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Story of Wheat

# Landing Page

## Story of Wheat

### Part of Education Series: Connect the Dots

### Slide background

#### Function grid (12 + 1)

# Introduction

## Preview Story of Wheat

### Intro text

#### Lead into Knowledge Graph

# Knowledge Graph

## Connect the Dots

### Explain how things are related and share data

#### Nouns (nodes)

#### Verbs (edges)

#### Seven core Relationships (below)

## Highlight Story terms in Knowledge Graph

### Next slides provide detail about Nouns (nodes) and Verbs (edges, relationships)

# Preview

## Relationships

### There are 7 featured relationships as seen here: https://afdsi.com/164189113000000061/

### The diagrams are dense and difficult to read

### Proposal

#### Use only one Relationship diagram rendered as a PNG

#### Use Panning-Media feature (similar to Constellations treatment) to zoom in on parts of the featured Relationship

#### Use Relationship Symbols (below) and Relationship thumbnails on a single page for the remaining 6 Relationships

#### Provide links to zoomable diagrams in Attachment

## Page layout

### See section 8 to visualize page layout, referenced in each section below.

# Relationships

## Causative Relationship

### Relationship Symbol

#### Item, upper left

|  |
| --- |
|  |

#### Definition

##### All relationships producing an effect or being the effect of something. An expression of an agent causing or forcing a patient to perform an action (or to be in a certain condition). Functioning as an agent or cause.

### Function

#### Landscape right

##### H4

###### H5

#### Landscape left

##### Function SVG

### Slide background

#### Complement function diagram

### Resource Link (CTA button - no Attachment)

#### SVG on separate page

#### SVG uses zoom

## Instrumental Relationship

### Relationship Symbol

#### Item, upper left

|  |
| --- |
|  |

#### Definition

##### Indicates all relationships serving or acting as a means or aid. By means of an instrument or an agent. The means whereby some act is accomplished.

### Function

#### Landscape right

##### H4

###### H5

#### Landscape left

##### Function SVG

### Slide background

#### Complement function diagram

### Resource Link (CTA button - no Attachment)

#### SVG on separate page

#### SVG uses zoom

## Partitive Relationship

### Relationship Symbol

#### Item, upper left

|  |
| --- |
|  |

#### Definition

##### For continuants: C part\_of C' if and only if: given any c that instantiates C at a time t, there is some c' such that c' instantiates C' at time t, and c \*part\_of\* c' at t. For processes: P part\_of P' if and only if: given any p that instantiates P at a time t, there is some p' such that p' instantiates P' at time t, and p \*part\_of\* p' at t. (Here \*part\_of\* is the instance-level part-relation.)

### Function

#### Landscape right

##### H4

###### H5

#### Landscape left

##### Function SVG

### Slide background

#### Complement function diagram

### Resource Link (CTA button - no Attachment)

#### SVG on separate page

#### SVG uses zoom

## Quantitative Relationship

### Relationship Symbol

#### Item, upper left

|  |
| --- |
|  |

#### Definition

##### All relationships involving a quantity or a measure.

### Function

#### Landscape right

##### H4

###### H5

#### Landscape left

##### PNG version of SVG

### Slide background

#### Complement function diagram

### Resource Link (CTA button - no Attachment)

#### SVG on separate page

#### SVG uses zoom

## Spatial Relationship

### Relationship Symbol

#### Item, upper left

|  |
| --- |
|  |

#### Definition

### Function

#### Landscape right

##### H4

###### H5

#### Landscape left

##### Function SVG

### Slide background

#### Complement function diagram

### Resource Link (CTA button - no Attachment)

#### SVG on separate page

#### SVG uses zoom

## Taxonomic Relationship

### Relationship Symbol

#### Item, upper left

|  |
| --- |
|  |

#### Definition

##### Relationships linking concepts which are related in the scientifical sense in a bilogical taxonomy (e.g. species, families, etc.). To relate concepts taxonomically.

### Function

#### Landscape right

##### H4

###### H5

#### Landscape left

##### Function SVG

### Slide background

#### Complement function diagram

### Resource Link (CTA button - no Attachment)

#### SVG on separate page

#### SVG uses zoom

## Temporal Relationship

### Relationship Symbol

#### Item, upper left

|  |
| --- |
|  |

#### Definition

### Function

#### Landscape right

##### H4

###### H5

#### Landscape left

##### Function SVG

### Slide background

#### Complement function diagram

### Resource Link (CTA button - no Attachment)

#### SVG on separate page

#### SVG uses zoom

# Transition slide

## Set up: Participants in the Knowledge Graph

# Persona

## Biologist

### Persona image

sameAs: Rice, Wheat

|  |
| --- |
|  |

### Persona description

#### Biologists study humans, plants, animals, and the environments in which they live. Biologists work in laboratories, offices, industrial settings, and outdoors.

### Persona reference

##### https://www.onetonline.org/link/summary/19-1029.04

### Persona attributes

#### Gender

Female

#### Attire

female-dress-tshirt

#### Hair

female-head-hair-hair-short

#### Hat

none

#### Accessories

female-neck-accessories-necklace

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Word

### Function concept

#### Reuse DNA diagram to represent Biologist focus on rice genetics

|  |
| --- |
|  |

## Breeder

### Persona image

sameAs: Rice, Wheat

|  |
| --- |
|  |

### Persona description

#### Apply information about plant genome, hormones, proteins and their effects to modulate plant height, branching, tiller size and canopy features. So that a resultant modulated wheat plants with higher yield can be produced.

### Persona reference

#### https://www.onetonline.org/link/summary/19-1013.00

### Persona attributes

#### Gender

Male

#### Attire

male-dress-t-shirt

#### Hair

male-head-hair, male-head-hair-facial-mustache-full

#### Hat

none

#### Accessories

male-head-accessory-sun-glasses

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Phenotypes

##### Target chromosomes

#### Option

##### iFrame Wedge Server Glucosinolate to illustrate study data integration

### Function concept

### Wheat plant with two parts

#### Above ground properties such as shoot phenotypes

#### Below ground properties such as root phenotypes

|  |
| --- |
| Wheat phenotypes (generalize; use text-left and text right to identify phenotype properties) |
|  |

## Grower (Farmer)

### Persona image

|  |
| --- |
|  |

### Persona description

#### Raise crops, such as corn, wheat, tobacco, cotton, vegetables, fruits.

### Persona reference

#### https://www.bls.gov/ooh/management/farmers-ranchers-and-other-agricultural-managers.htm

### Persona attributes

#### Gender

Male

#### Attire

male-dress-unbuttoned-shirt, pocket

#### Hair

male-head-hair, male-head-hair-facial-mustache-trim

#### Hat

male-head-hat-sun-protecting-hat

#### Accessories

none

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Plant identity

##### Plant monitoring (growth stages)

##### Plant protection (specific threats like virus and bacteria)

### Function concept

#### A drome monitoring a wheat field to detect threats and apply specific solutions

|  |  |  |
| --- | --- | --- |
| Generalize. add elevation (perspective); remove mountains | | |
| Drones Revolutionize Farmer's Lives | Drone as monitor (data collector and controllable actions)  Drone as agricultural equipment (performing specific actions) | drone Icon 5303193 |

## Grain Handlers

### Persona image

|  |
| --- |
|  |

### Persona description

#### Missing

### Persona reference

#### https://www.onetonline.org/link/summary/51-9061.00

### Persona attributes

#### Gender

Female

#### Attire

female-dress-blouse

#### Hair

female-head-hair-hair-full

#### Hat

female-head-hat-sun-protecting-hat

#### Accessories

female-head-face-face-mask

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Sensors

##### Moisture

##### CO2

##### Temperature

##### Use charts

### Function concept

#### Four diagrams about information needed to control

##### Storage facilities

##### Moisture

##### Carbon dioxide

##### Temperature

|  |  |  |  |
| --- | --- | --- | --- |
| Storage | Moisture | Carbon Dioxide | Termperature |
|  |  |  |  |

## Grain Blender

### Persona image

|  |  |
| --- | --- |
|  | If milling your own fresh-ground flour isn't exciting enough, let's explore other things your grain mill can do! From cracked grains for delicious breakfast porridge and bean flour to spices and powdered sugar, watch, listen, or read to discover how easy and fun it is to use your grain mill for more than just flour! |
|  | https://traditionalcookingschool.com/q-a/askwardee/home-grain-milling-101-the-basics-aw-097/ |

### Persona description

#### Missing

### Persona reference

###### https://www.onetonline.org/link/summary/51-9061.00

### Persona attributes

#### Gender

Female

#### Attire

female-dress-lab-coat

#### Hair

female-head-hair-hair-short

#### Hat

none

#### Accessories

female-head-face-lab-security-lab-goggles

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Near InfraRed (NIR) analysis

##### Fingerprint (identity)

##### Reuse Google Sheets fingerprint data

### Function concept

#### Two diagrams to illustrate

#### Blending wheat to meet specific customer requirements

#### Documenting blended wheat product using a product fingerprint to establish identity

|  |  |
| --- | --- |
| Biological fingerprints for identity | “Blended to meet customer specifications” |
| Fingerprint background, id pattern, finger print vector color line texture,  thumbprint bio background. | CanStock |  |

## Miller

### Persona image

|  |
| --- |
|  |

### Persona description

#### Operate a mill, a machine to grind a grain (for example corn or wheat) to make flour.

### Persona reference

#### https://esco.ec.europa.eu/en/classification/occupation?uri=http://data.europa.eu/esco/occupation/db25e659-d77c-4f4a-a8a2-ee199d060345

### Persona attributes

#### Gender

Male

#### Attire

male-dress-round-t-shirt

#### Hair

male-head-hair, male-head-hair-facial-mustache-full

#### Hat

male-head-hard-hat

#### Accessories

none

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Bran for animal feed (for farmer)

##### Flour for human food (for baker)

##### Barley for beer (for brewer)

### Function concept

### Multi-part diagram that illustrates the milling workflow

### Diagram minimizes text

### Diagram does not include finished consumer product

|  |
| --- |
| Creating specific grain products |
|  |
|  |

## Brewer (Manufacturer, food)

### Persona image

|  |  |
| --- | --- |
|  |  |
|  | https://reunionbrewery.com/about |

### Persona description

#### Missing

### Persona reference

#### https://www.onetonline.org/link/summary/19-4013.00

### Persona attributes

#### Gender

Male

#### Attire

male-dress-round-tshirt

#### Hair

male-head-hair, male-head-hair-facial-mustache-full-beard-full

#### Hat

male-head-hat-hat-normal

#### Accessories

none

### Function

#### SVG center

### Description

#### Text left

##### H4

##### H4

##### H4

#### Text right

##### H4

##### H4

###### H5

###### H5

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Word

### Function concept

#### Two diagrams present

#### Beer made from wheat grain

#### Beer made from barley grain

|  |  |
| --- | --- |
| Wheat beers | Barley beers |
| Brewing with Wheat: Hieronymus, Stan: 9780937381953: Amazon.com: Books | Similar to Wheat except use word “Barley” |

## Baker (Manufacturer, food)

### Persona image

|  |
| --- |
|  |

### Persona description

#### Create recipes. Ordering ingredients. Produce breads, cakes, pastries, pies, cookies and other goods.

### Persona reference

#### https://www.onetonline.org/link/summary/51-3011.00

### Persona attributes

#### Gender

Female

#### Attire

female-dress-chef-cloth

#### Hair

female-head-hair-hair-short

#### Hat

female-head-hat-chef-hat

#### Accessories

none

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Grain by type

###### For pastry

###### For pasta

###### For bread, whole wheat

###### For breakfast cereals

### Function concept

### Present four or six diagrams for

#### Pastry

#### Pasta

#### Bread

#### Pizza

#### Breakfast cereal

### One more or one less for balance

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Pastry | Pasta | Bread | Pizza | Breakfast cereal |
| pastry Icon 4504874 | pasta Icon 2389841 | bread Icon 5300644 | pizza slice Icon 1204550 | cereal Icon 195379 |

## Information Manager

### Persona image

sameAs: Rice, What

|  |
| --- |
|  |

### Persona description

#### Oversee and implement organization-wide information systems. Responsible for ensuring smooth operations and protecting valuable data and information.

### Persona reference

#### https://www.onetonline.org/link/summary/15-1299.09

### Persona attributes

#### Gender

Female

#### Attire

female-dress-formal-business-coat

#### Hair

female-head-hair-hair-full-hair-ribbon

##### Hat

none

##### Accessories

female-neck-accessories-necklace,

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Elevator data

##### NL data

##### Word

### Function concept

#### Gernalize diagram below representing data sources relevant to breeder, grower, blender, bulk storage, miller, feed manufacturer, feed manufacturer

|  |  |
| --- | --- |
| Data from breeder, grower, blender, bulk storage, miller, feed manufacturer, feed manufacturer |  |
|  | Gernalize diagram on left (less detail)  Prepare/anticipate this diagram  https://afdsi.com/164189352612000061/ |

## Nutritionist

### Persona image

sameAs: Rice, Wheat

|  |
| --- |
|  |

### Persona description

#### A nutritionist may work on weight loss, nutritional or hormonal balance, digestion, or food allergies.

#### Clinic dietitians most frequently (40%) wear khaki pants and collared knit shirt while hospital dietitians most frequently (42%) wear slacks and collared shirt.

### Persona reference

#### https://www.onetonline.org/link/summary/29-1031.00

### Persona attributes

#### Gender

Female

#### Attire

female-dress-clothing-blouse

#### Hair

female-head-hair-hair-full

#### Hat

None

#### Accessories

female-head-accessories-earrings, female-head-accessories-hair-band

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Word

##### Word

##### Word

### Function concept

### Use a food pyramid and emphasize part of pyramid relevant to wheat and grains

|  |
| --- |
| Food pyramid |
| nutrition Icon 4582828 |

## Government Administrator

### Persona image

|  |
| --- |
|  |

### Persona description

#### Regulatory; policy administration.

### Persona reference

#### https://www.onetonline.org/link/summary/15-2051.00

#### Issue

Looks like …

### Persona attributes

#### Gender

Male

#### Attire

male-dress-office-coat, male-dress-tie, male-dress-shirt

#### Hair

male-head-hair, male-head-hair-facial-mustache-trim, male-head-hair-facial-beard-trim

#### Hat

none

#### Accessories

male-head-accessory-sun-glasses

### Persona attributes

#### Gender

Male

#### Attire

Office coat, tie, shirt

#### Hair

Hair, mustache-full

#### Hat

none

#### Accessories

Sunglass

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Use EU data portal terms

##### Use EU data portal API

##### Word

### Function concept

#### Needs rework

|  |  |  |
| --- | --- | --- |
| Image: Objective Description Wheat (USDA document cover) | Image: Wheat Inspection Policies (USDA Document cover) | Additional Regulatory-related Image (document cover) |

## Traders (Exporters/Importers)

### Persona image

sameAs: Rice, Wheat

|  |
| --- |
|  |

### Persona description

#### Missing

### Persona reference

#### https://www.onetonline.org/link/summary/13-2099.01

### Persona attributes

#### Gender

Male

#### Attire

male-dress-office-coat, male-dress-shirt, male-dress-tie

#### Hair

male-head-hair, male-head-hair-facial-mustache-full, male-head-hair-facial-beard-trim

#### Hat

none

#### Accessories

male-head-accessory-stylish-sun-glasses, male-dress-coat-over-coat- pocket-hand-kerchief

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Product identity for Buy/Sell contracts

##### Currencies

##### Export/Import regulations and tariffs

### Function concept

#### Needs rework

|  |  |
| --- | --- |
| Data Dashboards | Visual Organization Campaign | IGW | Simplify Trader Function diagram  Somehow introduce currency  May want to feature Product Passport as the Electronic Trading Document |
|  |  |

### Related to Traders (TBD)

#### Product Passport

##### Product Passport logo

#### Electronic Record

##### Objective Description of Wheat

##### Wheat and Flour Testing Methods

#### Attachment

##### Google Doc PDF: Objective Description of Wheat

##### Google Doc PDF: Wheat and Flour Testing Methods

## Consumer

### Persona image

|  |
| --- |
|  |

### Persona description

#### Pays to consume goods and services.

### Persona reference

#### Missing

### Persona attributes

#### Gender

Female

#### Attire

female-dress-clothing-blouse-sleeveless,

#### Hair

female-head-hair-hair-short

#### Hat

none

#### Accessories

female-head-accessories-earring-single

### Function

#### SVG center

### Description

#### Text left

##### H4

#### Text right

##### H4

###### H5

### Slide background

#### Complement function diagram

### Attachment

#### Key words

##### Word

##### Word

##### Word

### Function concept

#### Needs improvement

|  |  |  |
| --- | --- | --- |
| Display different grain products; consider: repeating diagrams from Food Manufacturer | | |
|  |  | Find 4 distinct wheat flour products. The first is good. Find 3 more distinct labels |

# Page Layout (grid)

## Function

|  |  |  |
| --- | --- | --- |
| 1 | 2 | 3 |
| 4 | Integrated data  Integrated queries | 5 |
| 6 | 7 |
| 8 | 9 |
| 10 | 11 | 12 |

## Persona

|  |  |  |
| --- | --- | --- |
| 1 | 2 | 3 |
| 4 | Collaboration among teams  Information Sharing | 5 |
| 6 | 7 |
| 8 | 9 |
| 10 | 11 | 12 |

# Open Issues

## Technical documents

### Semantic documents

#### LODE for ontologies

#### JSON-LD and SMV

#### GS1 integration

### Wheat ontology

#### Target: Information Manager

### Wheat Traits ontology

#### Target: Breeder

#### Chromosomes

### Beer ontology

#### Target: Brewer

## iFrame

### Wedge-Client

#### Breakfast cereal marketing images

### Wedge-Server

#### ChEFS

##### Target: Nutritionist

#### ChEMATIC

##### Target: Nutritionist

###### Selenium

#### FNDDS

##### Target: Nutritionist

##### Target: Baker

### Non-wedge

#### NALT

##### Target: Information Manager

## Google docs

### USDA Objective Description of Wheat

### USDA Wheat Inspections

#### Target: Government Administrator