

Ecological Aspect of Ectoparasite (TICKS) on Goats

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Abstract: We surveyed ecological aspects of ticks on Goats in some western districts of Uttar Pradesh. Goats are very susceptible with tick infection. They are present on their body surface. They are mostly found on eyes, ears, teats and vaginal skin. Goats are almost reared by all poor peasants and tenants. They help in feeding and economic condition of the poor farmers.

Keywords: Goats, Ticks & Ecological Parameter

1. Introduction

Goats are important in cattle's. They have an important social and economic value for the poor farmers of India specially in North India. Goats (*Capra hircus*) play an important role for small and poor farm holders they can maintain a valuable economic and ecological niche in Asian agriculture (Devendra, 1996). Small ruminants are reared mostly by the poor and marginalized farmers, an important livestock species in India and other developing countries (world food and Agriculture Organization of the united Nations, 2012). Ticks are one of the important blood feeding, Obligate ectoparasites of vertebrates, specifically mammals and birds (Furman and Loomis, 1984). Ectoparasite especially tick infected causes hyperproteinemia, anemia, reduced growth rate, poor production performances (Taylor et al, 2007) and immune suppression in the infected host animals (Gwakisa et al , 2001). Ticks bite on the host may lead to inflammation and irritation on the skin at the sites of their attachment causing cutaneous abrasions and leading to damage hide resulting in reduction of the quality and value of leather up to 20-30 % (Gharbi et al , 2006). In different part of South Asia , The prevalence. Study of ectoparasitism was observed among goats (Sarkar et al, 2010 and Iqbal at al, 2014). In India the prevalence and factors associated with ectoparasitism were evaluated in goats of two different agro-climatic regions

(Ajith et al, 2017). Incidence and prevalence of ixodid ticks on goats in South India were studied by Prakasan and Ramani, (2007), Sundararajan at al. (2014) and Vathsala et al,(2008).

2. Materials, Methods and Formula

- Research Area –In Western Uttar Pradesh districts Mathura & Hathras.
- Research animals – Ticks and Goats.
- Time period – 1 January to 31 December (2018)
- Collection and examination – We first categorized the animal as young below 3 years and adults more than three years . Based on total no. of ticks, the severity of infestation was graded as healthy (none), Low (1-3) moderate (4-10) and high (>10) (Marchiond et al. 2006). We collect ticks of all stages like larva, nymph, adult. We put them in 70% alcohol for identification . Identification of morphological characteristics of collected ticks was carried out by standard keys (Sen and Fletcher 1962, Walker et al, 2003, Soulsby 2006).

$$\text{Prevalence\%} = \frac{\text{No. of infected animals during specific period}}{\text{Total animals surveyed}} \times 100$$

3. Results

Table 1: Monthly variation in the prevalence of ticks

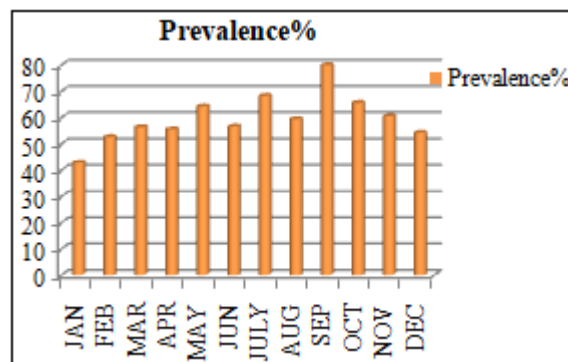
Months	JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
No. of Goats Examined	42	38	39	45	28	30	41	37	30	32	38	35
No. of Goats Infected	18	20	22	25	18	17	28	22	24	21	23	19
Prevalence%	42.85	52.63	56.41	55.55	64.25	56.66	68.29	59.45	80	65.62	60.52	54.28

Table 2: Seasonal variation in the prevalence of ticks

Seasons	Winter	Summer	Rainy	
No. Of Goats Examined	153	142	140	435
No. Of Goats Infected	80	82	95	257
Prevalence%	52.28	57.74	67.85	

Table 3: Prevalence of ticks in age groups

Groups	Y	A
No. of Goats Examined	222	213
No. of Goats Infected	168	89
Prevalence%	75.67	41.78
	Y=young	A=adult

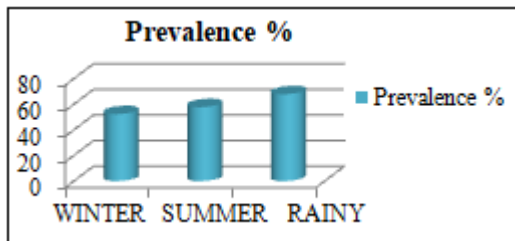


Graph (Table No.1): Monthly variation in prevalence

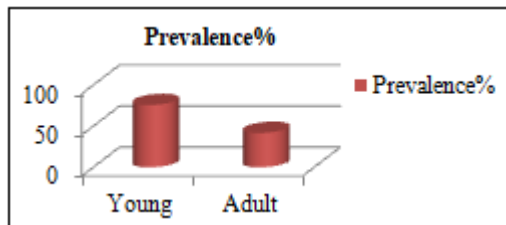
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Graph Table No.2: Seasonal variation in prevalence



Graph (Table No.3): Prevalence in different age groups

In our research work we took 435 goats in which 257 are infected with ticks. Maximum prevalence occur in the month of September and minimum in the month of January. Maximum prevalence occur in the Rainy season and minimum prevalence occur in the winter season. Young age group (Y) are more susceptible to parasites in comparison to adult group. 59.08% prevalence are shown totally.

4. Conclusion

In our work we found that the Goats are important socioeconomic part of small and poor land holder's life. When the goats are infected with ticks they suffered with many diseases caused by different agents. Which affect their body growth and production. Which directly affect the poor farmer. So it is important to prevent the infectious agents for good health of goats. By taking precaution and using chemicals we reduce the burden of ticks.

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