# **Organic & Conventional Agriculture Compared** (20 May, **2007**) – part of requested submission to IAASTD

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| CRITERIA OF COMPARISON | 'ORGANIC' & ECOLOGY-INFORMED FOOD SYSTEMS | CONVENTIONAL FOOD SYSTEMS |
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| **Relationship with Nature** (biodiversity, habitats, ecological processes etc) | To be respected, worked with (as whole, integrated & interrelated systems), & supported | Selection, control & ownership of 'parts' that are (primarily) regarded as being valuable economically |
| **Primary Goals/Roles in Society** (actual versus professed focus) | Nourishment & support of human wellbeing (& avoidance of toxic impacts)<br>Restoration, build-up, conservation & maintenance (sustainability) of: agroecosystems (especially soil), rest of nature, gene-pool, & knowledge & skills of farmers - for present & future generations | Productivity/yield<br>Profit/money<br>'Political' power (local to global)<br>Other professed goals invariably compromised by one or more of the above ones – hence the numerous impacts & disbenefits for people & environments |
| **Other Priorities & Concerns** | Intra- & trans-generational equity & social justice<br>Meaningful & fulfilling work & lifestyles | Growth<br>Market share<br>Control (much of this having [largely sub-conscious] psychological, compensatory & substitutive functions) |
| **Primary Inputs** | Knowledge (especially ecology) & skills (especially agroecosystem design and management)<br>Diverse bio-ecological inputs, serving multiple beneficial roles & functions | Imported/purchased seed & stock (increasingly hybrid, from narrowing gene-pools & genetically engineered), synthetic fertilizers, pesticides (including herbicides & anti-microbials) & growth stimulants<br>Technologies, & design & management to achieve control & maximise productivity |
| **Technological Supports** | Elegant, contextually & ecosystem-matched, supportive, human-scale appropriate technologies; used in support of primary goals & values: solar, renewable, repairable, improvable (etc)<br>Designed & used to support & maintain wellbeing-enabling ecosystem processes<br>Full range of alternative technologies available for when needed | Large, powerful, expensive, decontextual, fossil-fuel dependent, often disruptive & impacting technologies<br>Designed to force change & control, without reference to their effects on benign ecosystem processes<br>Partly (largely subconsciously) purchased & used for their compensatory (power symbolism), psychological roles<br>Few alternatives when faced with failures |

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| **Agroecosystem Design** | Complex in bio-ecology, space & time: mixed farms, multi-species, multiple cropping & polyculture agroecosystems, with inclusion of concern for adjacent areas & non-commercial species | Bare-soil, row-crop monocultures & simple rotations, from a narrowing gene-pool |
| **Pests** (including weeds & diseases) | Regarded first as indicators of agroecosystem maldesign & mismanagement (& therefore requiring response in these areas)<br>Systems designed to be 'healthy' & pest-proof, with controls used as interim & emergency measures, & selected & used in ways that minimise negative impacts, as specific as possible & based on natural processes & materials (where possible produced on-farm or locally) | Regarded as 'enemies' to be eliminated & controlled, economically, with purchased synthetic so-called pesticides (actually 'biocides', because of their innate non-specificity: cannot design specific poisons against economic entities) – increasingly from companies that also supply the seed<br>(as a 'package', eg, glyphosate-resistant seed) |
| **Sustainability** | Over time, becoming increasingly ecologically sustainable, with gains & improvements in knowledge & skills, & in quality of the resource base & enablement of ecosystem functioning | Over time becoming increasingly unsustainable, with declining quality of resource base, including losses of biodiversity & gene-pool, soil fertility & structure, increases in pests, weeds & diseases (particularly those resistant to pesticides, herbicides & antibiotics) & increasing dependence on inputs that are non-renewable & that have harmful side-effects & other negative characteristics |
| **Future Prospects** | Will spread & improve over time in effectiveness, efficiency, sustainability & resilience, & in achieving its prioritised goals & support of our 'higher' values<br>Capable of being supportive of our ongoing psychosocial evolution as a species | Will recede & decline over time & become less effective, less efficient, & more unsustainable and vulnerable, as its disbenefits are internalised & its resource base is used up (& becomes more & more expensive), & as our species evolves psychosocially towards lifestyles & institutions based on 'higher' values (than monetary ones), and so increasingly rejects such narrowly conceived approaches |

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**Latest books:** **Ecological Pioneers: A Social History of Australian Ecological Thought and Action** (with Dr Martin Mulligan; Cambridge UP, 2001), **Learning for Sustainable Living: Psychology of Ecological Transformation** (with Dr Werner Sattmann-Frese; Lulu, 2008) and **Social Ecology: Applying Ecological Understanding to our Lives and our Planet** (with Dr David Wright and Dr Catherine Camden-Pratt; Hawthorn, 2011). Many of my pre-1993 publications may be found at: www.eap.mcgill.ca

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