# schema:Product

Inbound links only (except whole wheat bread)

## US CFR

### Grain or starch product (US CFR)

#### Milled grain or starch product

#### Prepared grain or starch product

##### Bakery product

###### Bakery product, sweetened

Pastry, sweetened

###### Bakery product, unsweetened

Bread

Pizza crust

Whole wheat bread

hasPart

bran, germ, endosperm

#### Breakfast cereal

#### Macaroni or noodle product

#### Beer

## US EPA

### IR-4

#### Crop Group 15 (Cereal Grains Group)

##### Wheat, grain

## USDA

### Wheat classification

#### Durum

#### Hard red spring

#### Hard red winter

#### Soft red winter

#### Hard white

#### Soft white

# schema:Taxon

## Plant (magnoliopsida) ncbi:3398

### Grain (poaceae) ncbi:4479

#### Bread wheat (triticum aestivum) ncbi:4565; itis:42237

##### has polyploid quality

###### hexaploid

##### is source of

###### Manning

member of RO\_0002350

hard red winter

is used to make

beer

##### is source of

###### Swiss spelt

member of RO\_0002350

hard red winter

is used to make

whole wheat bread

##### is source of

###### Patwin

member of RO\_0002350

hard white spring

###### is used to make

Pizza crust

##### is source of

###### Alturas

member of RO\_0002350

soft white spring

###### is used to make

Macaroni or noodle product

###### glueninContent

High Molecular Weight Glutenin composition

##### is source of

###### AP Legacy

member of RO\_0002350

soft white winter

###### is used to make

pastry flour

##### is source of

###### Common wheat (triticum aestivum ssp aestivum)

is source of

Sonora

member of RO\_0002350

hard white spring

is used to make

Pizza crust

Breakfast cereal

is source of

Chiddam Blanc de Mars

member of RO\_0002350

soft white spring

is used to make

pastry flour

#### is source of

##### Durum wheat (triticum turgidum) ncbi:4567; itis:42240

###### hasPolyploidQuality

tetraploid

###### is source of

Tipai

is used to make

pasta flour

uses

endosperm > semolina

#### Barley (hordeum vulgare) ncbi:4513; itis:40871

##### member of RO\_0002350

###### 6 row malted barley

##### is used to make

###### Beer

### Senecio ncbi:18794

#### Senecio vulgaris ncbi:76276

##### is weed of

###### Grain

##### Is controlled by

###### Atrazine

## Insect ncbi:50557; itis:99208

### Cereal leaf beetle (oulema melanopus) ncbi:294584; itis:719927

#### is pest of

##### Grain

###### has biological control agent

##### Tetrastichus julis

### Parasitoid wasp (Tetrastichus julis) ncbi:2931480

#### Is used to control

##### Cereal leaf beetle

## Homo Sapiens ncbi:9606

# schema:BioChemEntity

## Gene

Wheat only

### Chromosome

#### Hexaploid

#### Tetraploid

Begin Homo Sapiens links

### Gene classification

#### Glutathione S-Transferase Alpha 1 hgnc:GSTA1

#### 5-HT (serotonin) receptors hgnc:HTR

#### Nuclear hormone receptors hgnc:NR

#### Ubiquitin Specific Peptidases hgnc:USP

### Gene activity

#### Decreases abundance of 5-HT (serotonin) receptors hgnc:HTR

##### isCausedBy

###### Selenium

#### Increases expression of Ubiquitin-specific peptidases hgnc:USP

##### isCausedBy

###### Selenium

#### Increase chemical synthesis hgnc:GSTA1

##### isCausedBy

###### Atrazine

#### Decrease activity hgnc:NR

##### isCausedBy

###### Atrazine

## MolecularEntity

### Selenium

#### causes

##### Decreases expression of 5-HT (serotonin) receptors hgnc:HTR

##### Increases expression of Ubiquitin-specific peptidases hgnc:USP

## ChemicalSubstance

### Atrazine

#### causes

##### Increase chemical synthesis hgnc:GSTA1

##### https://wedge.ontomatica.io/ChEMATIC\_-\_19-09-06/Wedge?q=facet\_AG\_01:39031891/facet\_AG\_02:38022700/facet\_MD\_03:68174719/atrazine&group=facet\_AG\_02

#### causes

##### Decrease activity [hgnc:NR]

##### Wedge link

End HS links

### Epinephrine

### Diphenhydramine

## Protein

### Glutenin

#### expressedAs

##### High Molecular Weight Glutenin composition

##### Low Molecular Weight Glutenin composition

# schema:MedicalEntity

## MedicalCondition

### MedicalSymptom

#### FoodAllergy ncit:C172304

##### WheatHypersensivity chematic:D021182

##### https://wedge.ontomatica.io/ChEMATIC\_-\_19-09-06/Wedge?q=facet\_MC\_20:77044418&group=facet\_MC\_20

## TherapeuticProcedure

### Drug

#### Epinephrine

#### Diphenhydramine

# schema:Organization

## UN FAO

### Publisher

#### agrontology

## US EPA

### Publisher

#### [some article]

## USDA

### Publisher

#### Objective Description of Wheat

## US NIH

### Publisher

#### [some article]

# schema:Place

## US

### California

# vocal:PhysicalStateShapeForm

## Finely ground

### Flour

#### Pizza flour

##### expressedAs

##### T00

#### Pastry flour

##### expressedAs

##### T45

#### Bread flour

##### expressedAs

##### T55

#### Pasta flour

##### expressedAs

##### T00

#### Whole wheat flour

##### expressedAs

##### T150

#### Semolina

# po:PartOfPlant

## Wheat

### Endosperm

### Bran

### Germ

# vocal:HeatTreatment

## Extent of heat treatment

### Heat-treated

#### Fully heat-treated

### Heat-treated, multiple components, different degrees of treatment

### Not heat-treated

# vocal:Cooking method

## Cooked by dry heat

### Baked or roasted

# vocal:ProcessingMethods

## Milling Process

### Malting

# uo:UnitsOfMeasure

## Weight

### Molecular Mass

#### [NCIT\_C28272]

#### Used by Farinograph

## Wheat flour

### T00

### T45

### T55

### T150

## Grain storage

### Falling Number

#### [units]

## Flour properties

### Farinograph units

# wto:WheatTraitOntology

## Cytology related trait

### Chromosome number

## Quality trait

### Flour falling number

### Grain falling number

### Grain hardness

### Semolina protein content

#### Durum

### Grain protein content

### Flour protein content

### High Molecular Weight Glutenin composition

#### Alturas

#### Glutenin

### Low Molecular Weight Glutenin composition

#### Glutenin

##### [Superior dough strength; breadmaking]

##### [no available cultivar]

# Issue

## Molecular mass: 75-120 kDa

## Molecular mass: 20-55kDa