

“Global Agricultural Concept Scheme (GACS)”

MTSR 2016, Göttingen
22-24 November 2016

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

Motivation (2014)

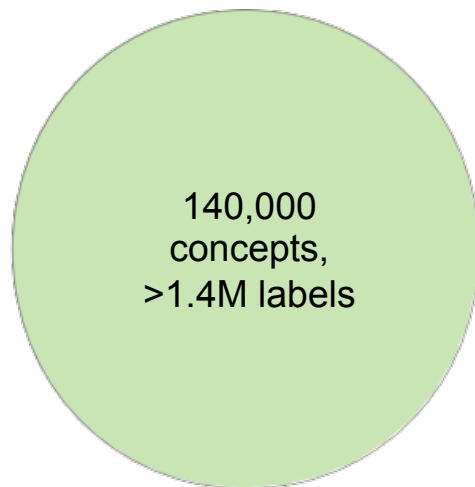
1. “Open data needs common semantics for linking diverse information” (G8 meeting, 2013)
2. To improve the **semantic interoperability** of thesauri maintained by FAO, CABI, and NAL
3. To provide **core concepts** broadly supported across the three thesauri
4. To achieve **efficiencies of scale** by maintaining the core concepts in cooperation

Starting point, February 2014



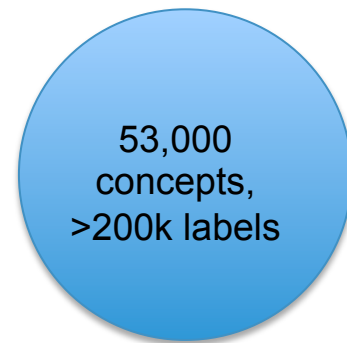
AGROVOC

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

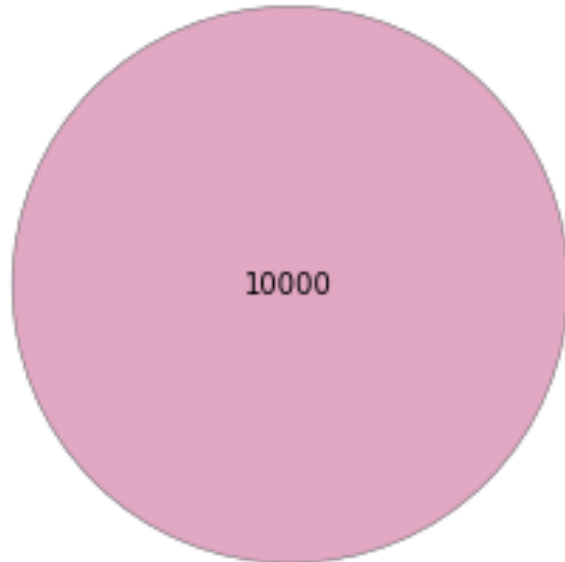
**Three thesauri overlapping
in scope**

How

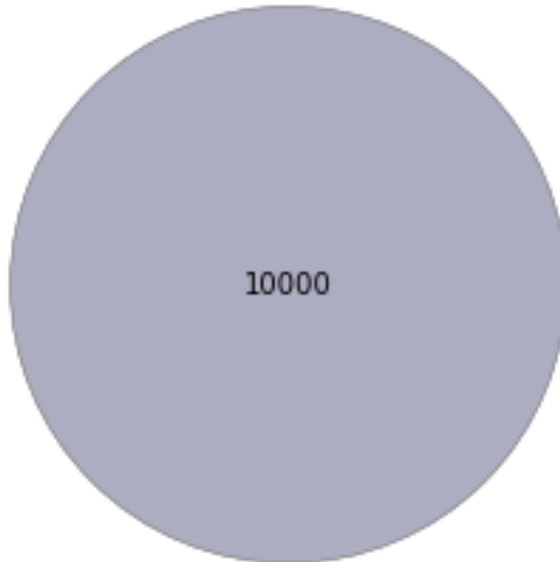
1. Take the 10,000 concepts
most-used for indexing AGRIS,
AGRICOLA, and CAB Abstracts

October 2014

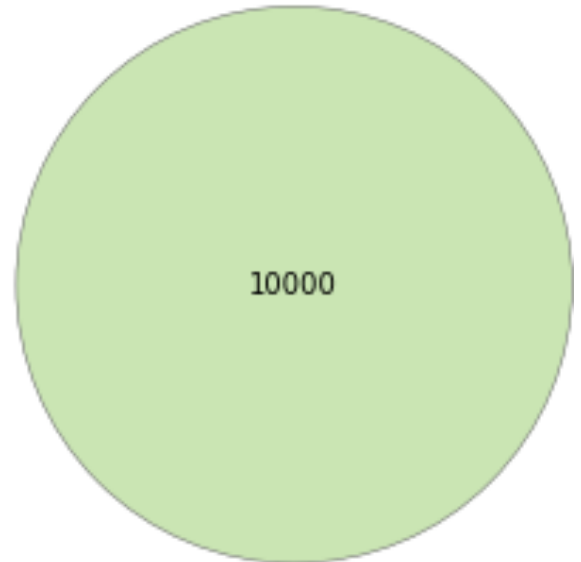
Before mapping



AGROVOC (10000)



NALT (10000)

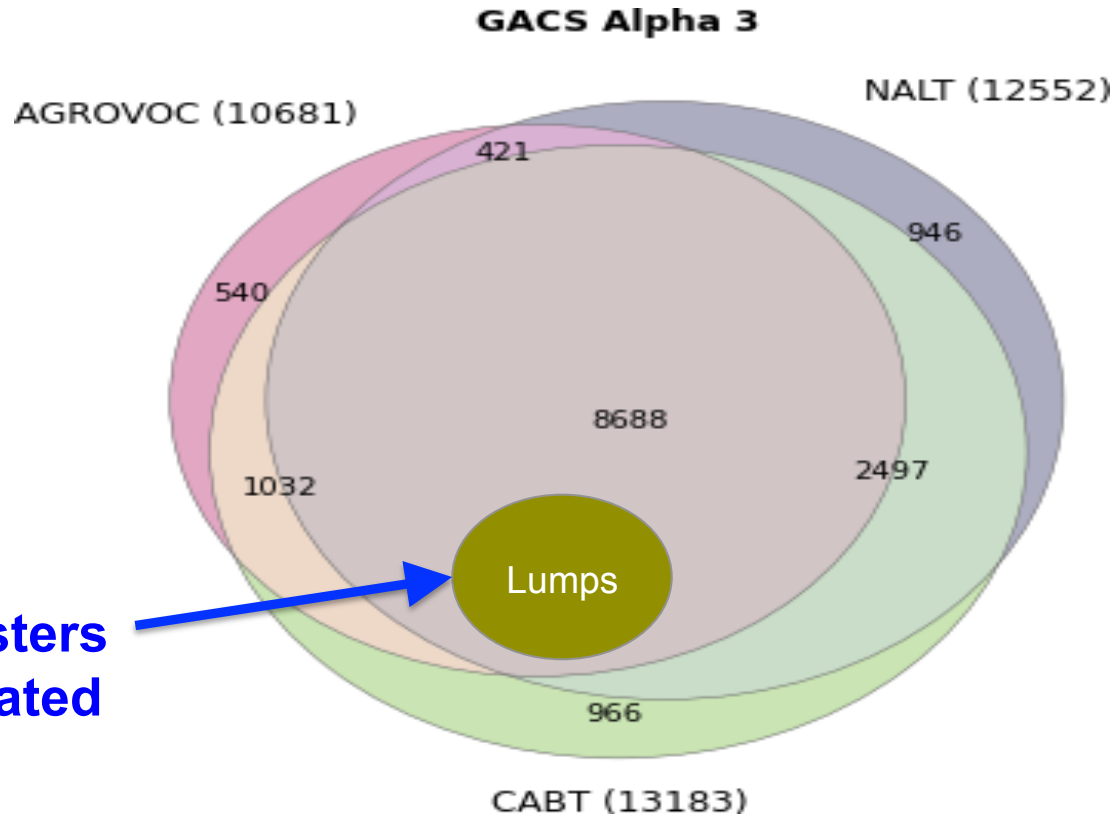


CABT (10000)

How

2. Automatically map them to each other

March 2015

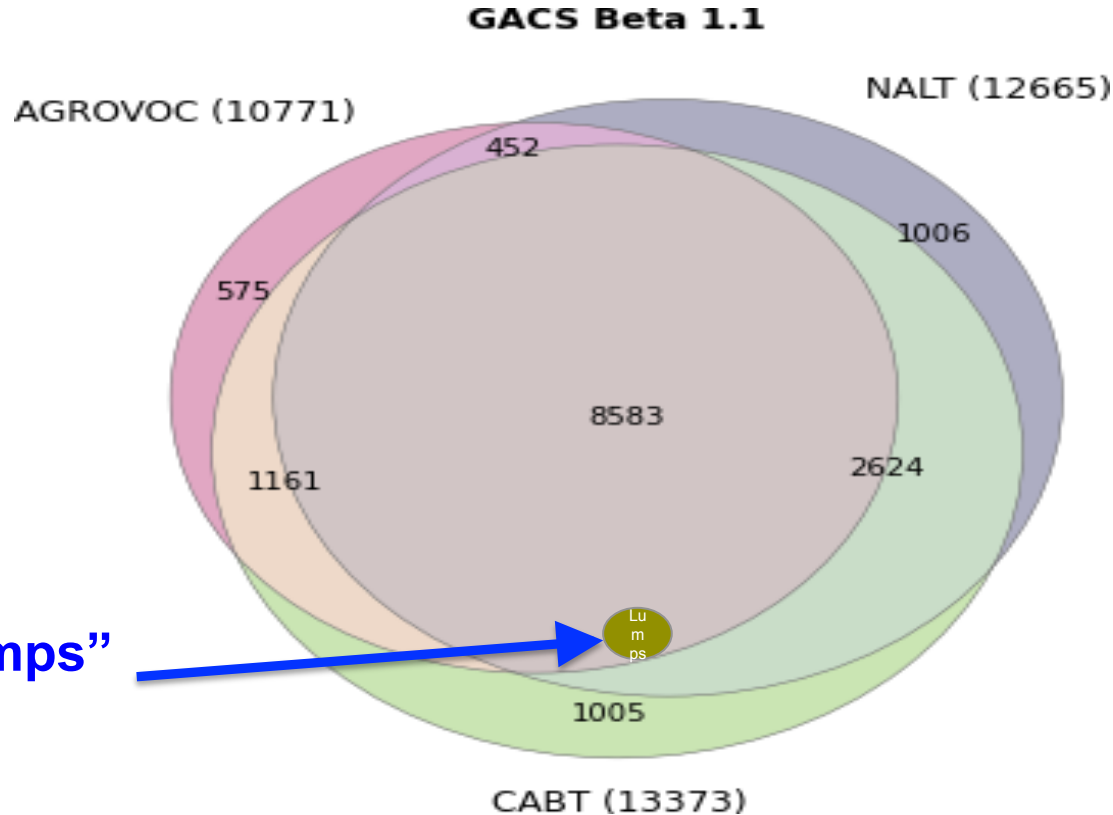


**Awkwardly
mapped clusters
were anticipated**

How

3. Verify mappings, one by one

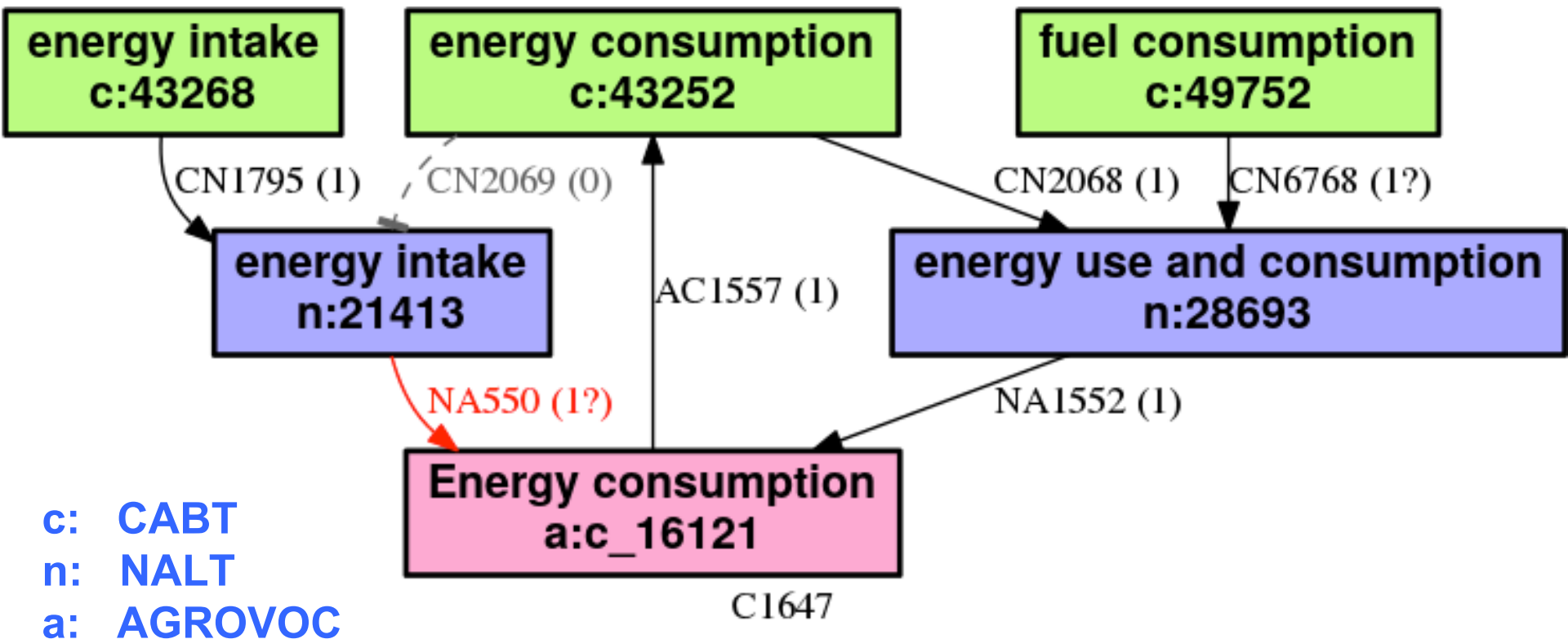
October 2015



Resolve “lumps”
on telecons

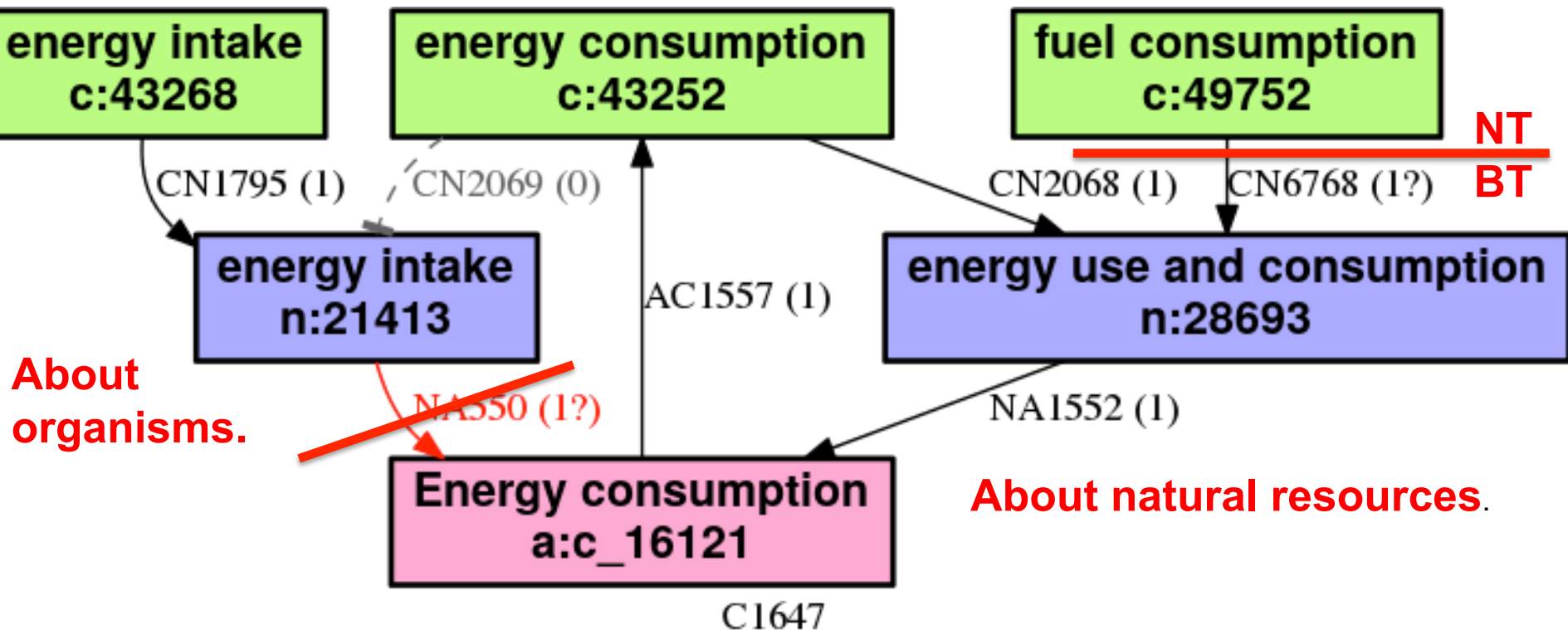
Example

Six concepts

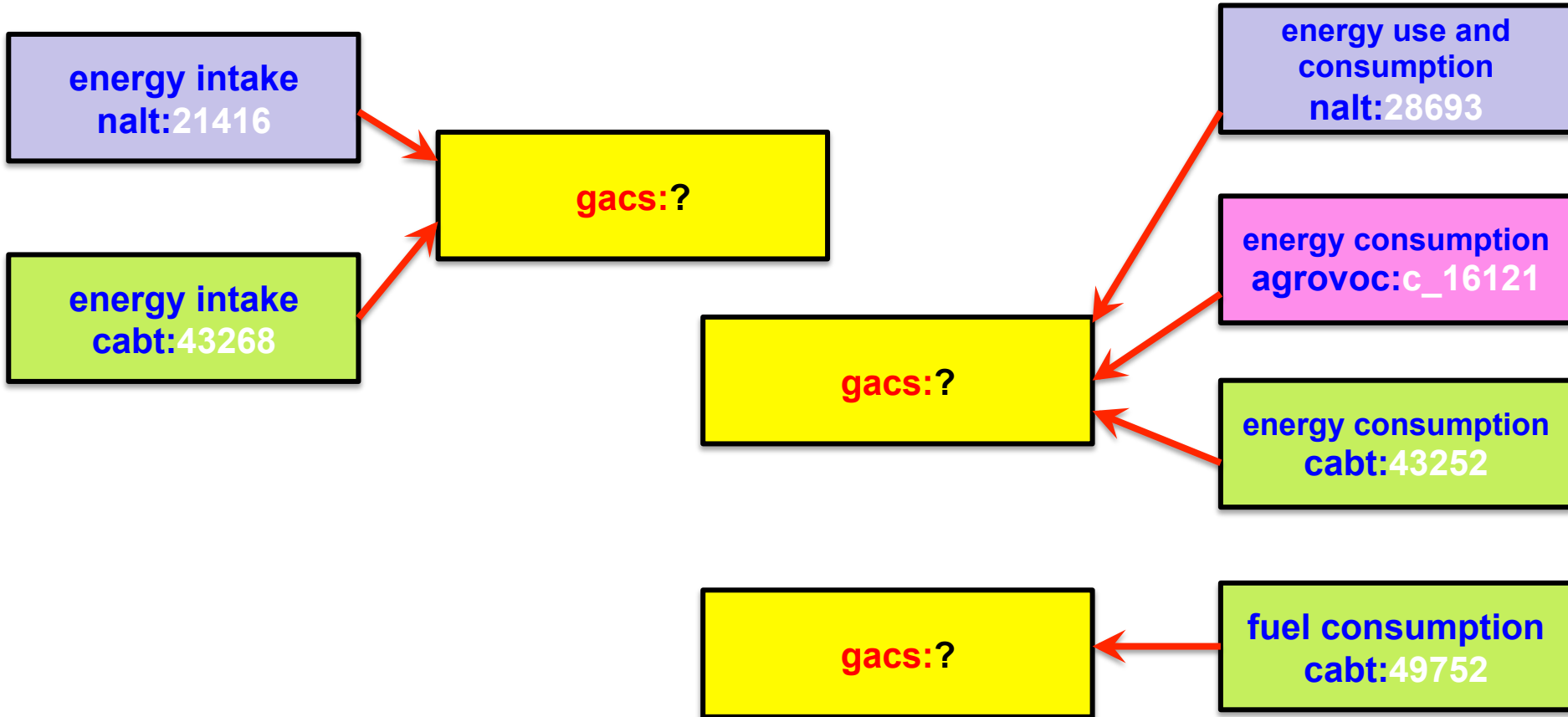


Example

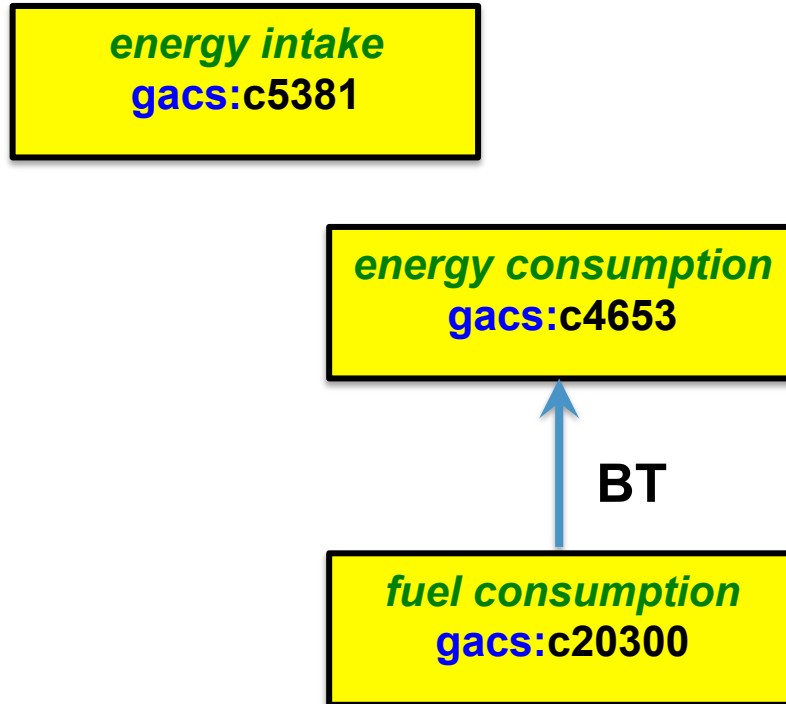
Mappings fixed



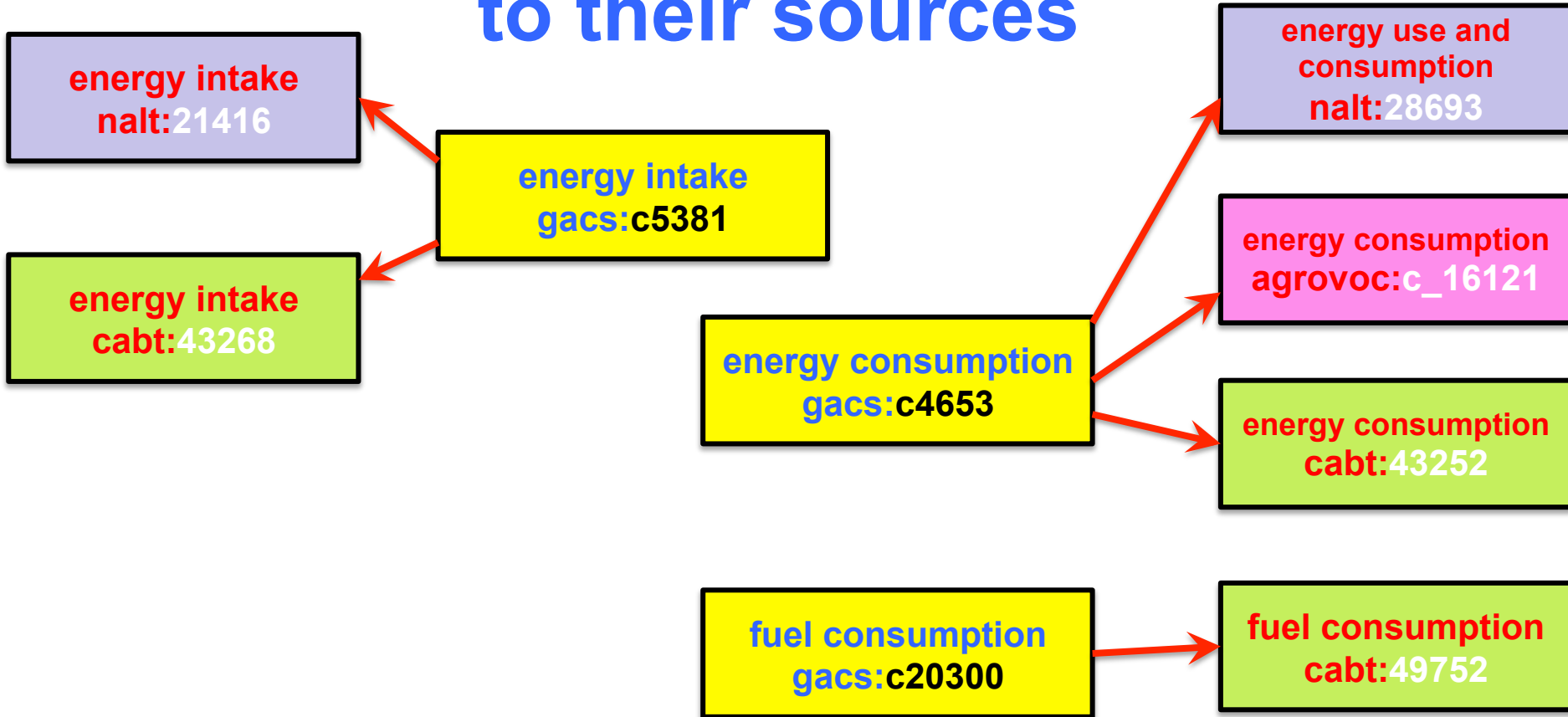
Used to create



three concepts in GACS Core

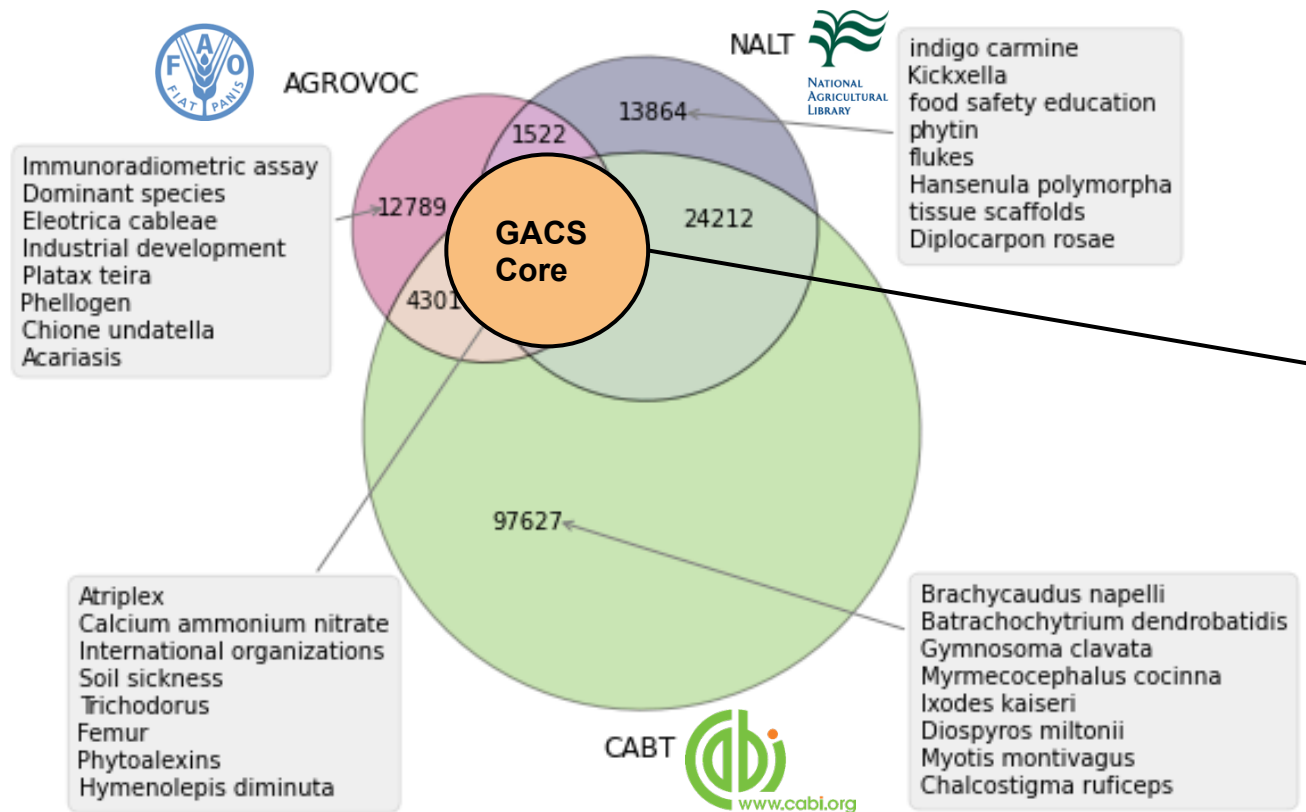


which map back to their sources



Global Agricultural Concept Scheme

May 2016



GACS Core Beta 3.1

- 15,000+ concepts
- 350,000+ labels in 29 languages
- definitions, relations, and multilingual labels from three sources

Semantic structure of GACS Beta

- Semantic relations
 - broader, narrower, related, exactMatch (mapping)
 - hasProduct/productOf to relate fish (organism) to fish (product)
- Semantic types
 - Sub-classes of skos:Concept
 - Chemical, Geographical, Organism, Product, Topic (catch-all)
 - Note: hierarchical relations *not* currently used for typing
- Thematic Groups
 - Reused 1999 Classified CAB Thesaurus
 - Life Sciences > biology > microbiology > bacteriology

Position in hierarchy
Preferred label
Type of concept

Definition

Broader, narrower, and related concepts

Alternative labels

Belongs to group

Translated in up to 25 languages

URI

Download

Mapped to source thesauri

biology > organisms > hosts > host plants

host plants

TYPE
DEFINITION

Organism

Plantas que sirven de albergue, hábitat, sitios de crianza o fuente de alimentos como parte del ciclo vital de otros organismos.
Plants which are hosts for symbiont organisms, including those that are trophically associated with them (such as plant pathogens, plant parasites and phytophagous arthropods).
Plants which provide shelter, habitat, breeding sites or serve as a food source as part of the life cycle of another organism.

BROADER CONCEPT

hosts

plants (botany)

NARROWER CONCEPTS

food plants

weed hosts

RELATED CONCEPTS

plant parasites

plant pathogens

ALTERNATIVE LABEL

host crops

host plant

hosts of plant diseases

hosts of plant pests

plant host

plant hosts

BELONGS TO GROUP

organisms, by non-taxonomic groups

Arabic

Chinese

Czech

Dutch

French

German

Hindi

Hungarian

Italian

Japanese

Korean

Lao

Persian

Polish

Portuguese

Russian

Slovak

Spanish

Telugu

Thai

Turkish

Ukrainian

<http://id.agrisemantics.org/gacs/C1029>

RDF/XML TURTLE JSON-LD

EXACT MATCH

host plants

host plants

host plants

AGROVOC

CAB Thesaurus

NAL Thesaurus

GACS Core **Soft Launch** (May 2016)

- Concepts considered **reasonably stable**
- **URIs** not *expected* to change, but may
- Some **quality issues** fixed but work remains
- GACS Core edited in VocBench, displayed in Skosmos, hosted by University of Tor Vergata (Rome)
- Next: design and **fix a coherent hierarchy**
- **Testing** is encouraged
- **Feedback** welcome!

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

GACS Governance

- Steering Committee
 - FAO, NAL, CABI
- Working Group
 - FAO, NAL, CABI plus consultants
- Current partners are eager to welcome new partners bringing concrete contributions