

## INCIDENCE OF MANGE MITES' INFESTATION AND DERMATITIS IN GESTATION IN AZAMGARH DISTRICT OF EASTERN U.P.

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### ABSTRACT

A broad survey on infestation and dermatitis caused by mange mites on 320 domesticated goats have been made in eastern U.P. particularly in Azamgarh district of which 230(87.5%) goats were found to be seriously infected and 40(12.5%) goats remained either unaffected or poorly affected by mange mites. Among these 280 goats 65% were positive for sarcoptic mange while 35% were positive for demodectic mange. The overall occurrence of dermatitis was higher in winter season. The health problems like weakness, low erythrocytes count and hemoglobin (Hb) content, un-comfortability etc. were also recorded time to time.

**KEYWORDS:** Survey, Infestation, Domesticated, Dermatitis, Mange, Retarded Growth and Uncomfortability

Cattle production is an important factor of agriculture economy in India, providing a substantial impact to local and raw materials for industries. Minor ruminants are significant contributors to the economy of the country; providing 25% of meat consumption, about half of the local wool requirements and 92% of the value of semi-processed lather export trade (Adane and Girma 2008).

India has good potential to produce huge amount of skins, the quality and quantities of skins supplied is deteriorating from time to time. This has resulted in always increasing problems about the quality of skins available to local tanners and the export market (Tekle 2009). This was mostly due to the result of ecto-parasites with mange mites which cause serious skin imperfections that end up with downgrading of quality and refusal of skin (Kassa 2005; Tefera and Abebe 2007a, b).

However, mange infection in goats is a major constraint in goats' production and development in India. Mange causes severe economic loss due to pruritus, alopecia, in appetite, ear-canker, self-infected trauma and death in goats (Aujla, R.S. et al. 2000) and Kamboj, D.S. 1991). The present investigation was undertaken to study the occurrence, seasonal variation, clinical manifestation of goats in Eastern U.P., particularly in Azamgarh. Therefore, this study was conducted to appraise the occurrence of mange mites on small ruminants in selected sites of Eastern U.P. particularly in Azamgarh district and to determine the

possible risk factors related with the occurrence of mite infestation.

### MATERIALS AND METHODS

To regulate the prevalence and associated risk factors, the study population includes all domestic goats in the Azamgarh districts kept under wide management system. The study design was a cross-sectional epidemiological study on mange mite of small ruminants. The prevalence of mange mites, association of host and environment related risk factors with the occurrence of mite infestation and field survey in the localities of Azamgarh district in the villagers' sites, which is rich in goats' population. Interpretations and examination was also made sensibly in the laboratory of the Zoology deptt. The sample size of mites and skin lesions were processed and analyzed following the standard methods described by snecdecor and Cochran (1967).

### RESULTS AND DISCUSSION

Out of 280 infested goats 182(65%) are infected in sarcoptic mange, however, 98(35%) are infected by the demodectic mange. The occurrence of sarcoptic mange during year 2016-17 is more in winter season 52.19% followed by summer 27.48%, monsoon 20.33% and those of Demodectic mange is more during monsoon (43.88%) followed by winter (34.69%) and summer (21.43%). These findings are in conformity with the findings of Kamboj (1991). [Table 1, 2 & 3]

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**Table 1: Field survey of goats as host animals.**

S.no	No of goats observed	No of goats infested by mange	% age infestation	No of healthy goats	% age
1	320	280	87.5	40	12.5

**Table 2: Occurrence of goats infested by mange mites.**

S.no	No of infested goats	Sarcopticosis	% age	Demodocosis	% age
1	280	182	65	98	35

**Table 3: Seasonal variation in mange mite infestation on goats.**

S.no	Mite varieties	Winter	% age	Mansoon	% age	Summer	% age	Total No
1-	Sarcoptes	95	52.19	37	20.33	50	27.48	182
2-	Demodictic	34	34.69	43	43.88	21	21.43	98

Data were analyzed to see the connotation of the risk factor with the occurrence of mite infestation in goats. The risk factors measured were species of animals, body condition, age and sex. The prevalence of mange mites in goats (27.48 %) was considerably higher than the occurrence in goats (12.5 %). The overall occurrence of mite infestation is higher in winter season due to close contact of goats in herds. The goats infestation with sarcoptic mange showed poor skin conditions with alopecia, keratinization, excoriation (Thoday, 1980) and (Henfrey, 1990). On the other hands, goats infested with Demodex spp. showed partial to complete alopecia and thickness of skin (Aujla et. al., 2000).

According to Soulsby (1982) and Kusiluka and Kambarage (1996) age of small goats is a prompting factor for the occurrence of disease. The present study age was not a interpreter of occurrence of mange mite in goats. Similar result was reported by Desie et al. (2010) in Walaita Sodo and Tefera and Abebe (2007a) in Azamgarh, U.P.

In this study sex was not related with occurrence of mange mites which were in line with the work (Desie et al. 2010) and Enquebaber and Etsay. 2010). whereas the occurrence were slightly higher (5.1 %) in male than female (4.1 %) goats in this study. This may be due to regular contact of male goats at the time of mating and fighting in that most male goat to each other.

According to Radostits et al. (2007) and Soulsby (1982) well-nourished goats can healthier with stand parasite

invasions than animals on an insufficient nourishment, which can stimulate and increase the level of immunity. In contrast with the current study the occurrence of mange mites were considerably higher in poor condition animals than that was observed in good body condition of goats. Similar result was reported by Tefera and Abebe (2007) and Enquebaber and Etsay (2010).

Finally the low Hb level and total erythrocytes count along with eosinophilia are also observed in the seriously infected goats.

In conclusion, even though the Azamgarh is executing control policy against ectoparasites of small goats in the last 3 years, disagreeing to this determination, the current study revealed the occurrence of mange mites in goat with the possible risk factors. Based on this observation, further management and establishment of the prevailing ectoparasite control program in Azamgarh region is recommended. Furthermore the ongoing control program should be evaluated as of its impact on the level of reduction of other ectoparasites in the area.

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