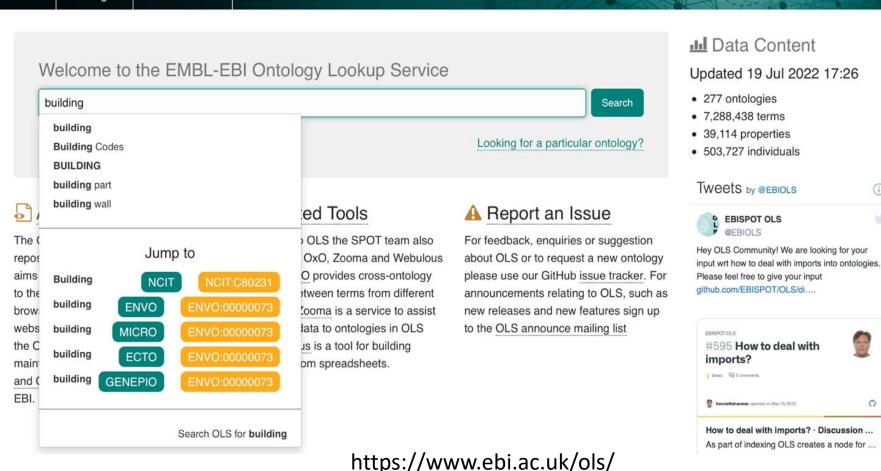
Exercise 2:
Standardizing Data
Using Ontology Look-up
Services

How to find ontology terms





0

Searches for terms can yield many/different kinds of results. To evaluate the matches, ask yourself the following:

- Does the match sound like what I'm looking for?
 - Is it a synonym, e.g. rocketship vs spaceship
- Is it being defined by an ontology that makes sense with my use case?
 - A disease ontology is more appropriate for disease terms vs mouse model ontology

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- Does the definition sound right?
 - "Cell" could be room in a jail OR a basic unit of life
- Is it specific enough? Too specific?
 - Cough vs productive cough vs productive cough (green sputum))
- Is it reused in many different ontologies?

Hint: keep evaluating matches past the first hit

Who do you trust? Evaluating ontologies...

All ontologies are not created equal. Ontologies can be built for specific project.

Advice for choosing ontologies to use:

- Should be under active development (updated)
- 2. Should accept term requests from the community and respond in a timely manner
- 3. Should be interoperable and adhere to best practices (e.g. OBO Foundry)
- 4. The more widely used the better
- 5. Should provide definitions and sources

Who do you trust? Evaluating ontologies...

Get advice. Chat with people. Some of our recommendations:

- UO units
- NCBITaxon taxonomy
- ENVO environment (built & natural)
- OBI assays, biological processes
- FoodOn food
- DO diseases
- HP symptoms
- Uberon anatomy
- ChEBI chemicals/drugs
- GAZ geography

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Example: farm

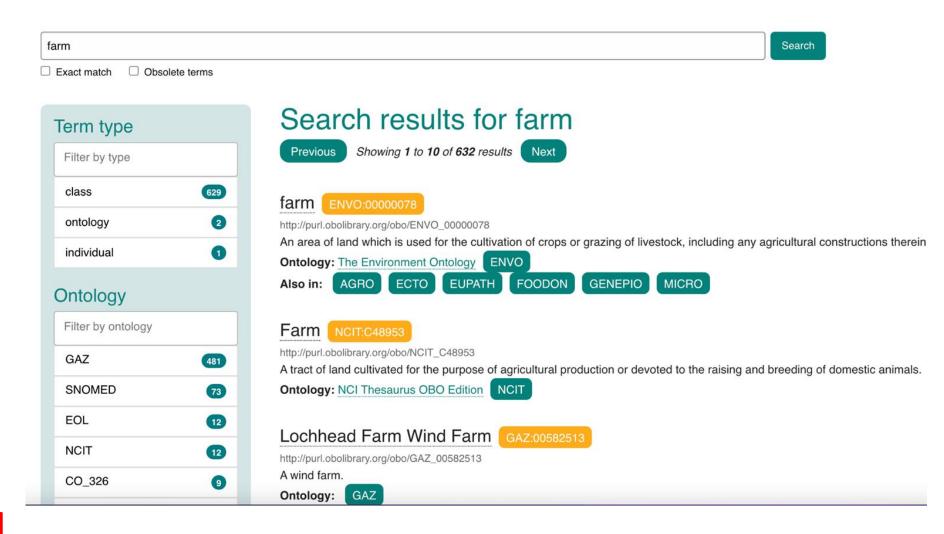
"Farm" is exact match!
Def sounds right

ENVO (Environment) > NCIT=Cancer

ENVO term in multiple ontologies

Conclusion: select

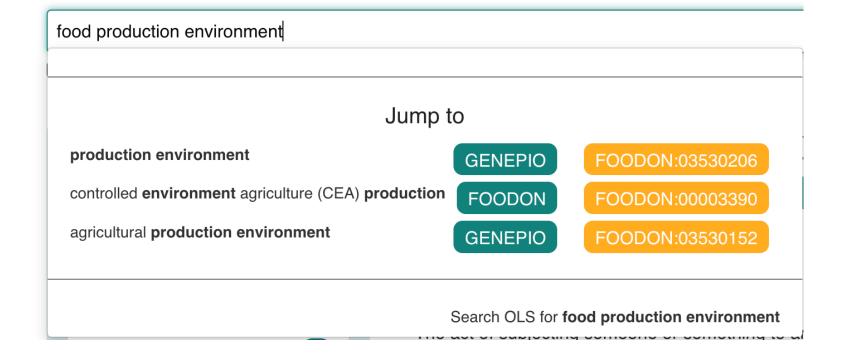
Farm [ENVO:00000078]



Example: food production environment

No exact matches

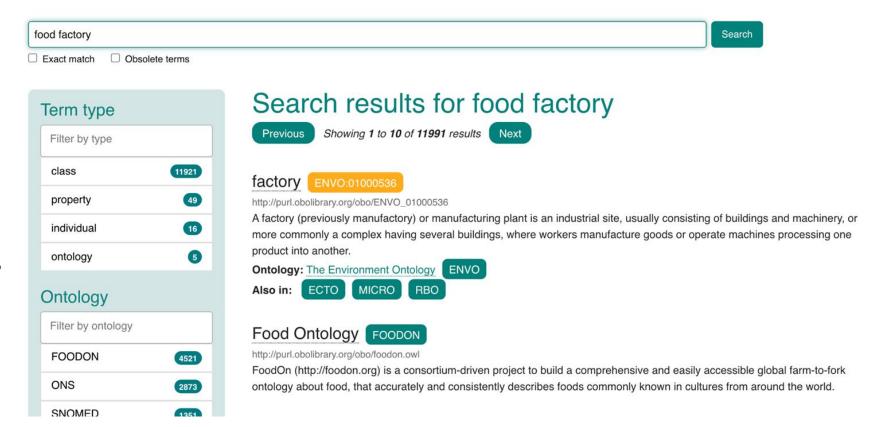
Try a synonym



Example: food production environment

No exact matches for "food factory"

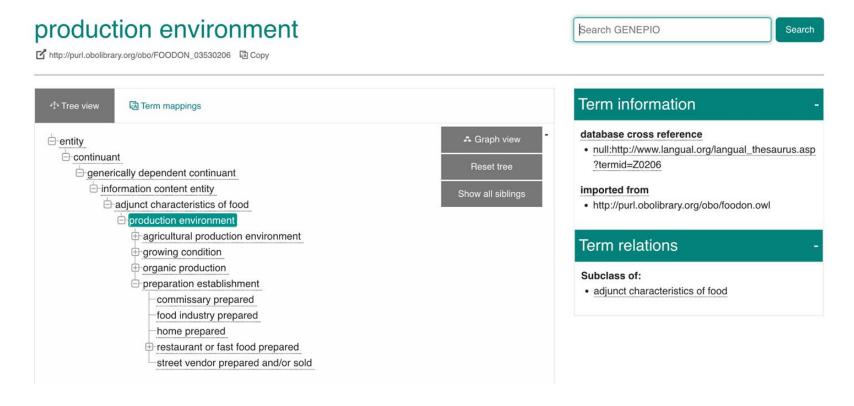
Re-examine "production environment" matches



Example: food production environment

"Preparation establishment" is close, but not quite right

Conclusion:
Need new term
Make new term
request



Ontologies are living lexicons \rightarrow need to reflect community needs

Standardization Exercise

Navigate to: https://www.ebi.ac.uk/ols/index *Try searching:*

- 1.Province/state you are from
- 2. Your favourite food
- 3.A thing you can see from your window
- 4. "Cordyceps" from The Last of Us

Record terms on paper/text editor in format: Label [ontology:ID] e.g. pizza [FOODON:00003928]