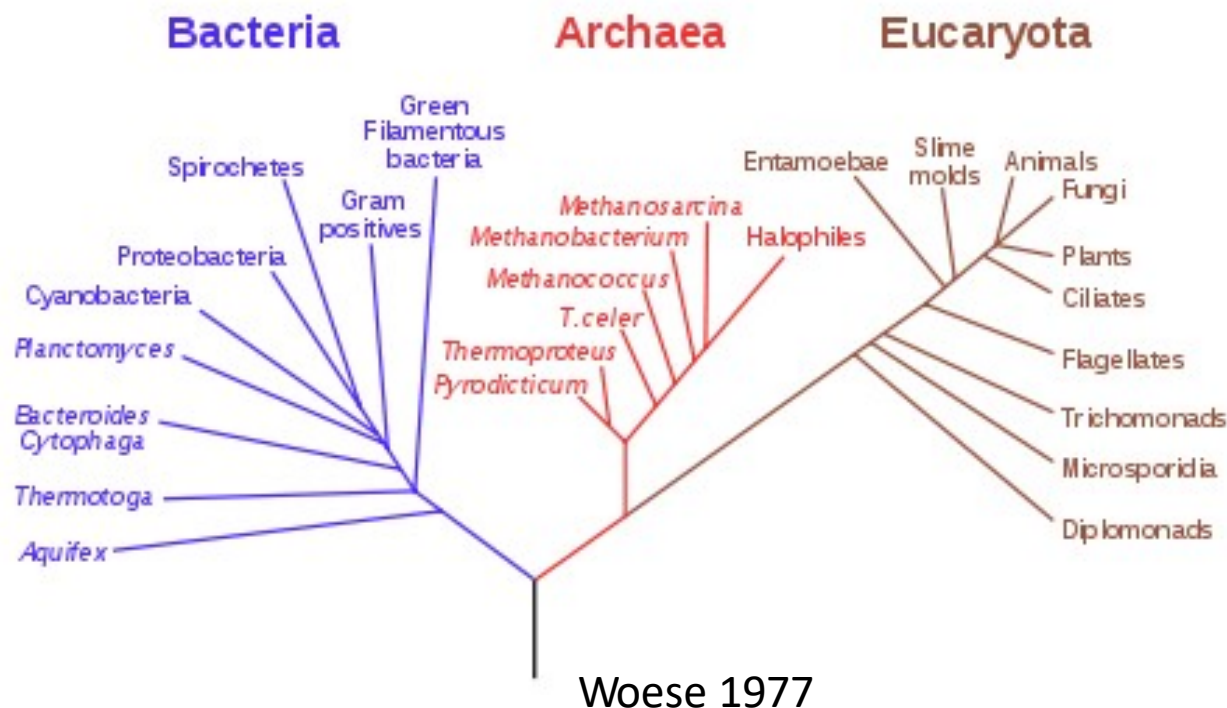
Changing Science



High throughput sequencing: phylogeny

Modern sequencing methods have transformed our ability to understand microbial ecology

Phylogenetic Tree of Life



Can all institutions be all things to all students, or should we change our thinking about how we collaborate across institutions to better facilitate student exchange and mobility and enhance the student experience?



Enhance Student Mobility

- Kanawayihetaytan Askiy “Let Us Take Care of the Land”
(21 cu Certificate to 60 cu Diploma to 120 cu Degree)
- From technical programs to university programs (and back),
within and between institutions
 - 2 + 2 options (Diploma + BSc Ag)
 - 4 +1 (BSc Ag + Diploma)
- Shared certificates? (e.g., Certificate in Precision Farming)
- Exchange agreements with institutes worldwide
- National/International shared delivery courses
- etc.



“The future belongs to those who give the next generation reason for hope.”

Pierre Teilhard de Chardin (1881-1955)

Thank you

