

Preliminary Studies on Medicinal Plants With Anthelmintic Properties Used by Goat Owners In Sangamner and Akole Tehsil, India

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ABSTRACT

Goat farming is the major livestock industry in and around Sangamner and Akole Tehsil. Amongst the various diseases of goat, gastrointestinal parasitism is one of the major health problems in these animals. 1. The traditional use of medicinal plants for the helminth infection of goat is the most common practice used by the tribal people of this region. The study reveals survey of those medicinal plant species, traditionally used as anthelmintic and may need scientific validation for efficacy 2, 5, 6. The study is based on well-structured questionnaire and detailed interviews and discussions with goat owners of this region and recorded 26 plant species which are claimed as anthelmintic in various preparations and forms. The plants reported in this study will further help in the evaluation of in vitro and in vivo anthelmintic activity and set a platform for pharmacological studies.

Key words: Livestock, Medicinal Plants, Helminth Infection, Anthelmintic.

I. INTRODUCTION

Sangamner and Akole Tehsil are situated in Ahmednagar district, Maharashtra state, India. It is surrounded by Sahyadri mountain ranges of Western Ghats. It is surrounded with beautiful hills and valleys having the highest peak of Kalsubai in Maharashtra. The hilly region of these areas is rich in large varieties of medicinal plants. The tribal people living in these areas are mainly Thakar, Bhil, Koli. They mostly depend on agriculture and livestock industry. Since olden days the tribal people use the medicinal plants and their products for the treatment of diseases of human and their domestic animals. Goat farming is one of the most established livestock industries in the study areas. Goat farming is possible for marginal farmers or unemployed, landless poor people as its initial investment are very low. The advantages of Goat farming is more as compared to the agro business. Goat can efficiently survive on available shrubs and trees. Due to good products such as milk, meat leather many people prefer goat farming in the Ahmednagar District. In the study area, different types of goat farming such as large scale, small scale, mixed, individual etc. is observed. Not only poor farmers but rich landlords also domesticate the goats.

Gastrointestinal parasite infection causes loss of the goat owner. It includes infection of helminth parasites like

tapeworm, roundworm etc. It causes irreversible damage and even death of the animal. The typical signs of helminth infection in goat are loss of weight, less milk, rough hair coat, anemia, female become less productive, fever, fast breathing, Bottle jaw, coughing (*Lynn Pezzanite et.al.*) with the help of these symptoms tribal people identify the infection of gastrointestinal parasite.

In study area the tribal people use the different medicinal plants and their product for de-worming the parasites for them and their domesticated animals like sheep goat. Though there are pharmaceutical drugs available in the market for their domestic animals, but they still rely on their traditional formulations used by their ancestors. So seeking the need to do the survey of those medicinal plant species, traditionally used as anthelmintic and need scientific validation for efficacy, the authors did the survey of medicinal plants used by these goat farmers for deworming, based on well-structured questionnaire and detailed interviews and discussions with goat owners of this region.

II. Materials and Method

The present study was carried out through field surveys in the year 2016 in Sangamner and Akole region. The data was collected by questionnaire method and interview. Interviews and discussions were done with

the goat owners and tribal people. Interviews were taken in the local Marathi language and the information was collected from the local elder experienced goat owners, even the elderly ladies of the house. Individual interview was carefully analyzed and information was collected about the vernacular name of the plant, methods of preparation of the extract and its way of administration. Data was also collected by herbalists for identification of medicinal plants used as anthelmintic in folklore. For the correct identification of the medicinal plant species, the interviews were conducted on the field so as to get the plants confirmed. The fresh plants and plant parts were collected and identified. Information was also

collected from the book known as Vansapati Bacl written by prakash kale Vanaushadhi gurndarsh by shankar dajishawshri. The plants species were authenticated by the botanist of Sangamner College.

III. Results and Discussion

The present survey done during the year 2016 in the study area resulted in the identification of variety of plant species used in folklore as anthelmintic in goat farming. The list of anthelmintic plants used are represented in Table 1.

Table 1. List of the plant used by tribal people for de-worming as per survey

Sr. No.	Common Name	Scientific Name	Family	Plant Parts used for deworming	Targeted animal
1)	Babbul	<i>Acacia arebica</i>	Fabaceae	Fruit, bark	Goat, man
2)	Shisham	<i>Dalbergia sissoo</i>	Fabaceae	Leaf extract, seed	Goat, cow
3)	Gorakh chinch	<i>Adansonia digitata</i>	Malvaceae	Dry bark fruit powder	Goat
4)	Wild Carrot	<i>Daucus carota</i>	Apiaceae	Root	Goat, man
5)	Papya	<i>Carica Papaya</i>	Caricaceae	Fruit	Man
6)	Tarwad	<i>Cassia auriculata</i>	Fabaceae	Stembark Flower bud	Man, goat
7)	Sabza	<i>Ocimum basilicum</i>	Lamiaceae	Seed	Goat, man
8)	Khajkhujli	<i>Aquadulce Claudia</i>		Bristles on fruit	Cow, man, goat
9)	Ajwain	<i>Trachyspermum ammi</i>	Apiaceae	Leaf extract	Cow, goat, man
10)	Onion	<i>Allium cepa</i>		Juice	Man, goat
11)	Mint	<i>Mentha aquatica</i>		Leaf juice	Man, goat
12)	Horsebean (kalith)	<i>Dolichous biflorus</i>	Leguminosae	Seed boil in water	Man, goat, cow
13)	Tamarind	<i>Tamarindus indica</i>		Fruit juice	Goat

14)	Pomogranate	<i>Punica granatum</i>		Root peels	Goat, man
15)	Mango	<i>Mangifer indica</i>		Seed powder	Goat, man
16)	Caster	<i>Ricinus communis</i>		Leaf juice	Goat, man
17)	Supari	<i>Areca cateucha</i>	Palmae	Seed powder	Got, man, hen
18)	Pumkin	<i>Cucurbita</i>	Cucurbitaceae	Fruit	Man
19)	Aloevera	Aloe vera	Liliaceae	Leaf juice	Man, goat
20)	Sagargota	Bonduc nut	Caesalpinaeae	Leaf extract	Goat, cow
21)	Baniyan	Moraceae Ficus		Aerial root tip	Man, goat
22)	Garlic	<i>Allium sativum</i>		Root juice	Man
23)	Kath	<i>Acacia catechu</i>	Leguminosae	Bark extract	Goat
24)	Yeltur	<i>Leucaena leucocephala</i>		Leaf juice	Goat
25)	Parijatak	<i>Nyctanthes arbortristis</i>		Leaf extract	Man, goat
26)	Biba	<i>Semecarpus anacardium</i>		fruit	Man, goat, cow

IV. CONCLUSION

As per the survey carried on goat owners, it was found that **10%** of the large scale goat owners used injections and chemical drugs for deworming. 80% of the large-scale goat owners used both medicines as well as plants for de-worming. 20% small scale goat owner used only plant medicine for de-worming. 40% goat owner trust on plant medicine. 60% trust on chemical medicine only for de-worming. The observations show 50% of the goat owners (small scale) are not aware about the side effect of chemical drugs. But 100% of the large-scale goat owners are well known about side effects of chemical drugs.

- ✓ Small scale consists of 5 to 10 goats, large scale consists of 10 to 50 goats.
- ✓ Mix type include Cow, Goat and Sheep.

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