Interdisciplinary research

*a conditio sine qua non for sustainable agricultural soil management*

*S. Garré*, S. Artru, F. Boeraeve, D. Brédart, S. Hatt, M.-P. Hiel

*AgricultureIsLife.be, Université de Liège, Gembloux Agro-Bio Tech, Passage des déportés 2, 5030 Gembloux (*sarah.garre@ulg.ac.be*)

Aren’t we needlessly complicating our lifes?

We aren’t.

No!

Sustainable soil management =
at the fringe of multiple
disciplines

Soil management has
impacts from micrometer to
regional scales

Agriculture =
a system based on
human interactions

To reveal multiscale & multidisciplinary processes → cross approaches, not simply juxtapose them

A new approach for science!
Experiences from the AgricultureIsLife research platform

Facilitators

Physical proximity
Being near to the persons working with
you facilitates spontaneous consultation
and working together.

Action-oriented approach
Contacts with actors from the outset of
the project is essential to create research relevant in
to local actors and to local conditions as well as to
increase creativity (by cross-pollination).

PhD = individual + team work
The work load and structure of a PhD project should
provide time, funding and co-workers to tackle
interdisciplinary questions.

Current limits

Interdisciplinary research, being time-consuming and
leading to multiple author articles is not sympathetic
to performance benchmarks of fast accumulation of
publications as first single author. Adapting journal and
jury rules in order to be successfull with inter-
disciplinary topics in the current scientific professional
climate seems necessary.

Convergence during project definition
Projects don’t become interdisciplinary only by putting
together researchers from different domains on a joint
topic. Time must be invested to agree across disciplines
on the project priorities and the methodologies to
eengage without hidden individual agendas.

Levers

Give us time!
Agreeing on common priorities, crossing methodologies,
compare and conclude together takes time.
Multidisciplinary topics are scrapped first under time
pressure, since they are more time-consuming.

Human interactions
*force >> choose*  *mutual understanding*
Real team work is clearly facilitated when people are
auto-motivated and when human contacts are smooth.
Top-down decisions and clashing personalities make the
multidisciplinary process even more difficult.

Learn and pass on
Interdisciplinary research has a steep and long
learning curve. In order to become successful,
methodological lessons learned in early projects,
should be passed on to the next. Communication is
essential.

Successes

Crossing methods to adapt
PhD student adapted their experimental work in order to
respond to questions/doubts formulated by people from
other domains.

Joint paper writing
A special issue under construction led to some
spontaneous joint initiatives resulting some cross-
disciplinary papers.

Efficient knowledge and competence exchange
The possibility to get counsel or specific help from fellow
researchers in other research domains allowed inter-
disciplinarity where it would otherwise be unimaginable.

Data base
A data base with long term information of all measurements
on a joint research experiment has be established ... now we
need to find out how to really valorize it!

Please check out www.agricultureislife.be to see results of the interdisciplinary science projects of
about 20 PhD candidates and other researchers and subscribe to our newsletter!