



International Journal of Veterinary Sciences and Animal Husbandry



ISSN: 2456-2912

VET 2025; 10(2): 225-229

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Received: 16-11-2024

Accepted: 21-12-2024

Gitam Singh

Madhav University, Sirohi,
Rajasthan, India

MS Mahesh

Assistant Professor, Livestock
Farm Complex, Faculty of
Veterinary and Animal Sciences
Banaras Hindu University,
Mirzapur, Uttar Pradesh, India

Jai Parkash

SMS-Animal Science, KVK,
Ujwa, New Delhi, Delhi, India

SPS Somvanshi

SMS-KVK Hamirpur, (BUAT),
Uttar Pradesh, India

Alok Kumar

Madhav University, Sirohi,
Rajasthan, India

Ram Singh Gaura

Joint Director Suresh Gyan
Vihar University, Jaipur,
Rajasthan, India

An analytical study on Foot and Mouth Disease under climatic conditions of Tonk district

**Gitam Singh, MS Mahesh, Jai Parkash, SPS Somvanshi, Alok Kumar and
Ram Singh Gaura**

DOI: <https://doi.org/10.22271/veterinary.2025.v10.i2d.2077>

Abstract

Foot and mouth disease (FMD) is very dangerous disease for the animals. It always affects the economic status of farmers because of susceptibility to the milch animals and highly contagious nature for a long time. The study was conducted at FMD affected villages of Newai tahsils (Devali Bhanchi, Bahkava, Bhanvati, Jujharpur, Akodia) of Tonk district of Rajasthan during 2014-17. The observations were recorded from the record of veterinary hospitals, field visits and direct farmer contacts during 2014-19. The condition of infection was found mild in the Bhanvati village compare than Akodia village during 2016-17 because of poor farming practices and regular vaccination was done by animal health camp of Krishi Vigyan Kendra in collaboration with department of Animal Husbandry and Dairy Science, Tonk. The cases of FMD were found mild in the Bahakva village compare than Akodia village during 2016-17. The condition of infection was found mild in the Bahakva village compare than Akodia village during 2016-17 because of poor farming practices and regular vaccination was done by animal health camp of Krishi Vigyan Kendra in collaboration with department of Animal Husbandry and Dairy Science, Tonk. The cases of FMD were found lowest in the Devali Bhanchi and Jujharpura villages compare than Akodia village during 2016-17. The condition of infection was found poor in the Devali Bhanchi and Jujharpura villages compare than Akodia village during 2016-17 because of better farming practices and regular vaccination was done by animal health camp of Krishi Vigyan Kendra in collaboration with department of Animal Husbandry and Dairy Science, Tonk. The cases of FMD were found lowest in the area which was doing good farming practices and regular vaccination was done by the animal health camp of Krishi Vigyan Kendra in collaboration with department of Animal Husbandry and Dairy Science, Tonk compare than other village during 2014-19.

Keywords: Analytical study, foot and mouth disease, climatic conditions

Introduction

Oral and oral diseases (FMD) are highly contagious diseases in cattle, sheep, goats and pigs (Singh and Sharma, 2016a, Singh and Sharma, 2016b, Singh *et al.* 2017) ^[22, 23, 29]. Stomach and mouth diseases are endemic and are endemic and, based on the ban on exporting cattle products to other countries, reduce productivity of sick animals, and severe economic losses in the country (Singh and Sharma, 2016, Singh *et al.*, 2013b, Singh *et al.*, 2014a), ^[22, 8, 9, 16-18]. Mouth disease is characterized by grey-like lesions between the tongue, nose, lips, mouth and toes (Singh and Sharma, 2015b, Singh *et al.*, 2013, Singh and Sharma, 2013a) ^[21, 8, 9, 22]. The foam causes a violent flow of sticky saliva hanging from the mouth (Singh and Sharma, 2015a) ^[21]. Animals fluctuate from one foot to the other due to the softness of their feet (Singh and Sharma, 2015) ^[21]. Although older cows usually do not die from infections, they suffer from serious illnesses and become debilitated (Singh *et al.*, 2014h, Singh and Sharma, 2015) ^[21]. This virus is highly contagious and spreads quickly (Singh *et al.*, 2014f, Singh *et al.*, 2014g) ^[16-18]. As a rule, this requires an infected farm (Singh *et al.*, 2014d, Singh *et al.*, 2014e) ^[16-18]. When people who have come into contact with cattle and buff in infected countries should not approach vulnerable animals for at least 5 days (Singh *et al.*, 2012, Singh and Sharma, 2014, Singh *et al.*, 2014b, Singh *et al.*, 2014c) ^[6, 16-18].

Corresponding Author:

Gitam Singh

Madhav University, Sirohi,
Rajasthan, India

Very productive varieties found in developed countries often have serious clinical signs (Singh *et al.* 2025 and Singh *et al.* 2025c). Hoove lesions occur in the region of the coronary zone and in the interdigital space (Singh *et al.* 2024e) [16-18]. Other complications such as intolerance syndrome (also known as "hairy punters" (Singh *et al.*, 2024a, Singh *et al.* 2024b, Singh *et al.* 2025a, Singh *et al.* 2024c, Singh *et al.* 2024d) [16-18]. Long-term cold temperatures affect cattle populations, reporting fatal and oral diseases (Singh and Somvanshi, 2020a, Singh G, 2024) [34, 16-18]. It is an infectious and sometimes fatal disease, with its symptoms being a high fever for 2-3 days (Singh and Singh, 2020) [34]. Considering the increasing number of cattle, especially cattle being transported to subcenters and polyclinics, for treatment, vaccines in various locations have been out of stock (Singh,

G, 2019, Singh G, 2019, Singh G, 2019a and Singh *et al.* 2025b) [31, 32, 44]. Cases of FMD were reported by Jaipur, Sikar, Nagaur, and Udaipur. Livestock breeders who live in the neighborhoods of Udaipur, such as Kie Ki Chouki, Shobagpura and Vedra, are here at Polyclinics and are seeking a vaccine for Merck Rivestok's FMD (Singh and Sharma, 2017b, Singh *et al.* 2017c) [29].

Methodology

The area under this study is Tonk District, Rajasthan, which is located in Eastern part of the state between 75 0 07' 00" E to 76 0 19' 00" E and 25 0 41' 00" N to 26 0 34' 00" N. The total geographical area covered by the District is 7194 km² (Singh and Sharma, 2017d, Singh *et al.* 2018) [29].

Table 1: Analysis of animals of different villages during 2014-2017

S. No.	Year	Name of village	No of animal
1.	2014-15	Devli Bhanchi	12
2.		Bahakva	15
3.		Bhanvati	11
4.		Jujharpura	10
5.		Akodia	18
1.	2015-16	Devli Bhanchi	16
2.		Bahakva	18
3.		Bhanvati	11
4.		Jujharpura	15
5.		Akodia	12
1.	2016-17	Devli Bhanchi	9
2.		Bahakva	8
3.		Bhanvati	7
4.		Jujharpura	6
5.		Akodia	8

The study was conducted at FMD affected villages of Newai tahsils (Devali Bhanchi, Bahkava, Bhanvati, Jujharpur, and Akodia) of Tonk district of Rajasthan during 2014-17. There was a big problem of FMD so that the samples collected and observations recorded round the year in collaboration with Veterinary hospital, Banasthali Newai, Tonk, Rajasthan. Number of sample was depend on the spread infection of disease over the villages. The observations were recorded from the record of veterinary hospitals, field visits and direct farmer contacts.

Results and Discussion

Table 2 shows that cases of FMD were found in Akodia village in 2014 compared to other villages. The infection status was discovered in the village of Akodia in 2014 as a very contagious village as other villages. 15 Because of inadequate agricultural practices and no vaccinations planned.

A case of FMD was discovered in 2014 as calm in the village of Bangbati. The infection status was practiced in the village of Banbati in 2014 due to poor agriculture as mild findings, but in collaboration with the department for animal care and dairy products of Tonk, regularly by Krishi Vighan Kendra Vaccinations were given.

A case of FMD was found calmly in Bahakva village in 2014. The infection status was found in Bahakva village in 2014 as mild. DORF15 in 2014. The infection status was discovered as an ARM in the villages of Devali Bhanchi and Jujharpura in 2014. In cooperation with the Department of Tonk Breeding Science and the Ministry of Milk Science. Akodia village was compared more than the other villages from 2015 to 16.6. Contagious.

A case of FMD was discovered in the village of Banbati in the village of Banbati in 2015.



Fig 1: Symptoms of Foot and Mouth disease on the body parts of affected animals

The case of FMD was Akodia Village-16 in 2015. It was discovered during a peaceful time in the village of Bahakva in

Tonk, Bahakva village of the Ministry of Animal Care. The lowest case of FMD was found in Jujalpur village, Jujalpur

village, than in Akodia village in 2015. In collaboration with Tonk's Department of Animal Milk Science, as the arm of

Jujharpura as the arm of Krishi Vigyan Kendra.

Table 2: Analysis of animals of different villages during 2014-2017

S. No.	Year	Name of village	No of Animal	Health status of animals
1.	2014-15	Devli Bhanchi	12	Found Blisters on the nose, tongue, lips, mouth, between the toes and around hooves
2.		Bahakva	15	There was rarely fatal in adult animals, but there is often high mortality in young animals and fever.
3.		Bhanvati	11	It was fever and blister-like sores on the tongue and lips, in the mouth, on the teats and between the hooves.
4.		Jujharpura	10	Found Blisters on the nose, tongue, lips, mouth, between the toes and around hooves
5.		Akodia	18	It was blisters on the nose, tongue, lips, mouth, between the toes and around hooves. Extreme drooling, Fever. Loss of appetite and weight. depression and a drop in milk production
1.	2015-16	Devli Bhanchi	00	Not affected
2.		Bahakva	18	Mild fever and blister-like sores on the tongue and lips, in the mouth, on the teats and between the hooves.
3.		Bhanvati	11	Blisters on the nose, tongue, lips, mouth, between the toes and around hooves. Loss of appetite and weight. depression and a drop in milk production
4.		Jujharpura	00	Not affected
5.		Akodia	12	Blisters on the nose, tongue, lips, mouth, between the toes and around hooves. High fever. Loss of appetite and weight. depression and a drop in milk production
1.	2016-17	Devli Bhanchi	00	Not affected
2.		Bahakva	8	It was blisters on the nose, tongue, lips, mouth, between the toes and around hooves. Extreme drooling, Fever. Loss of appetite and weight. depression and a drop in milk production
3.		Bhanvati	7	It was blisters on the nose, tongue, lips, mouth, between the toes and around hooves. Extreme drooling, Fever. Loss of appetite and weight. depression and a drop in milk production
4.		Jujharpura	00	Not affected
5.		Akodia	8	There was fever and blister-like sores on the tongue and lips, in the mouth, on the teats and between the hooves.

Table 2 shows that 17 cases were found from the FMD in Akodia village in 2016 compared to other villages, agricultural practices, and planned no vaccinations.

A case of FMD was discovered in the village of Banbati in the village of Banbati in 2016, and mild was found at 17 by the animal health camp by Krishivighan Kendra I did.

A case of FMD was discovered in Bahakva village in 2016-17 as a calm village in Akodia. The infection status was discovered in the village of Bahakva in 2016-in 2017, due to mild agricultural practices like Akano Village, but the usual vaccinations are the Inasnee Department of Science in Animals It was held by Krishi Vighan Kendra in collaboration with the department, tonk.

The case of FMD was in the villages of Devali Bhanchi and Jujharpura due to improved agricultural practices and unavailable. These villages were adopted for the expansion and research activities of Krishi Vigyan Kendra of Tonk, and off-campus training programs were held regularly in 2014 at farm trials (OFT), frontline demonstrations (FLDs). I did. >Our results are Duan *et al.* In 2019 ^[4], it reported that weather factors have some effect on the incidence of HFMD, and regular vaccinations and good agricultural practices should protect animals from the effects of stomach and mouth diseases. Can our results are Zhu, *et al.* In 2020 ^[47], he reported that temperature related HFMD prevalence in rural children and those visiting kindergartens and schools is more pronounced at certain delays and temperatures. The relative risk values for temperature association were highest in the 3-6-year group, but no gender differences were observed. Research into the estimates of the effect using DLNM on a daily scale and its corrections can help identify vulnerable groups and guide production and resource allocation according to specific local conditions.

Our results are Yin, *et al.* In 2019 ^[46], PM10 reported increased risk of HFMD. Authorities and parents should be fully aware of the impact of PM10 on childhood HFMD. Additionally, appropriate protective measures must be taken to reduce risk.

Conclusion

The cases of FMD were found lowest in the area which was doing good farming practices and regular vaccination was done by the animal health camp of Krishi Vigyan Kendra in collaboration with department of Animal Husbandry and Dairy Science, Tonk compare than other village during 2014-19

Conflict of Interest

Not available

Financial Support

Not available

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DOI: 10.4269/ajtmh.20-0329.

How to Cite This Article

Singh G, Mahesh MS, Parkash J, Somvanshi SPS, Kumar A, Goura RS. An analytical study on Foot and Mouth Disease under climatic conditions of Tonk district. *International Journal of Veterinary Sciences and Animal Husbandry*. 2025;10(2):225-229.

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