



UNIVERSITY OF LIFE SCIENCES "KING MIHAI I" FROM
TIMISOARA

"YOUNG PEOPLE AND MULTIDISCIPLINARY RESEARCH
IN APPLIED LIFE SCIENCES"



"Young people and multidisciplinary
research in applied life sciences"

16-17 November, 2023

Risks of transmission of infection with species of the genus *Trichophyton* from animals to humans

Scripcariu Vlad¹, Moț Daniela¹

¹University of Agricultural Sciences and Veterinary Medicine of Banat , "King Michael I of Romania",
Faculty of Bioengineering of Animal Resources, 300645 Timișoara, 119 Aradului Way, Romania

Abstract:

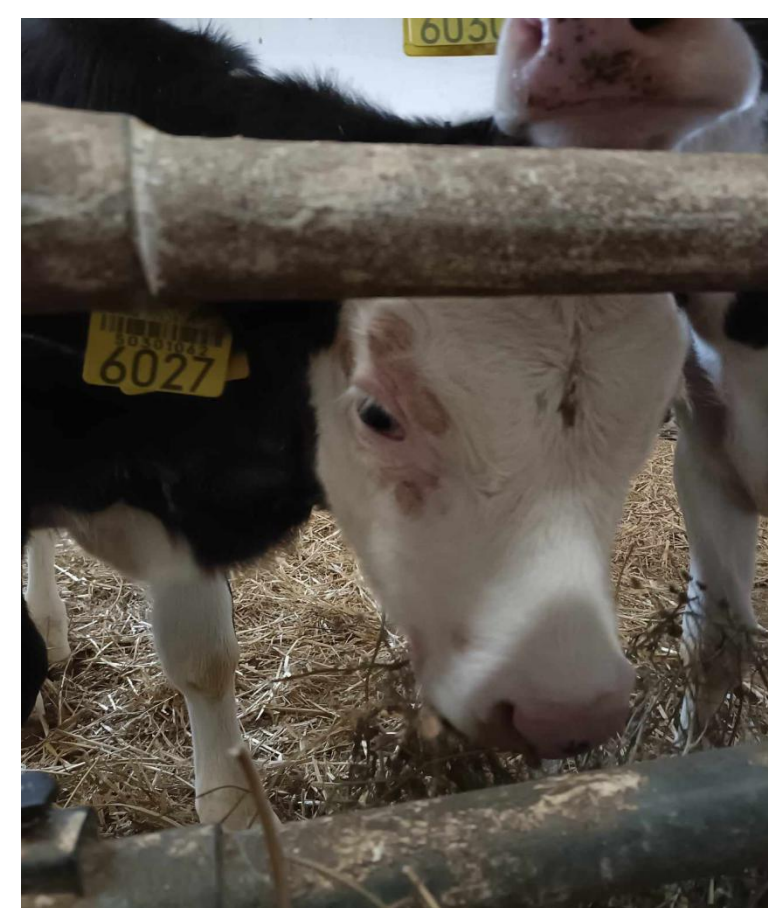
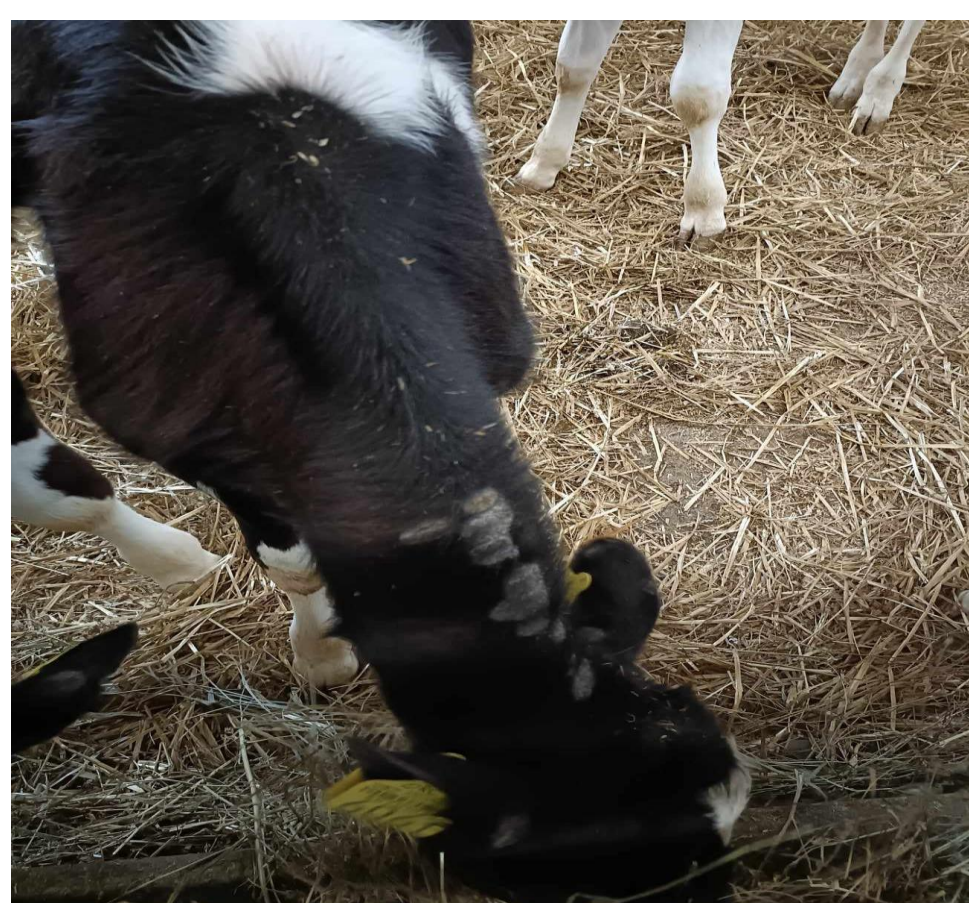
Trichophytosis (ringworm) is included in the category of dermatomycoses or superficial mycoses, being a fungal infection, produced by a microscopic fungus of the genus *Trichophyton*. Since in recent decades an increase in the incidence of trichophytosis has been observed in humans and susceptible animals, either with asymptomatic or symptomatic evolution, a more detailed knowledge of the important sources of transmission of this disease from animals to humans is still required, for the adoption of more effective parasitological surveillance measures for this dermatophytosis. In this sense, it is necessary to know some aspects related to the morphology, the epidemiological implications and the correct establishment of the diagnosis, but also the choice of effective therapeutic protocols to prevent, treat and combat this dermatomycosis in animals and humans. In this regard, a growing interest has been given in recent years to pets that represent a permanent risk of human contamination, but the evolution of this disease in farm animals cannot be neglected.

• Introduction

Fungal infections, also called superficial mycoses, affect the superficial layers of the skin, hair and claws in animals, producing sometimes very serious injuries. In the last decades, attention has been increasingly focused on these types of microscopic fungi because the incidence of diseases caused by them in humans and animals of species susceptible to such infections has increased a lot. Because in recent years the attention paid to pets is increasing and the risk of human contamination, both from carnivores with clinical infections and from asymptomatic carriers, has increased a lot. At the same time, animal owners noticed a deterioration in their appearance due to skin, fur and claws injuries following infections with dermatophytes from the *Tricophyton* genera.

• Trichophytosis in animals

In cattle, trichophytosis has a benign evolution, but this disease is of great economic importance, recording very high losses as a result of extensive skin lesions, decreased production, high expenses for disease control, treatments and animal movement restrictions that will always have serious consequences on the technological flow in the farms. The transmission of infection depends on food, the presence of other diseases, race, age, sex and season. In our country, trichophytosis can be found both in the Holstein-Friesian, Frisian breeds and in local breeds, such as the Romanian Balțata or the Maramureș Bruna, regardless of age. The higher incidence of the disease has been observed in youth, which causes more severe forms, while cattle over three years of age have milder forms, which often heal spontaneously.



Trichophytosis in sheep and goats is rarely diagnosed, perhaps because it is often not noticed.

In horses, the lesions appear on the neck, dorsal region, withers, rarely on the head, being very itchy and easily infected due to the fact that the animals rub against various objects causing injuries.

In rabbits, trichophytosis is found especially in the intensive breeding system of these animals. The rabbits also develop very itchy lesions, the animals are agitated, ending up mutilating themselves in the areas with trichophytic plaques on the muzzle, around the eyes, ears.

In dogs and cats, trichophytosis is most commonly caused by *T. mentagrophytes* and develops with skin lesions, the areas are covered with crusts, the hair falls out and they can become seriously infected through the intervention of the associated microbial flora.

Trichophytosis in humans is most of the time it appears as an occupational disease, affecting mostly zoo-veterinary staff or it appears in the owners of infected animals. Many species of dermatophytes are zoophiles, it is possible for the disease to be transmitted from animals to humans (especially pets, frequently cats). Usually is located on the skin or its appendages (hair, nails).



• Conclusions

- When trichophytosis appears in farm animals it is important to institute treatment in time, at the first symptoms. In cattle farms, it is best to vaccinate against trichophytosis, both in calves and in adult cows, because individual treatment is difficult and requires a lot of time.
- It is very important to maintain proper hygiene and feeding conditions in animal farms and to pay more attention to avoid the introduction of trichophytosis in farms, and if this happens it is important to take measures before it spreads in the animal herd.
- Animal-to-human transmission must be avoided, and when this occurs in farms, people with skin lesions must be urgently referred to human medical offices.