

Global Agricultural Concept Scheme

GACS and Agrisemantics

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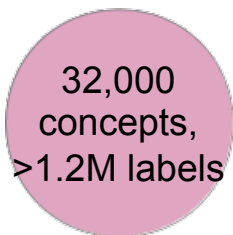
**IC-Foods, UC Davis
November 5, 2016**

<http://agrisemantics.org/gacs/>



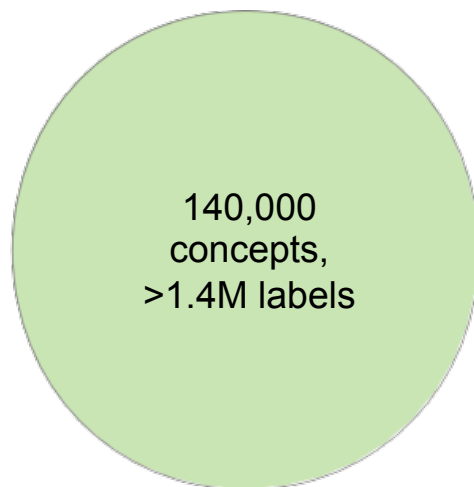
Three overlapping thesauri. Three URIs for “*rice*”.

	Bibliographic database	Indexed records	Number of concepts	Coverage	Format
CABI Thesaurus (CABT)	CAB Abstracts	8.3 million	264,500 terms with about 206,400 plant, animal and microorganism names Multilingual in 10 languages	Pure and applied life sciences, technology and social sciences	
NALT	Agricola	5.2 million	> 120,610 terms English and Spanish	In depth coverage of agriculture, biology and related disciplines.	Linked Open Data: XML, RDF-SKOS, PDF, MARC and DOC
AGROVOC	AGRIS	8 million	> 32,000 concepts available in 23 languages	All areas of interest of FAO, including food, nutrition, agriculture, fisheries, forestry, environment etc.	Linked Open Data, SKOS-XL



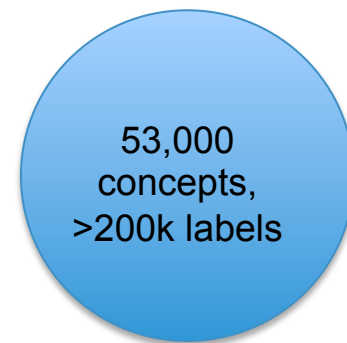
AGROVOC

English, Spanish,
Portuguese, German,
Czech, Persian, Polish,
Hindi, French, Italian,
Russian, Japanese,
Hungarian, Chinese,
Slovak, Thai, Lao, Turkish,
Korean, Arabic, Telugu ...



CAB Thesaurus

English, Spanish, Portuguese,
Dutch + others



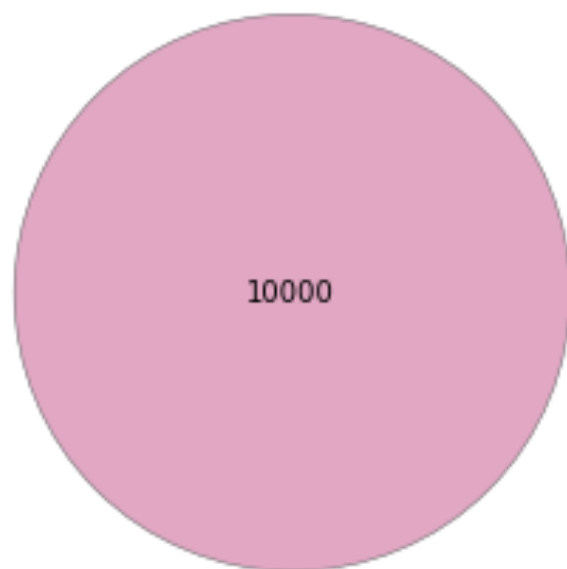
NAL Thesaurus

English, Spanish

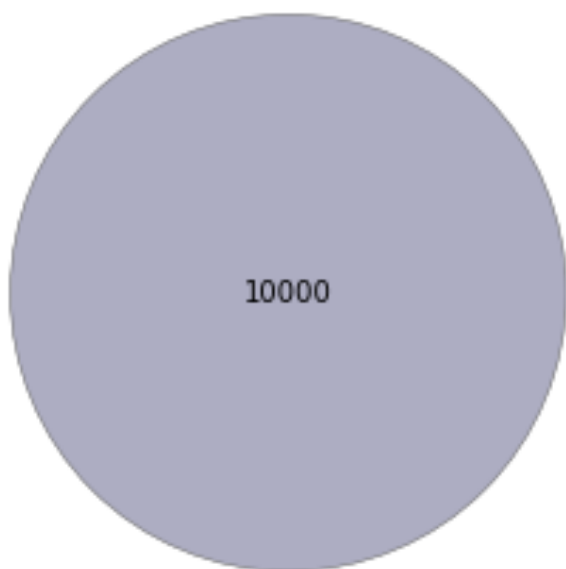
1. Take the 10,000 most-used concepts from each

October 2014

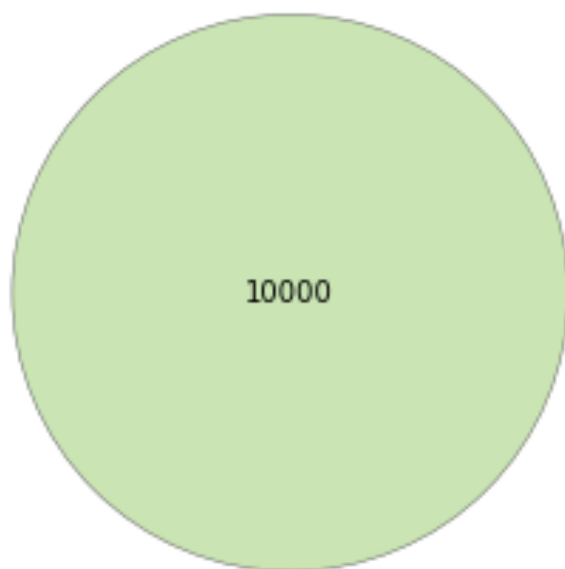
Before mapping



AGROVOC (10000)



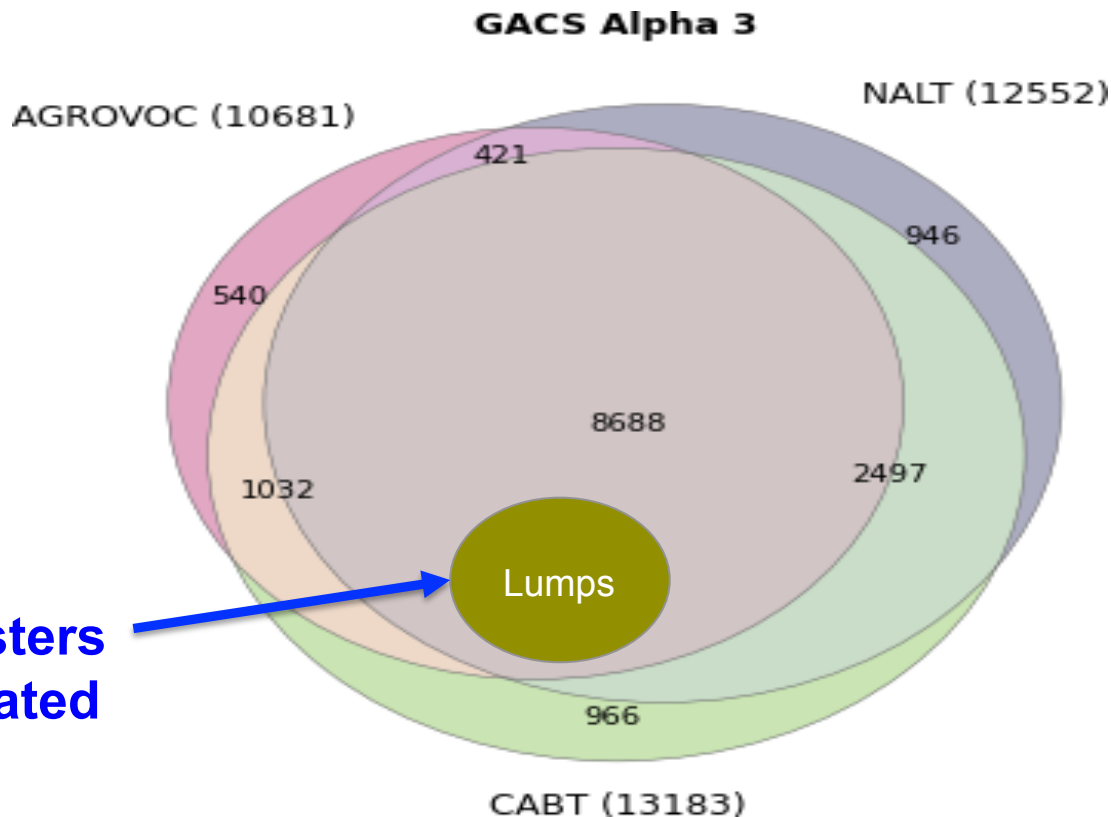
NALT (10000)



CABT (10000)

2. Automatically map them to each other

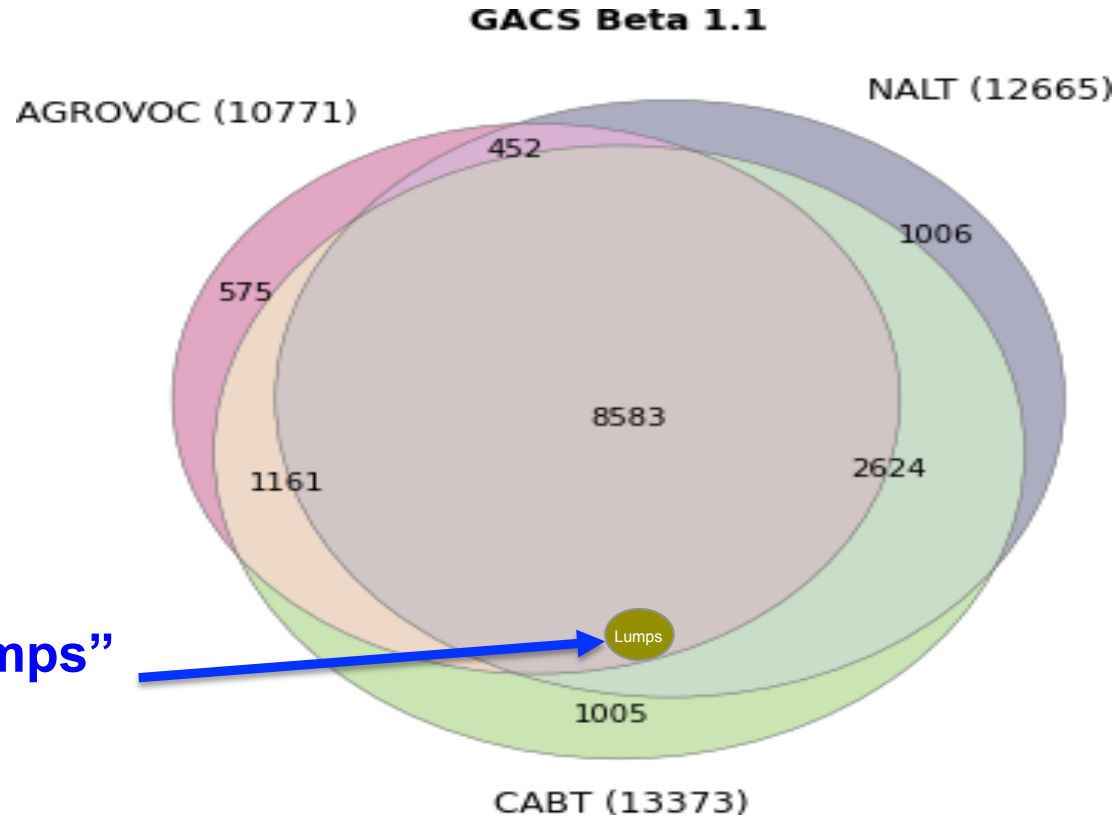
March 2015



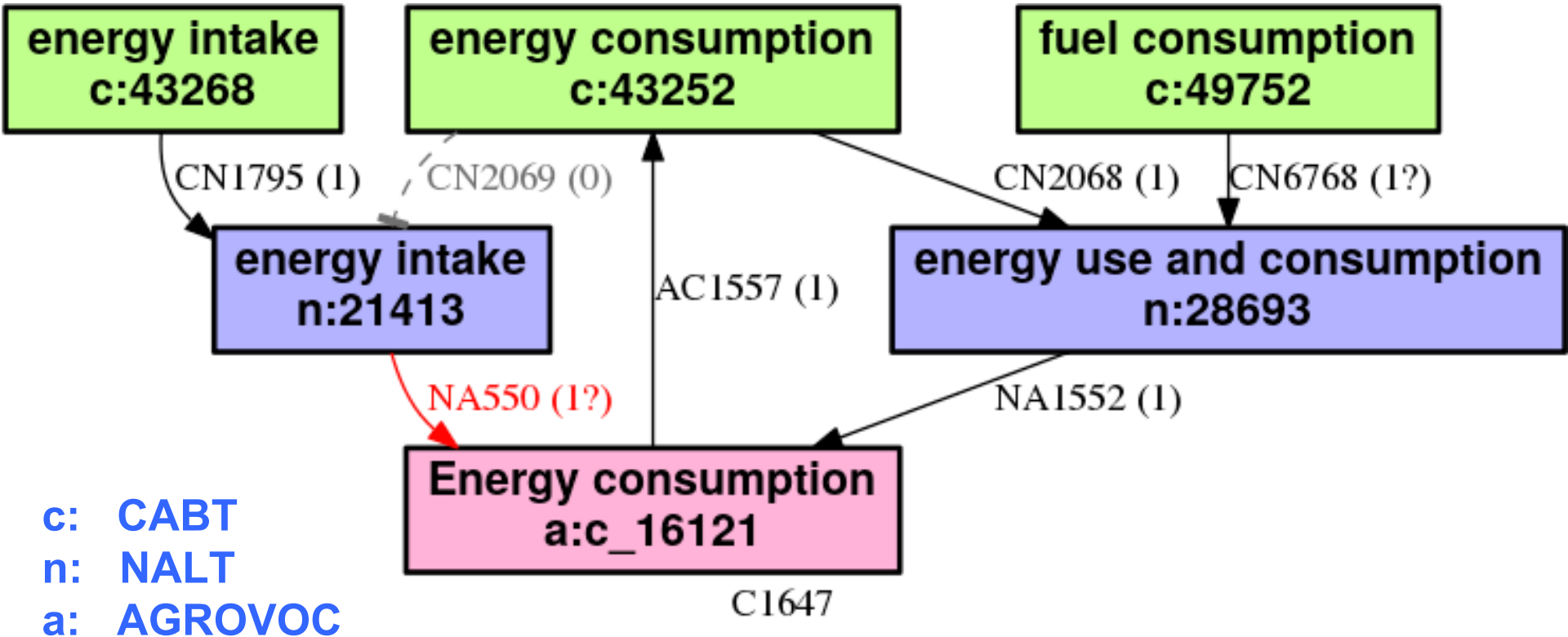
**Awkwardly
mapped clusters
were anticipated**

3. Verify mappings, one by one

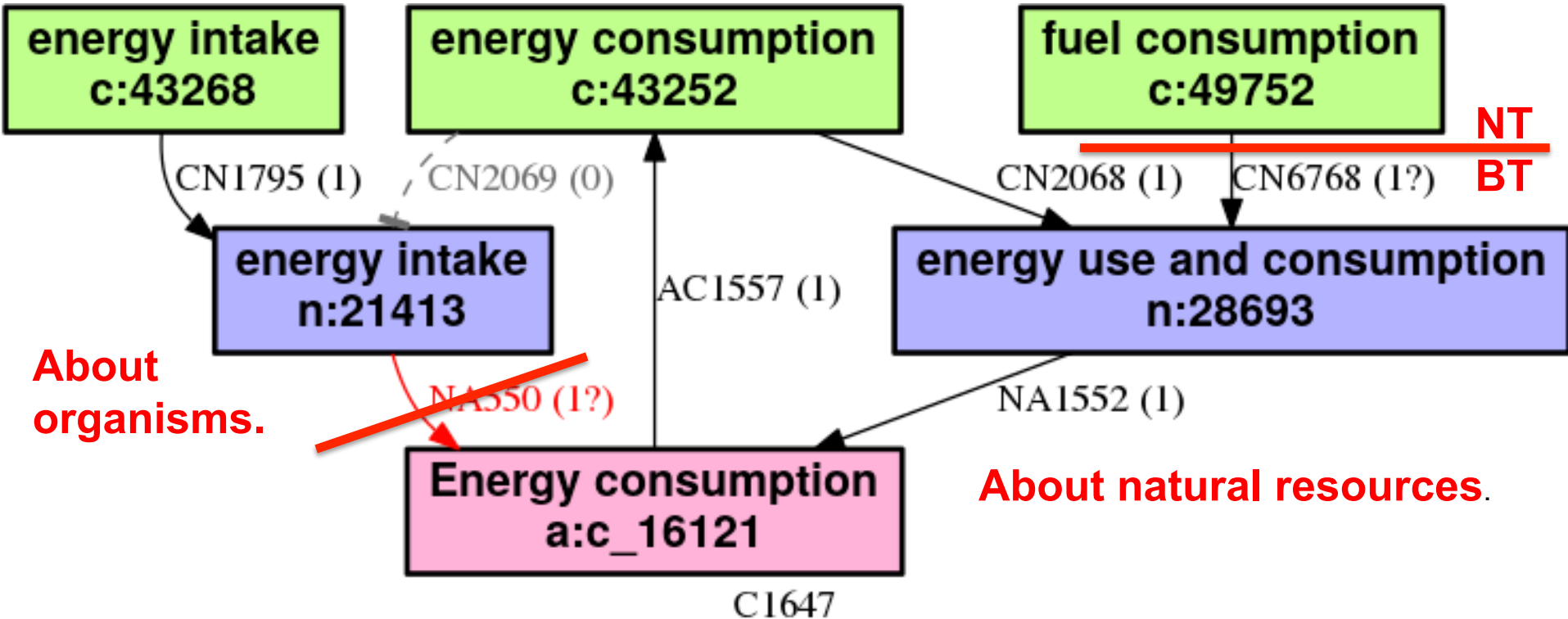
October 2015



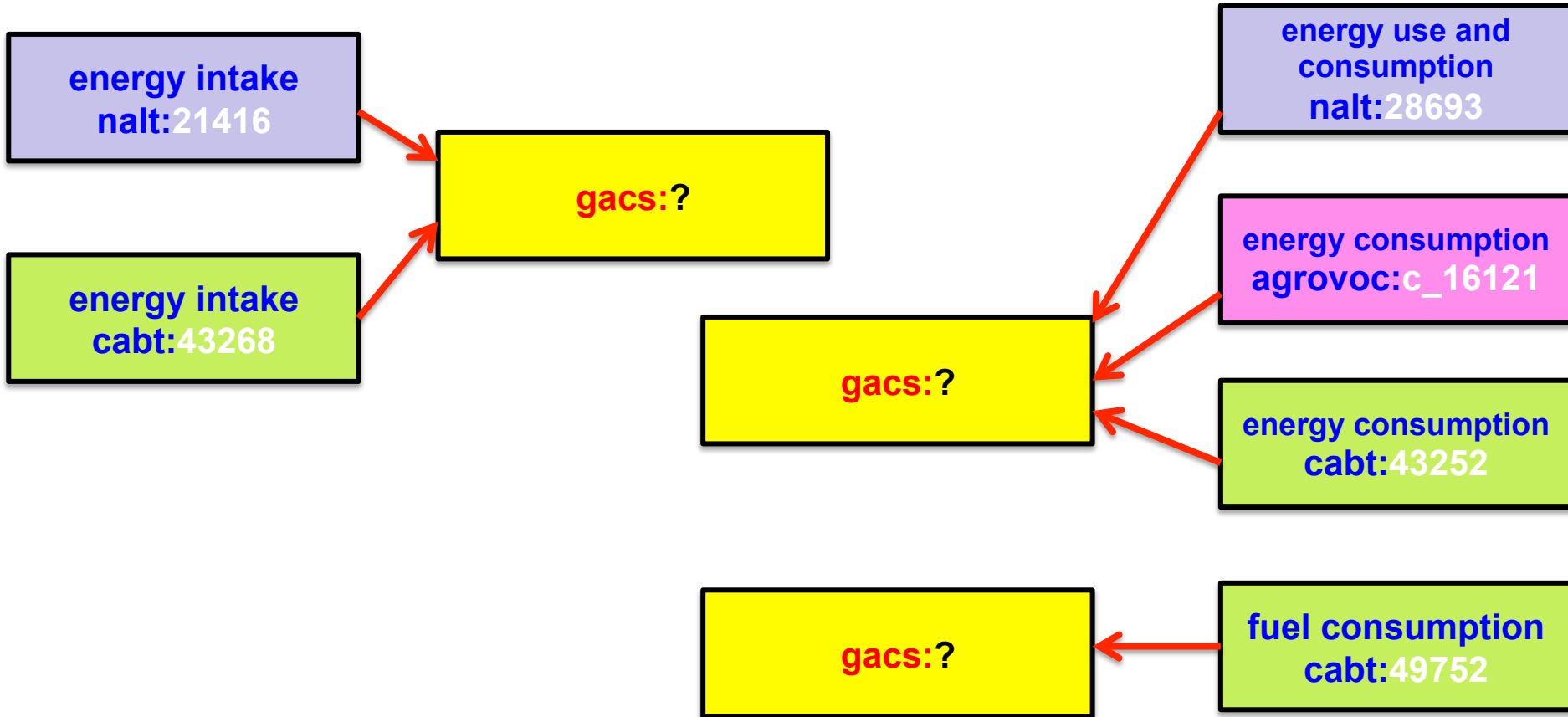
Example Lump



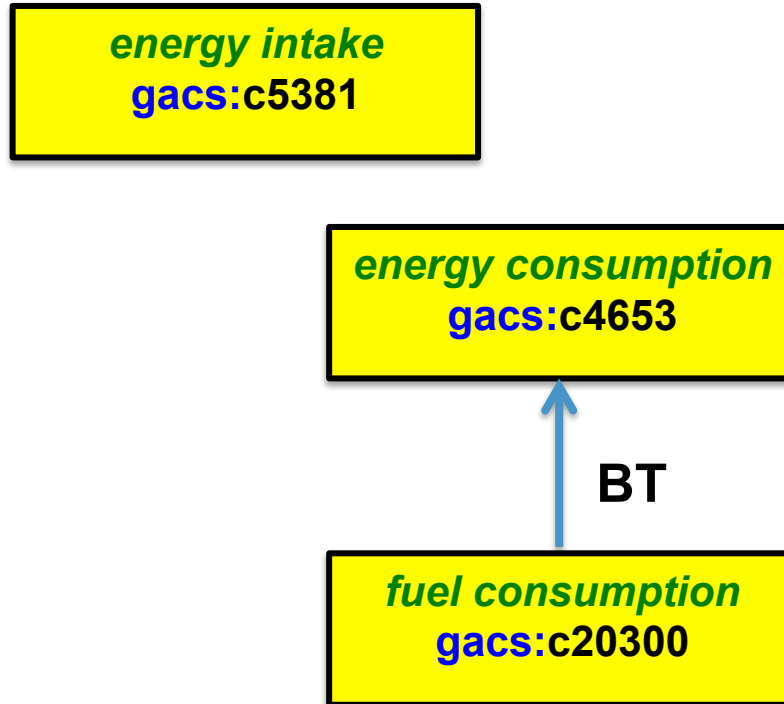
Mappings fixed



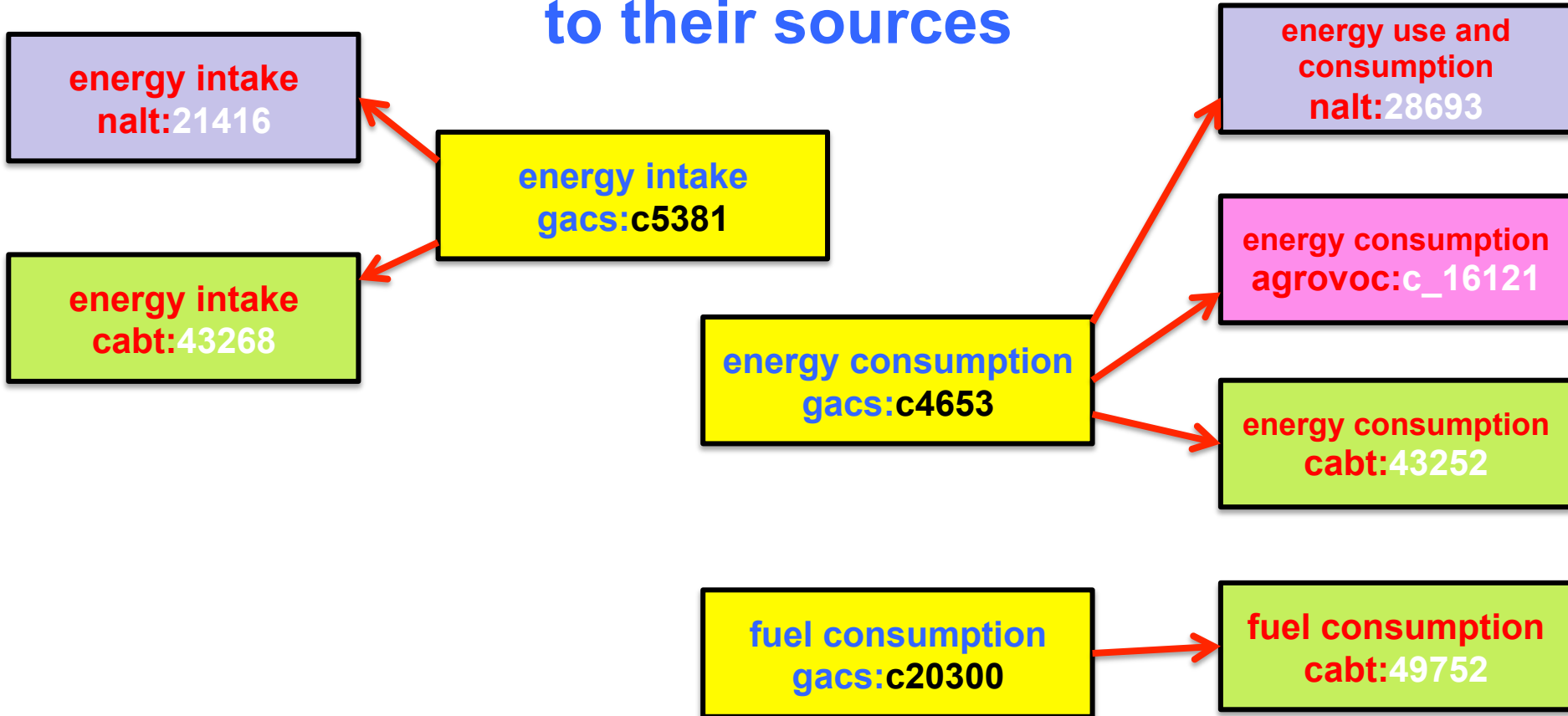
Used to create



GACS Core concepts

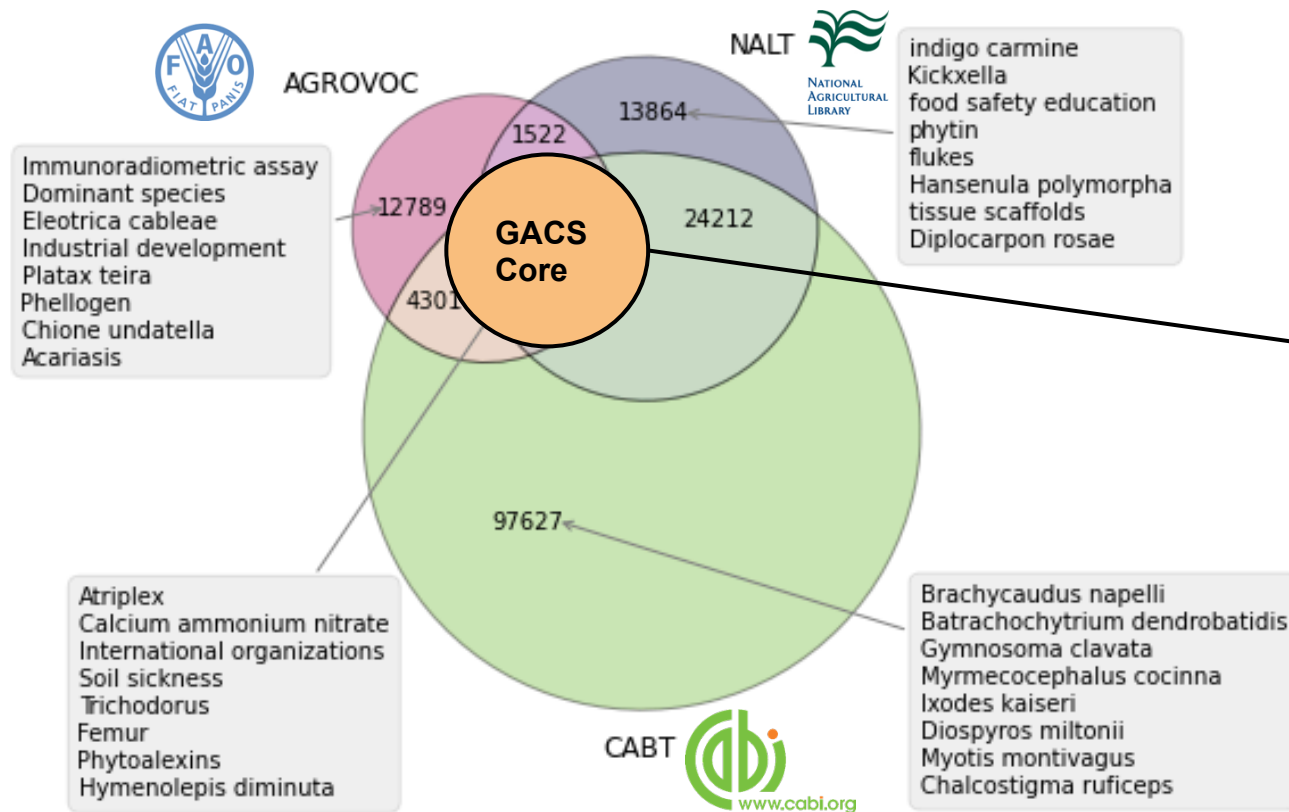


...which map back
to their sources



GACS – Global Agricultural Concept Scheme

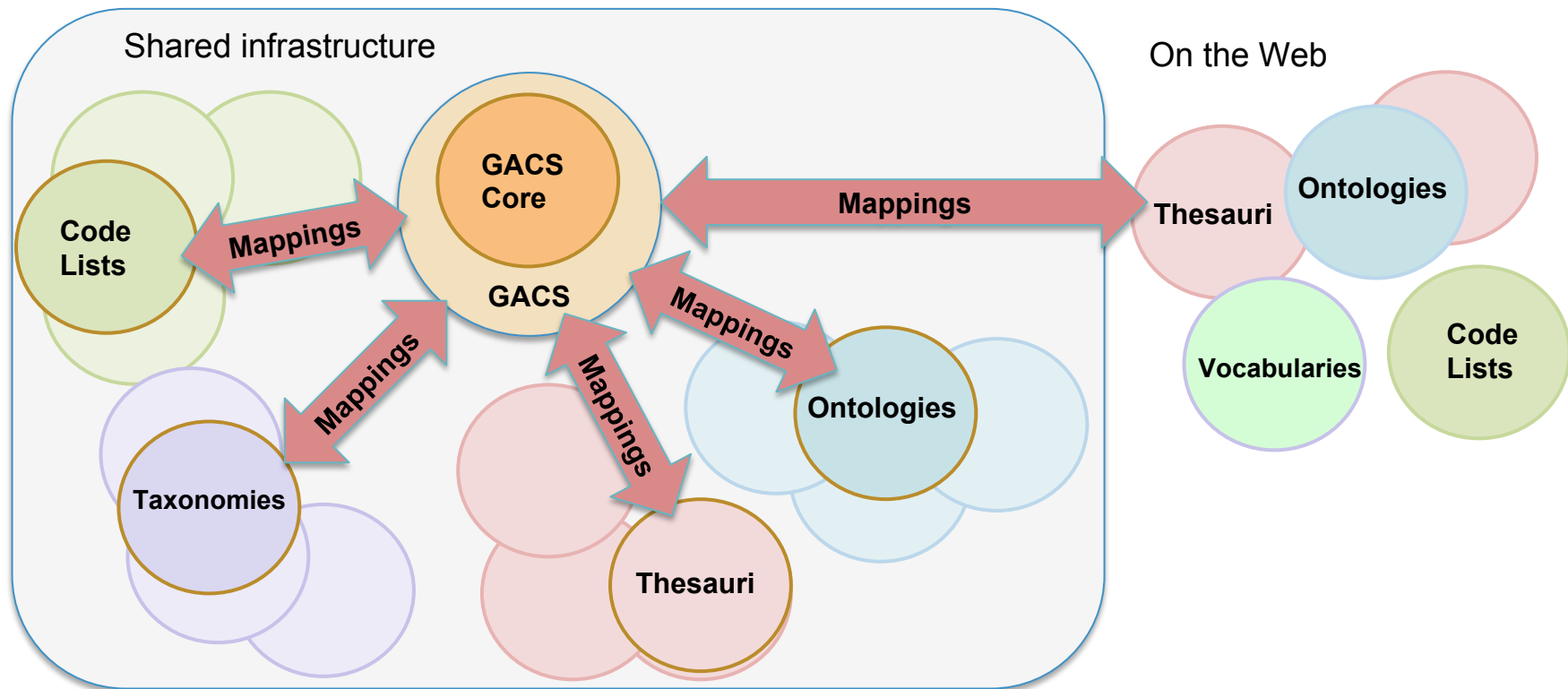
May 2016



GACS Core **Beta 3.1**

- 15,000+ concepts
- 350,000+ labels in 29 languages
- reasonably stable
- quality issues (hierarchy!)
- testing and feedback welcome

Agrisemantics



GACS in context of Agrisemantics

Goal: Better **coherence, interoperability, discoverability** of agricultural data for the benefit of farmers, researchers, and policy makers

GACS as a hub

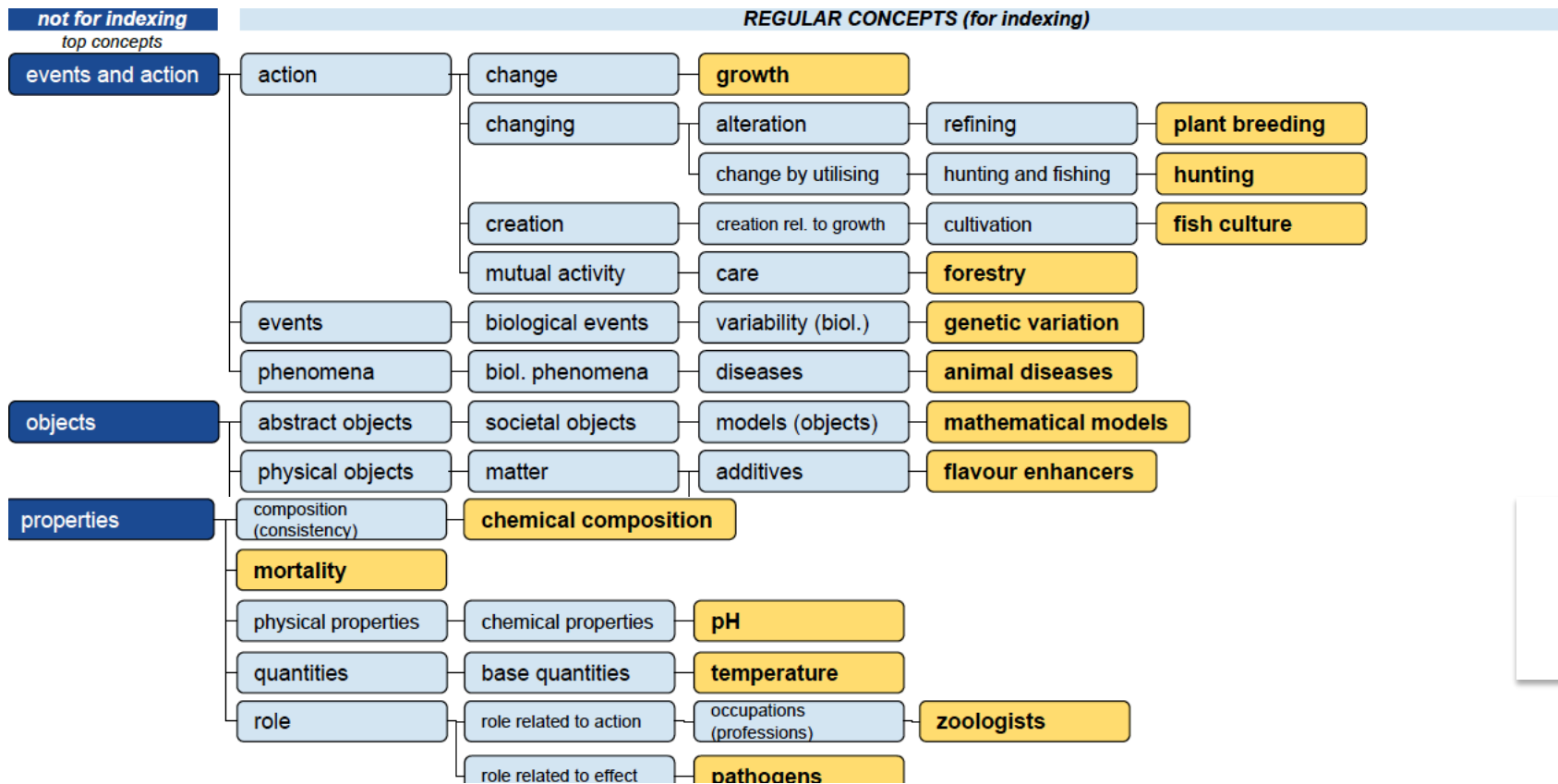
- Link user-oriented **thesauri to domain ontologies** that are semantically more precise
- Link **domain ontologies to datasets** about food and agriculture

Help us fix the GACS Beta hierarchy!

- GACS inherited BT/NT relations from three sources (polyhierarchy)
- How should we fix this?
- [**http://aims.fao.org/activity/blog/gacs-structural-survey-and-hierarchy-scenarios**](http://aims.fao.org/activity/blog/gacs-structural-survey-and-hierarchy-scenarios)

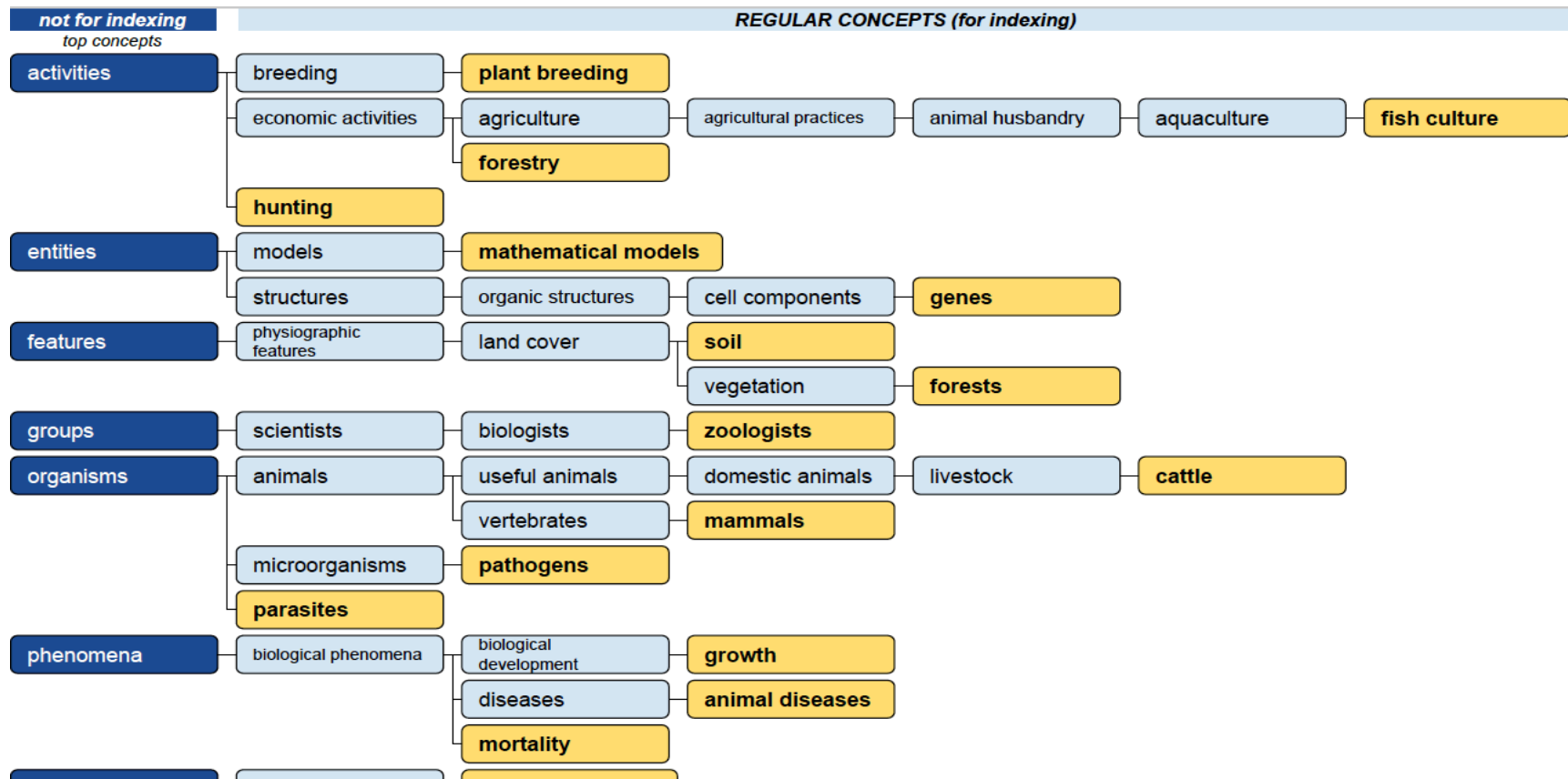
Scenario A:

Only three top concepts



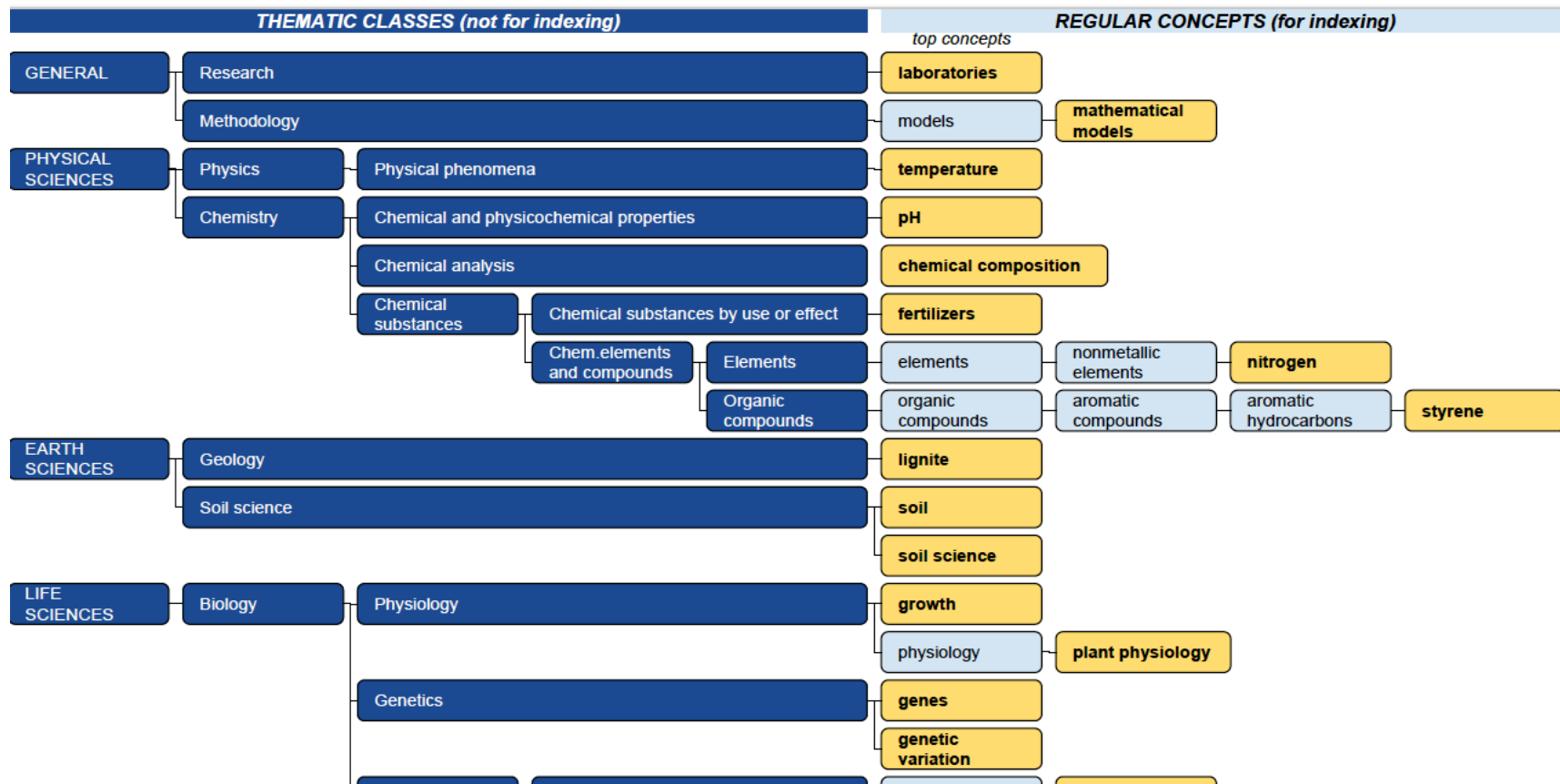
Scenario B:

Top concepts function as types



Scenario C:

Shallow hierarchy plus thematic classification



<http://agrisemantics.org/gacs/>

[http://aims.fao.org/activity/blog/
gacs-structural-survey-and-hierarchy-
scenarios](http://aims.fao.org/activity/blog/gacs-structural-survey-and-hierarchy-scenarios)