

➤ The AHOL (Animal Health Ontology for Livestock) ontology for integrating data on the main diseases of farmed animals: an example for the rabbit sector

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➤ What is an ontology?

- An ontology is a way to organize knowledge and represents a set of concepts with the logical relations between these concepts
- AHOL Animal Health Ontology for Livestock categorizes and organizes information on:
 - diseases
 - symptoms
 - affected species
 - pathogens



> A quick tour...



Accueil

ATOL

EOL

AHOL

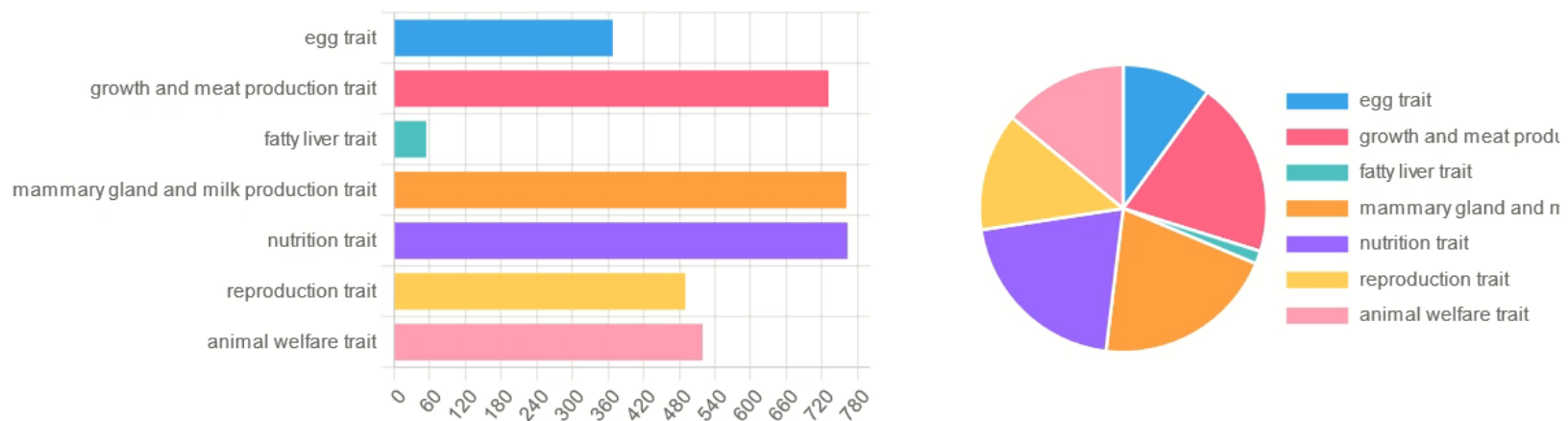


Ontologies

Home

ATOL

Animal Trait Ontology for Livestock



> Website

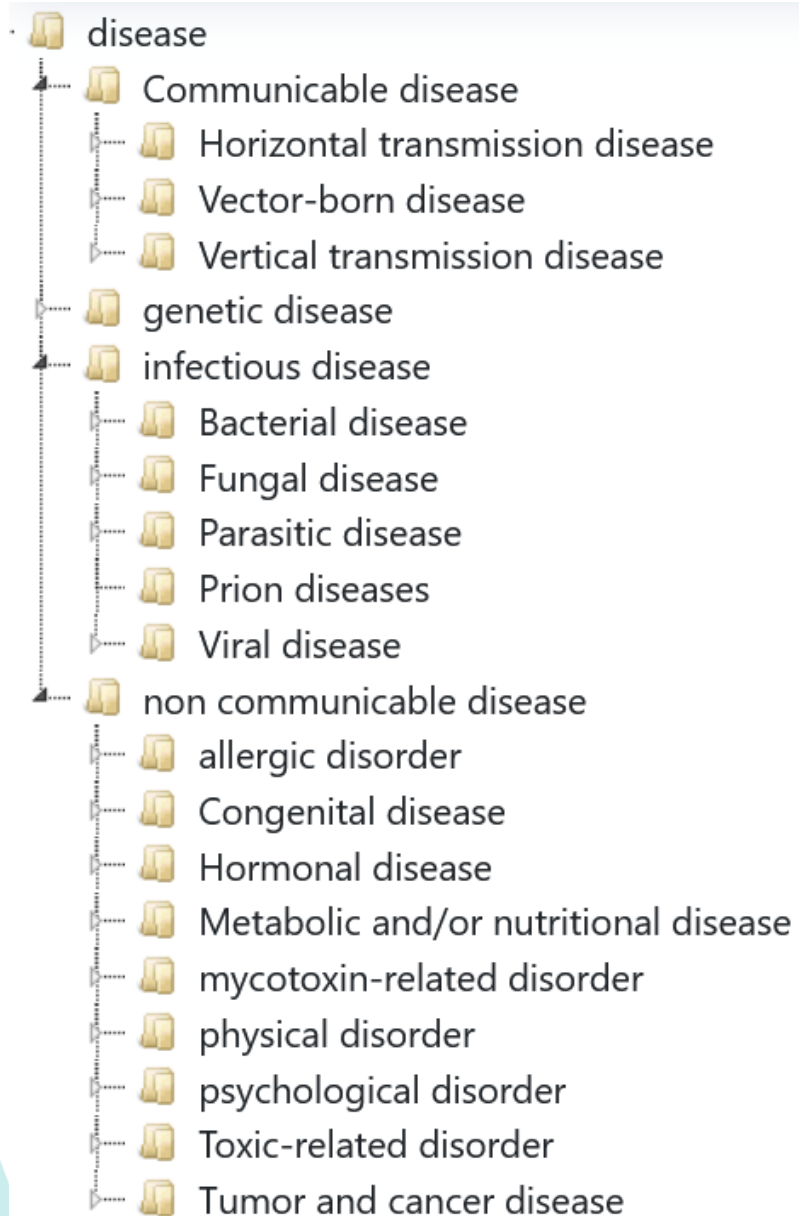
<https://www.umrh.inrae.fr/ontologies/visualisation/public/>

The screenshot shows the INRAE website interface. At the top left is the INRAE logo. To its right is a search bar with the text "Search" and a magnifying glass icon. Further right is a navigation menu with "Databases Releases" and a dropdown arrow. On the left side, there is a vertical sidebar menu with the following items: "Accueil" (with a house icon), "ATOL" (with a paw icon), "EOL" (with a globe icon), "AHOL" (with a plus icon and a dropdown arrow), "Diseases", "Pathogens", "Symptoms", and "Lesions". The main content area is titled "Ontologies" and has a breadcrumb trail "Home / AHOL / Diseases". Below this, there are two main sections. The first is "Visualization", which includes the text "Detailed AHOL/disease ontology" and a link "Access the ontology". The second section is "Upload AHOL ID", which includes the text "Enter/upload a list of AHOL ID and download the corresponding definitions". This section contains a text input field labeled "Enter Ahol ID", followed by the word "OR" in bold, and then an "Upload CSV file" section. The upload section includes a "Parcourir..." button, the text "Aucun fichier sélectionné.", and a red "Delete" button with a trash icon.

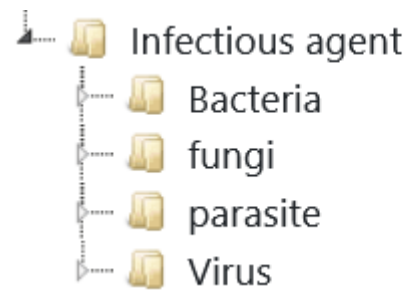
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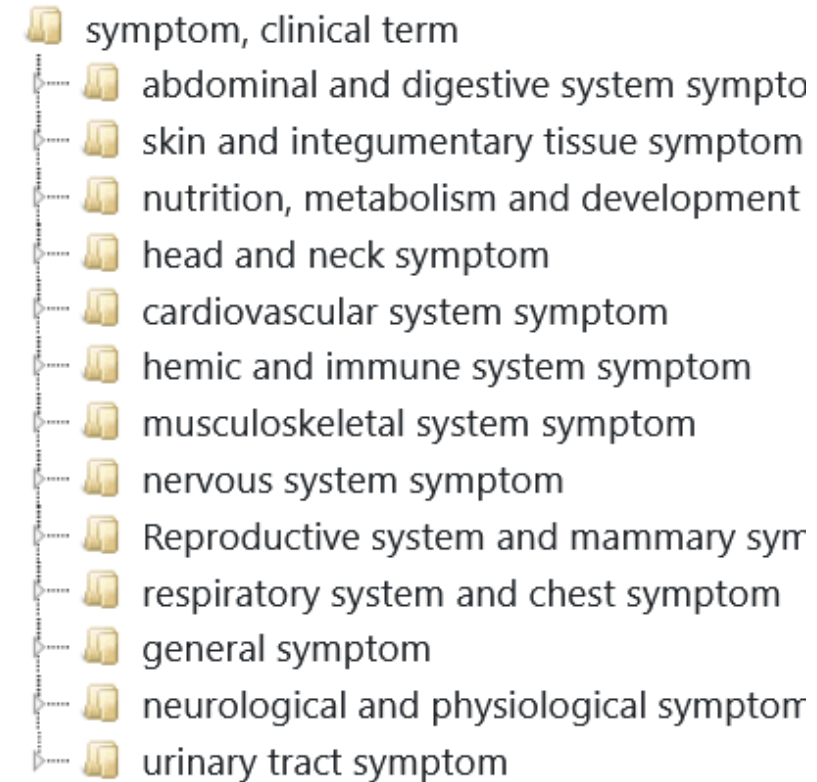
➤ Diseases section



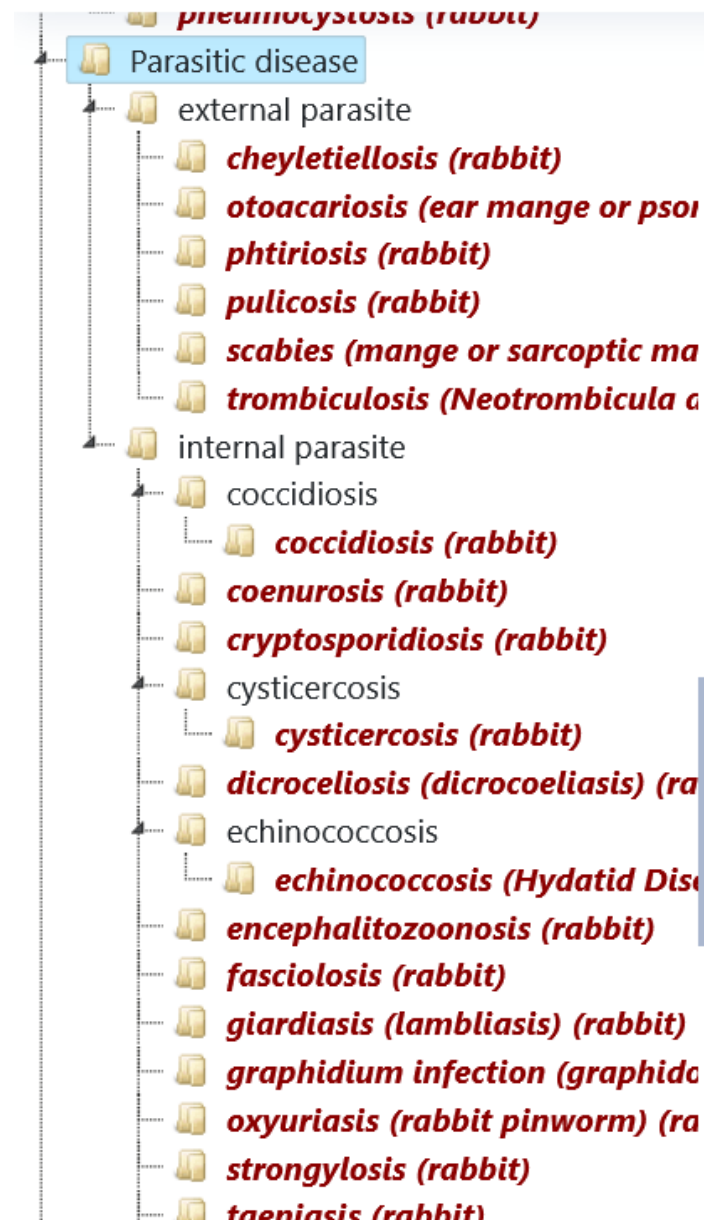
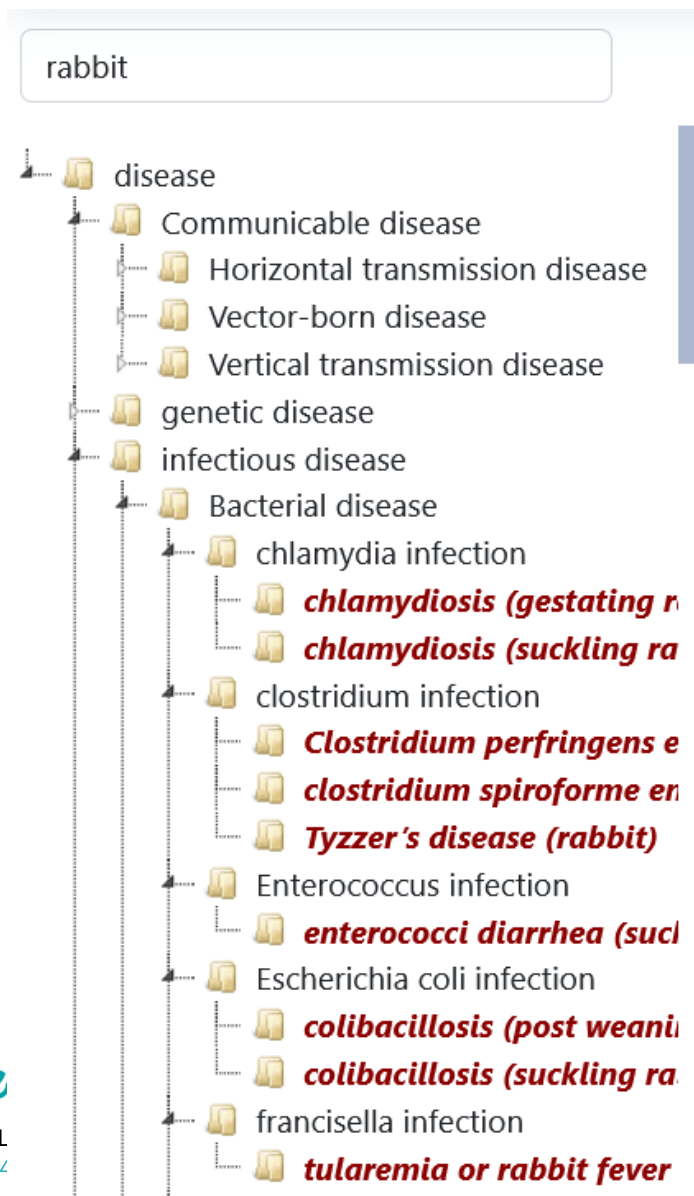
➤ Pathogens section



➤ Symptoms section



➤ With « rabbit » on the search bar in the Disease section



➤ Disease section: Example of Pasteurellosis

INRAE Search Databases Releases ▾

Ontologies
[animal health trait](#) / [disease](#) / [Communicable disease](#) / [Horizontal transmission disease](#) / [pasteurellosis \(gestating rabbit\)](#)
[animal health trait](#) / [disease](#) / [infectious disease](#) / [Bacterial disease](#) / [pasteurella infection](#) / [pasteurellosis \(gestating rabbit\)](#)


AHOL_0005082

Informations	
Name	pasteurellosis (gestating rabbit)
Nom	pasteurellose (lapine gestante)
Definition (EN)	Pasteurellosis is a zoonotic bacterial disease caused by <i>Pasteurella multocida</i> and mainly characterised by an affection of the respiratory system. The respiratory symptoms vary from sneezing and nasal discharge to pneumonia. Rabbits can also show abscesses, metritis or torticollis (head tilt caused by the infection in the inner or middle ear).
Definition (FR)	La pasteurellose est une maladie bactérienne zoonotique causée par <i>Pasteurella multocida</i> et principalement caractérisée par une affection du système respiratoire. Les symptômes respiratoires varient et peuvent aller de l'éternement et du jetage à la pneumonie. Les lapins peuvent aussi présenter des abcès, des métrites et des torticolis (tête penchée causée par une infection de l'oreille interne ou de l'oreille moyenne).
Source	INRAE/ONIRIS/ENVT/VetAgroSup
Comments	-

Symptoms
abscess dyspnea encephalitis fever metritis nasal discharge nasal turbinates atrophy otitis pleuropneumonia pneumonia septicemia, sepsis, blood poisoning sneezing torticollis

Pathogens
pasteurella multocida

➤ Symptoms section: Example of abscess

☰🔍Databases Releases ▾

- 🏠 Accueil
- 🐾 ATOL
- 🌐 EOL
- 🏠 AHOL ▾

- 📁 symptom, clinical term
 - 📁 skin and integumentary tissue symp
 - 📁 **subcutaneous abscess**
 - 📁 general symptom
 - 📁 **abscess**
 - 📁 **deep abscess**

Ontologies

[symptom, clinical term](#) / [general symptom](#) / abscess

AHOL_0003016

Informations	
Name	abscess
Nom	abcès
Definition (EN)	Well defined collection of purulent, thick, yellowish, liquid material. A wall of granulocytes and fibrin (granulocytes, microbes, cellular debris) separates it from healthy tissues and distends them.
Definition (FR)	Collection de matériel purulent, liquide épais et jaunâtre, bien délimité, séparé des tissus sains qu'il distend et dissocie par une paroi de granulocytes et de fibrine : granulocytes, microbes, débris cellulaires.
Database cross reference	http://purl.bioontology.org/ontology/SNOMEDCT/128477000
Source	INRAE/ONIRIS/ENVT/VetAgroSup

Synonyms
Exact synonyms No results
Related synonyms No results

Diseases
exudative epidermitis (pig)
pasteurellosis (growing rabbit)
pasteurellosis (lactating rabbit)
pasteurellosis (gestating rabbit)
staphylococcosis (post weaning rabbit)
staphylococcosis (gestating rabbit)
staphylococcosis (lactating rabbit)
rhodococcosis (horse)

➤ Pathogens section: Example of Pasteurella multocida

Ontologies

Infectious agent / Bacteria / Pasteurella / pasteurella multocida

AHOL 0004097



Search



Databases Releases ▾

- 📁 Campylobacter
- 📁 Chlamydia
- 📁 clostridium
- 📁 coxiella burnetii
- 📁 dermatophilus congolensis
- 📁 Enterococcus
- 📁 erysipelothrix rhusiopathiae
- 📁 Escherichia coli
- 📁 flavobacterium psychrophilum
- 📁 Fusobacterium necrophorum
- 📁 Glaeserella parasuis
- 📁 Klebsiella pneumoniae
- 📁 lawsonia intracellularis
- 📁 leptospira
- 📁 Listeria monocytogenes
- 📁 mycobacterium
- 📁 Mycoplasma
- 📁 myxobolus cerebralis
- 📁 Pasteurella
 - 📁 **pasteurella multocida**
 - 📁 Pasteurella spp
- 📁 Proteus species
- 📁 Pseudomonas aeruginosa
- 📁 rhodococcus
- 📁 salmonella

Name pasteurella multocida

Nom pasteurella multocida

Definition (EN) -

Definition (FR) -

Database cross reference <http://www.ncbi.nlm.nih.gov/taxonomy/747>

Source -

Synonyms

Exact synonyms

No results

Related synonyms

No results

Diseases

- [bacterial enzootic bronchopneumonia \(cattle\)](#)
- [pasteurellosis \(growing rabbit\)](#)
- [pasteurellosis \(lactating rabbit\)](#)
- [pasteurellosis \(gestating rabbit\)](#)
- [pasteurellosis \(pneumonia\)](#)
- [atrophic rhinitis \(pig\)](#)

➤ Functionality and use

<https://www.umrh.inrae.fr/ontologies/visualisation/public/>

- Interconnected sections
- Search bar
- Extract information
- Common vocabulary, metadata
 - Scientific publication
- Pedagogical tools
- Health management
 - Doesn't replace veterinary consulting



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> Work still evolving....

Continually adapted and extended

You want to add a disease?

You want to complete a definition?

... Please contact me

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<https://www.umrh.inrae.fr/ontologies/visualisation/public/>

The screenshot shows the INRAE AHOL ontology interface. The left sidebar contains a navigation menu with options: Accueil, ATOL, EOL, and AHOL. Below the menu is a search bar with the text "Epizootic rabbit" and a tree view showing the hierarchy: disease > Communicable disease > Horizontal transmission disease > epizootic rabbit enteropath. The main content area displays the ontology entry for "AHOL_0005062". The entry details are as follows:

Informations	
Name	epizootic rabbit enteropathy (ERE) (rabbit)
Nom	entéropathie épizootique du lapin (EEL) (lapin)
Definition (EN)	The Epizootic Rabbit Enteropathy (ERE) is a disorder of the digestive tract. The main symptoms are distension of the abdomen, generalised dilatation of the gastrointestinal, caecal paralysis and the presence of abundant faecal mucus. This disease affects mainly young fattening rabbits. The etiologic agent is unknown.
Definition (FR)	L'Entéropathie Epizootique du Lapin (EEL) est une affection du tube digestif. Les principaux symptômes sont une distension de l'abdomen, une dilatation généralisée du tube digestif, une paralysie caecale et la présence d'un mucus fécal abondant. Cette maladie touche principalement les jeunes lapins en engraissement. L'étiologie est inconnue.
Source	INRAE/ONIRIS/ENVV/VetAgroSup
Comments	-

Below the information section, there are two panels: "Symptoms" and "Pathogens".

Symptoms:

- abdominal distention
- anorexia
- borborygmus
- death
- growth retardation
- mucus in stool
- watery diarrhea

Pathogens:

No results.

Species:

- Birds, Poultry (0 results)
- Fish (0 results)
- Mammals (1 results)
 - ✓ rabbit (NA) Present



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