



# Interlinking two institutional KOS about Agroecology: using LOD Agrovoc to circumvent the language barrier in identifying terminological intersections

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# Interlinking two institutional KOS about Agroecology: using LOD Agrovoc to circumvent the language barrier in identifying terminological intersections

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## Context and aims of the work

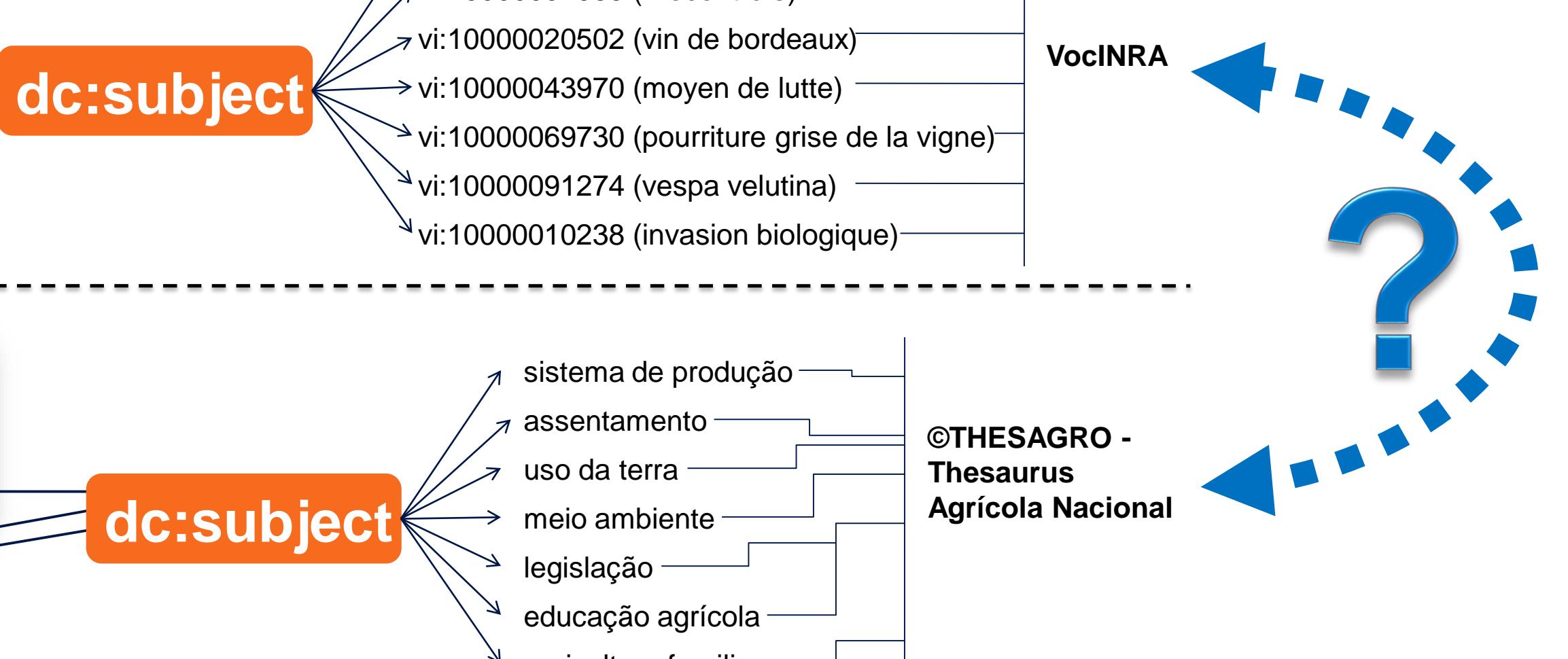


### Agroecology

- a common domain of high interest
- the need to consolidate dedicated vocabularies
- the need to compare and share knowledge

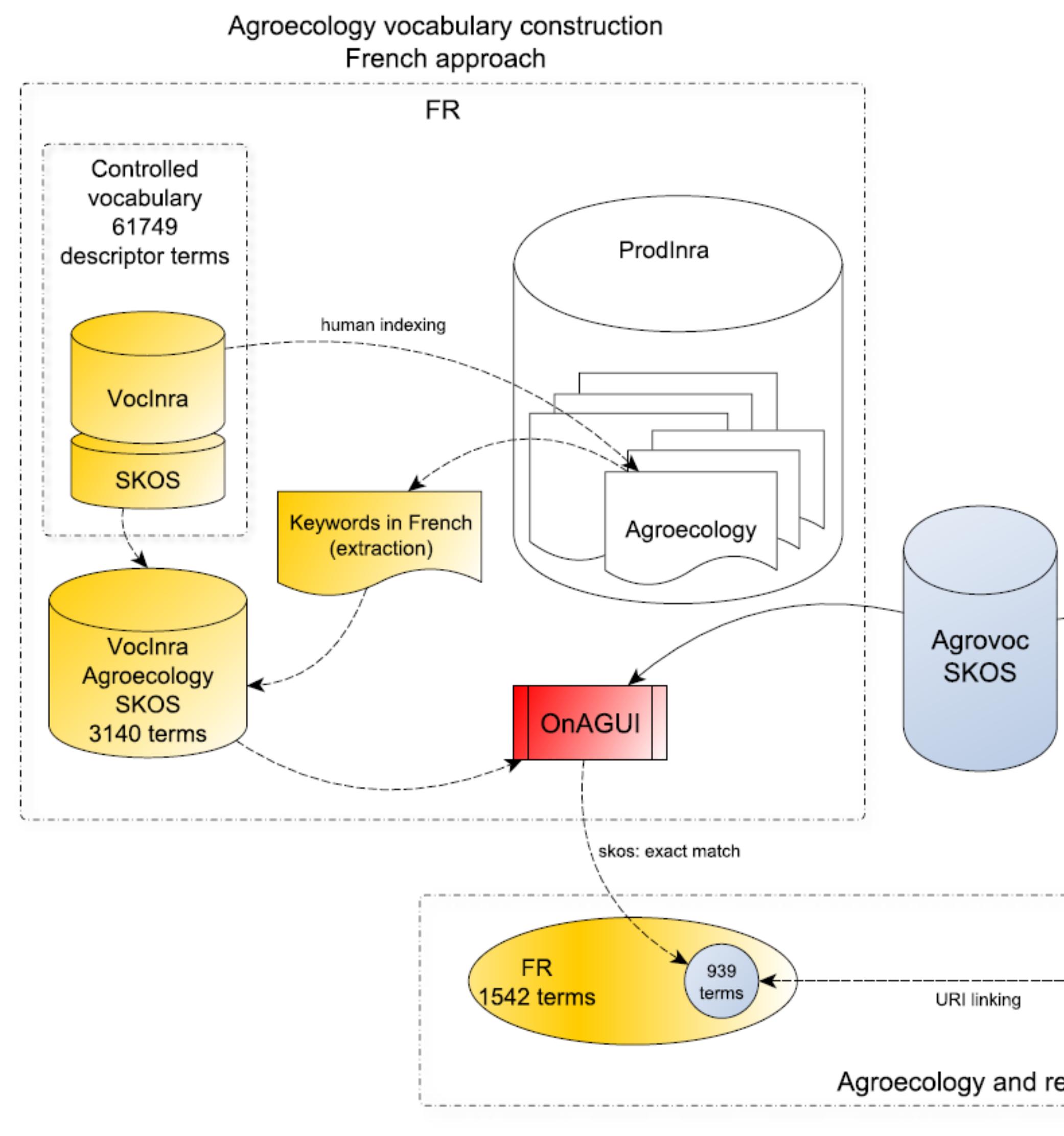
ProdINRA  
Archive ouverte des productions de l'INRA

BDP@ Bases de Dados da Pesquisa Agropecuária



## Material and methods

### General Methodological Approach



Agrovoc Linked Open Data (Agrovoc LOD) serialized in RDF SKOS and offering concept labels in French and Portuguese was chosen as the key solution..

### Knowledge Organization System subsets:

- INRA: 3,140 French terms from VocINRA used to manually index 2,145 publications about Agroecology in the institutional repository ProdINRA;
- Embrapa : semi-automatic term extraction from 260 full papers about Agroecology and a term matching using a specific tool (Pierozzi Júnior *et al.*, 2014) towards Thesagro (a Brazilian Portuguese thesaurus) and Agrovoc-PT.

### Alignment

- Onagui (Mazuel and Charlet, 2010), an open source tool designed to help alignment of vocabularies in SKOS or OWL, was used to align the VocINRA concepts with those in Agrovoc.
- The exact match relation between Thesagro and Agrovoc-PT and was used to build the final Embrapa term subset.

## Results

Examples of exact matched common terms for both French (VocINRA) and Brazilian Portuguese (EmbrapaVoc) Vocabularies		
Agrovoc URI	VocINRA	EmbrapaVoc
agrovoc:c_6701, "rural development"	vi:1000006218, "développement rural"	"desenvolvimento rural"
agrovoc:c_7645, "technology transfer"	vi:10000019611, "transfert de technologie"	"transferência de tecnologia"
agrovoc:c_7973, "tropical climate"	vi:1000004499, "climat tropical"	"clima tropical"
agrovoc:c_10195, "cucumbers"	vi:1000004499, "concombre"	"pepino"
agrovoc:c_2746, "ewes"	vi:1000002777, "brebis"	"ovelha"

Examples of exact matched terms for French Vocabulary (VocINRA)		
Agrovoc URI	VocINRA	EmbrapaVoc
agrovoc:c_14187, "selective grazing"	vi:10000047526, "système de pâturage"	--
agrovoc:c_1394, "cauliflowers"	vi:1000004244, "chou fleur"	--
agrovoc:c_16096, "agrosilvopastoral systems"	vi:10000018929, "système agrosylvopastoral"	--
agrovoc:c_2595, "environmental control"	vi:10000089386, "protection de l'environnement"	--

Examples of exact matched terms for Brazilian Portuguese Vocabulary (EmbrapaVoc)		
Agrovoc URI	VocINRA	EmbrapaVoc
agrovoc:c_8086, "urban population"	--	"população urbana"
agrovoc:c_4889, "molasses"	--	"melado"
agrovoc:c_15521, "social indicators"	--	"indicador social"
agrovoc:c_13127, "passion fruits"	--	"maracujá"

prefix agrovoc=<http://aims.fao.org/aos/agrovoc/>

prefix vi=<http://opendata.inra.fr/resources/vocinra/>

## Conclusions

- Agrovoc LOD allows
  - (1) the identification of common terms used for the two institutions and
  - (2) a set of specific terms in each language that might be incorporated into each other's vocabularies.;
- This work also highlights some difficulties in the translation of certain terms in Agrovoc which will improve this multilingual vocabulary;
- The alignment between the INRA and Embrapa vocabularies prepares these two vocabularies to be linked when published in LOD;
- This conciliatory methodological model can be strengthened and systematized so that Embrapa and INRA can consider their contribution to broader initiatives in the agricultural domain like the project for a Global Agricultural Concept Scheme (Baker and Suominen, 2014).

## References

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