Customised LCA tool for viticulture (VitLCA) for identifying environmental improvement opportunities

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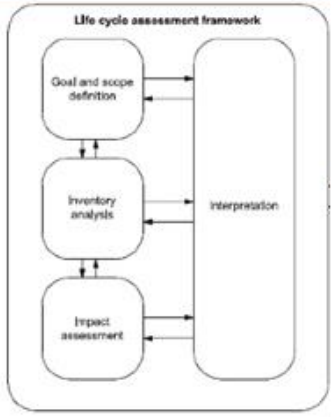
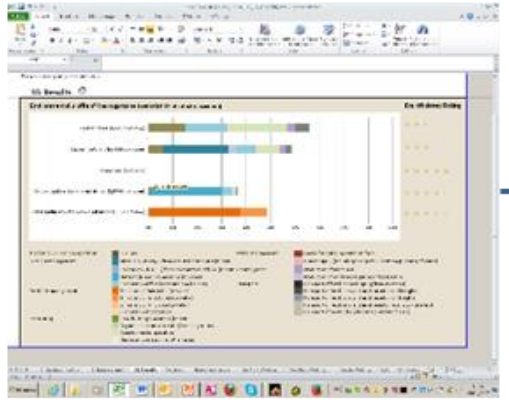
FACROLCA project

Fast-tracking eco-conception in agricultural crops with streamlined environmental life cycle assessment tools

Customised agricultural LCA tools

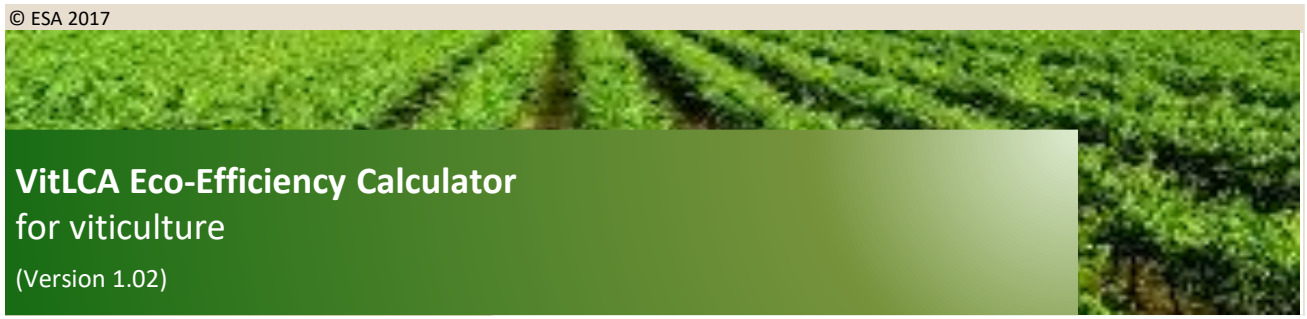
LCA methods / practitioners → Customised agricultural LCA tools → Tool use by agriculturalists → Decisions about agricultural practices → Eco-efficiency





VitLCA development history

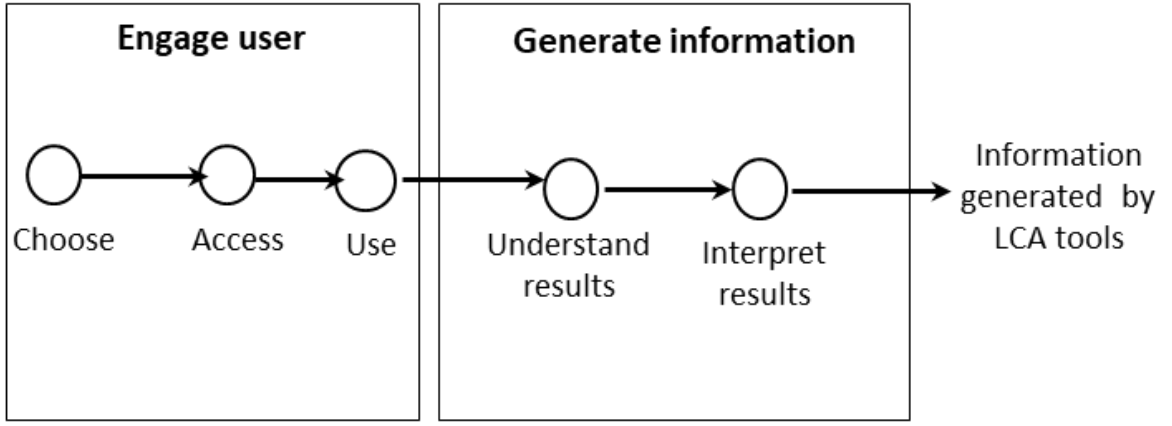
An existing Excel tool was adapted for viticulture



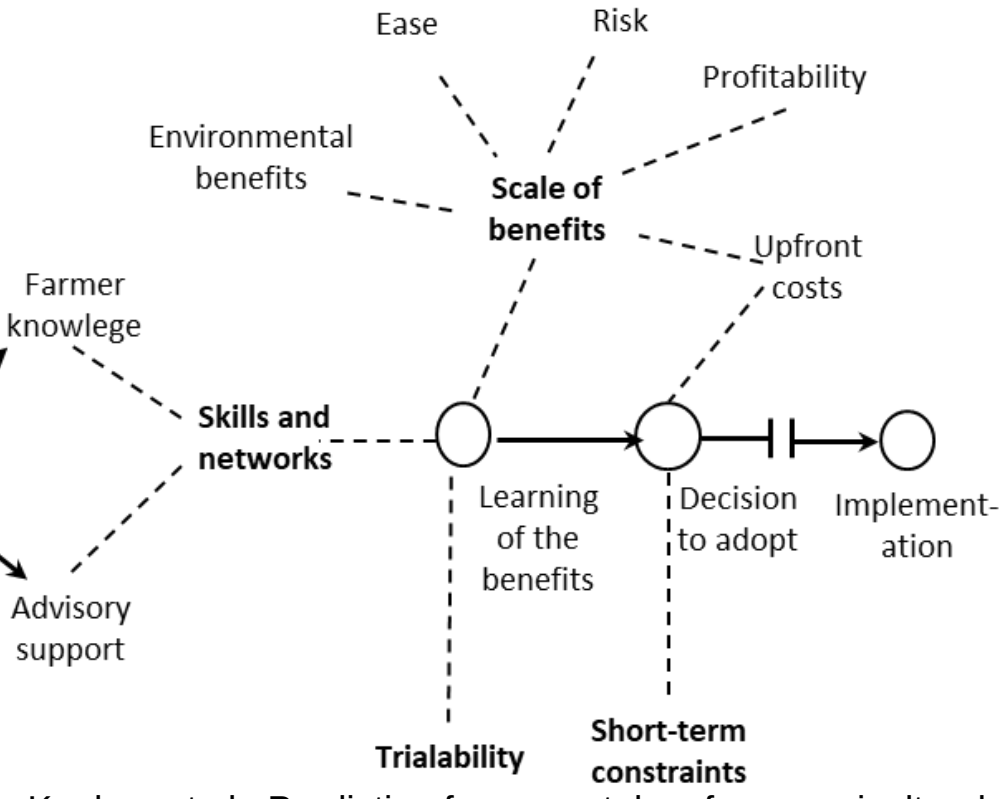
Vit'LCA developed as an online tool

Some theory behind this tool concept

Source: Renouf, M. A., C. Renaud-Gentié, A. Perrin, H. M. G. van der Werf, C. Kanyarushoki and F. Jourjon (2018). **Effectiveness criteria for customised agricultural life cycle assessment tools**. Journal of Cleaner Production 179: 246-254.

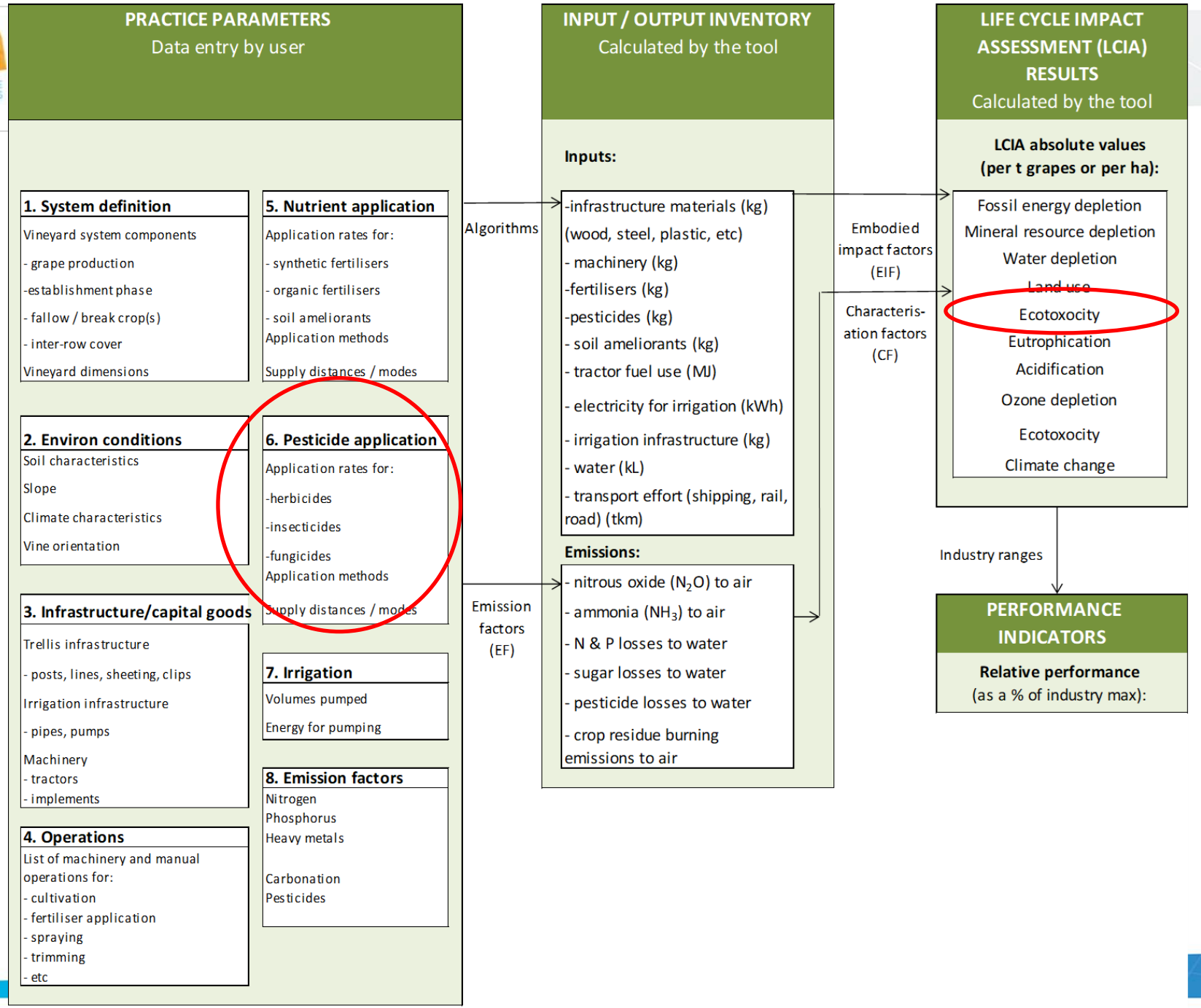


Framework of factors influencing practice adoption in agriculture (adapted from Kuehne et al., 2017)



Kuehne et al., Predicting farmer uptake of new agricultural practices: A tool for research extension and policy. Journal of Agricultural Systems 156, 115-125

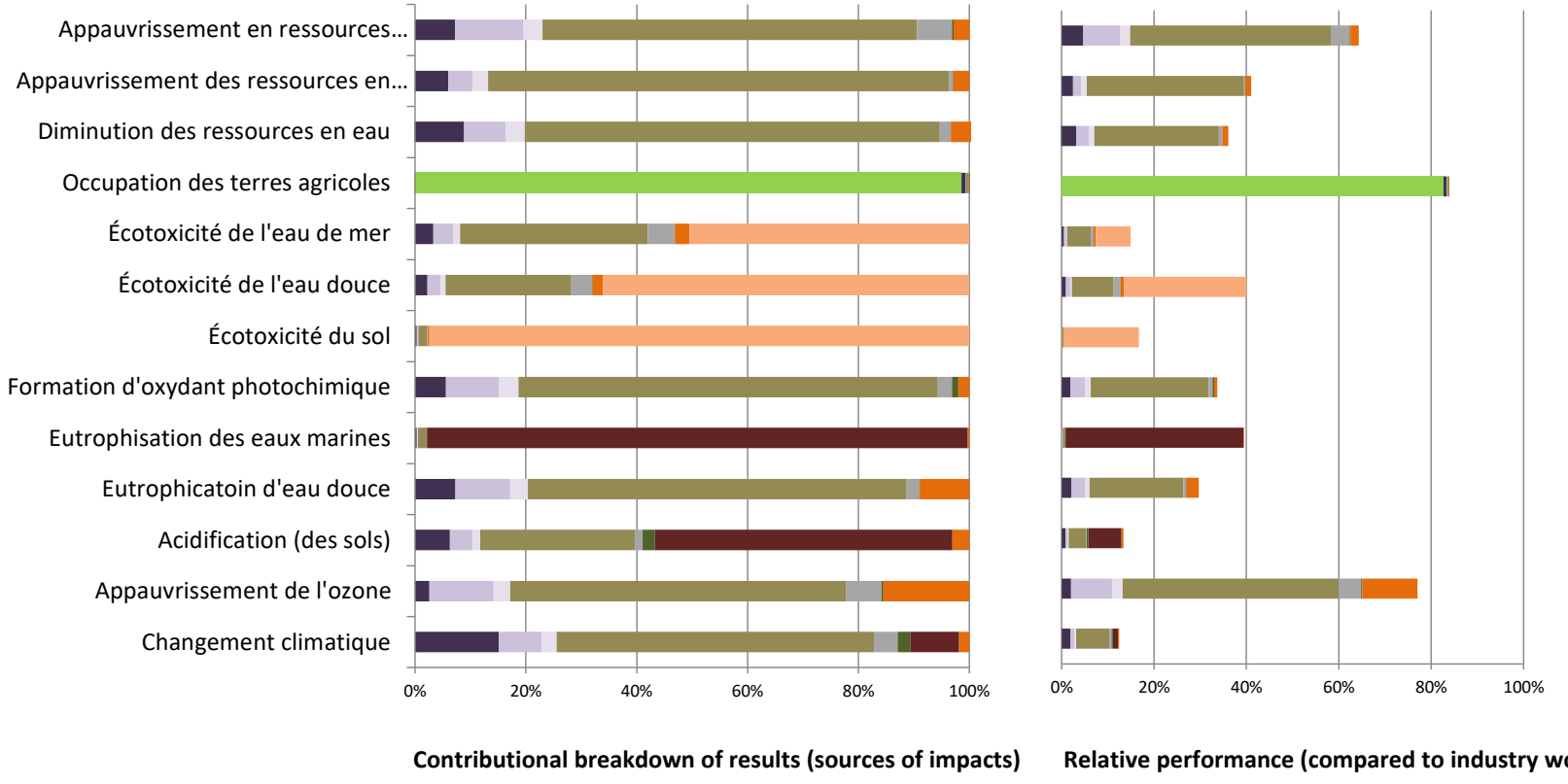
Underlying Method



Features:

- More detailed examination of pesticides (Pest LCI)
- More impact categories
- Compare 3 alternative systems

Example results output



Source: Renouf, M. A., Renaud-Gentie, C., Perrin, A., Garrigues-Quere, E., Rouault, A. & Julien, S. (2018). VitLCA®, un nouvel outil pour tester les améliorations environnementales en viticulture (A new tool for testing environmental improvements in viticulture). Revue suisse Viticulture, Arboriculture, Horticulture, 50 (3): 168–173. (https://www.revuevitiarbohorti.ch/en/archives-2/?id_heft=98&jahr_heft=2018)

Conclusions

- This style of customised LCA tools for agriculture are getting use in agriculture
- Support eco-design by enabling variation of practice parameters
- Support (but don’t replace) the important interaction between farmers and advisors when planning changes to farming systems
- Complexity is still an issue
  - reached the limit of the usefulness of MS-Excel
  - need to be online
- Potential to be applied to other ag systems for informing change at farm scale