**Story of Wheat**

1. Story of wheat

Part of Education Series: Connecting the Dots

Author: Paula Perez

Background image of wheat

2. Wheat is one of the main staple foods in the world, one of the most grown food in the world.

Found in bread, couscous, durum, etc.

3. Possible issues

It can be the victim of different plagues and bugs.

It has a lot of nutritious value, but it is also known as the source of gluten, which can cause serious health issues to celiacs and other groups.

4. That is why collecting and sharing knowledge about product containing wheat is very important

This information can be passed down to the people that would need.

https://www.wheatinitiative.org/

5. But this information can sometimes can be dense and difficult to read.

Knowledge graph

Different information could be given to different groups of people involved in the production, distribution and consumption of wheat.

6. We define a “persona” as the social role of a person. We use these personas to decide on which information is relevant for each person.

Examples of personas in this context would be seed breeders, wheat growers, grain handlers, millers, distributors, brewers, bakers, nutritionist, administrators or consumers

7. Based on which persona is our target, we can give different information

The grower might be interested on the type of grain, how much water it needs

The baker would be interested in the kneading properties of the flower

The nutritionist would want to know the caloric and micronutrient content of the food

The consumer would like to know if the food they are eating contains gluten

8. We can use “is a” statements to give this information to the right persona

An administrator would be interested in knowing if X ”is a” Y or X “is not a” Y

In particular, the “is a” or “is not a” statement can be used to determine if a product is counterfeit, which can be very useful for administrators, consumers, etc.

<https://ktla.com/news/nexstar-media-wire/nationworld/142m-worth-of-corn-soybeans-and-wheat-falsely-labeled-organic-sold-across-u-s/>

9. One of the main characteristics that can be interesting is the wheat flour type, both as the final product or as a base for bakers, cooks and manufacturers

There are different types of wheat that can be used (hard/soft, red/white, summer/winter)

The type of soil it which the wheat grows changes its characteristics, which means that for example, European wheat is different than American wheat

There are many ways in which wheat can be milled to get flour (stone, roller, bleached)

Each type of flour would have a different flavor, malleability, ability to rise, nutrition profile (amount of protein, fiber, gluten, etc.)

<https://www.seriouseats.com/wheat-flour-guide>

<https://getpocket.com/explore/item/why-whole-wheat-is-better-than-white>

<https://www.eater.com/22913142/white-flour-whole-wheat-flour-differences-stone-milled>

10. An important piece of information to know the quality of wheat is the falling number (FN)

It is a standardized way to evaluate weather or sprout damage, which adversely affects [bread](https://en.wikipedia.org/wiki/Bread)-making quality.

This can be important information for groups such as growers and bakers

11. Another resource that can be used to get this data is the Plant Trait Ontology

It links wheat traits for crop improvement and genomics

This is particularly important for growers and seed developers

https://planteome.org/node/166

12. Onomatica provides products that facilitate navigating this information depending on the “persona” looking for it.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**USEFUL LINKS**

counterfeit (variation on is-a)

https://ktla.com/news/nexstar-media-wire/nationworld/142m-worth-of-corn-soybeans-and-wheat-falsely-labeled-organic-sold-across-u-s/

wheat products: flour types

https://www.seriouseats.com/wheat-flour-guide

whole wheat flour v white flour

https://getpocket.com/explore/item/why-whole-wheat-is-better-than-white

https://www.eater.com/22913142/white-flour-whole-wheat-flour-differences-stone-milled

falling number and wheat genetics

https://en.wikipedia.org/wiki/Falling\_Number

https://www.frontiersin.org/articles/10.3389/fpls.2021.637685/full

selenium in wheat

https://phys.org/news/2020-01-high-selenium-wheat-grown-selenium-rich.html

https://recipes.howstuffworks.com/is-american-wheat-different-than-european-wheat.htm

Due to soil and growing conditions, the differences between American and European wheat extend further than gluten content.

American wheat contains about 10 times more selenium, a trace mineral, than European varieties [source: Shewry].

Levels of all proteins are lower overall in European wheat compared to American varieties

Benefits using Plant Trait Ontology

https://planteome.org/node/166

The Plant Trait Ontology Links Wheat Traits for Crop Improvement and Genomics

Google search using Machine Readable Identifier (MREID)

wheat MREID: /m/09rdm\_

https://www.google.com/search?kgmid=/m/09rdm\_

https://angryloki.github.io/mreid-resolver/#/m/09rdm\_

also

https://www.wikidata.org/wiki/Q15645384

see:

https://www.wikidata.org/wiki/Property:P2671

identifier

/g/1z0spj8ds

search

https://www.google.com/search?kgmid=/g/1z0spj8ds

old ID

/m/09696

https://angryloki.github.io/mreid-resolver/#/m/09696

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Objective

reuse industry information about wheat to feature Knowledge Graph related content

https://afdsi.com/\_\_\_supplier/paula-perez/story-knowledge-graph/

Tell Story of Wheat using Personas

Outline (works in mozilla and edge; fails in chrome)

<https://benetta.net/_supplier/_mahi/story-wheat/specification/___wheat-outline.htm>

Reference document (designed to address concept "Is A")

USDA objective description of wheat

"Is A"

https://metarationality.com/formal-logic

https://en.wikipedia.org/wiki/Is-a

"Is A" enables a clear, unambiguous product descriptions

target Personas need to know X "is a" Y

Practical application: identify counterfeit products

X "is not a" Y

Relationships among objects (using verbs to define actions among objects)

7 main relationship classes

https://afdsi.com/collection/collection-carousel/wheat/

do one using media-panning

show symbols for the remaining 6 and put on links

wheat resource

https://www.wheatinitiative.org/