

# Health issues of work in agriculture

Work in agriculture is very diverse. We divide it into work in **animal** or **'plant production'**. A number of health risks apply here:

- **physical factors** - noise (when working with work machines, tools, animals), vibration (from transport and work machines and equipment), UV radiation,
- **dust** (during field work, during post-harvest treatments, animal husbandry, ...),
- **physical load** (during manual handling of products, ...),
- **chemical and biological agents** (when working with poisons, when working in animal husbandry, ...).

Pesticides, fertilizers, dust, zoonoses and fungi are the most common health risks in crop production. In livestock, they are zoonoses, fungi, yeasts.

## Biological factors

Biological agents are microorganisms including those that have been genetically modified, cell cultures and endoparasites that may be capable of causing infectious disease, allergic or toxic manifestations. This includes viruses, bacteria, fungi, parasites and the substances they produce.


### Occupational skin infection

- Mycotic infections - belong to the most common skin infections, the causative agent is trichophyton (trichophyton verrucosum) of cattle, the infection occurs through contact with a sick animal or bedding, annular erythematous squamous deposits are typical.
- Candidiasis - direct contact with goose feathers.
- Tuberculosis cutis - caused by Mycobacterium tuberculosis or Mycobacterium bovis, they occur in the form of tuberculosis verrucosa (mostly after a previous injury to the leg or hand).

### Exogenous allergic alveolitis

- It is characterized by fever, chills, headache, transient respiratory ventilation disorder, in chronic cases it can lead to lung diffusion capacity disorder, hypoxemia, cor pulmonale. It occurs during repeated inhalation of antigen, antigenic particles can be spores of fungi and fungi, bacteria and amoeba. The infection occurs in workers who are repeatedly exposed to the inhalation of moldy hay, straw and grain. Saccharopolyspora rectivirgula, Thermoactinomyces vulgaris, Aspergillus are found here, these bacteria lead to the development of the disease "farmer's lung". Others are *miller's lung* in workers with mold-contaminated flour, *malter's lung* - moldy malt, *cheese maker's lung*, *furrier's lung*, *pepper dust lung*, *bird breeder's lung*.

### Anthropozoonoses

- These are diseases transmissible from animals to humans, either directly or by means of a vector (tick). Examples are Lyme disease, tick-borne meningoencephalitis, listeriosis, leptospirosis, toxoplasmosis, trichophytosis, erysipelas.
  -  For more information see Anthropozoonoses.

## Chemical Factors

This group includes dust and dangerous substances that are used in agriculture - *pesticides*, which are substances used against harmful animals (zoocides), of which in particular the extermination of insects (insecticides), rodenticides (rodenticides), nematodes (nematocides) and molluscs (molluscicides), as well as weeds (herbicides), parasitic fungi (fungicides) and mites (acaricides). Some insecticides, molluscicides and herbicides are the most toxic to humans.

- **Occupational allergic rhinitis** - acute effects are irritation in the nose, sneezing, runny nose. The disease can lead to chronic respiratory problems. It occurs most often when processing flour, working with feathers, wool, livestock.
- **Occupational bronchial asthma** - attacks of shortness of breath, also occurs when processing flour, working with feathers, wool, livestock.
- Allergogenic effects of chemical substances in contact with the skin - '*dermatitis contacta allergica*, a local reaction occurs at the point of contact, erythema, papules, vesicles, often lichenification.
- Irritating effects of chemical substances - ***dermatitis contacta irritativa***.
- Ingestion has a number of serious consequences - insecticides (organochlorine) - nausea, paresthesia, convulsions, coma, carbamate insecticides - CNS depression, neuromuscular transmission disorder, herbicides - peripheral neuron lesions, tachycardia, muscle weakness, rhabdomyolysis, molluscicides - diarrhea, ataxia, convulsions, coma, rhabdomyolysis, hyperthermia.

## Links

References

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*Incomplete publication citation.* , M CIKRT and D PELCLOVÁ. *Occupational medicine for practice. Handbook of recommended standards.* Prague : Grada, 2005. 327 s. pp. 234-264. 978-80-7262-438-6.

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