

# SARCOPTIC MANGE (SCABIES) IN CAMELS

Preventive Measures and Treatment



Mange infected Camel herd



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## **Preventive Measures and Treatment**

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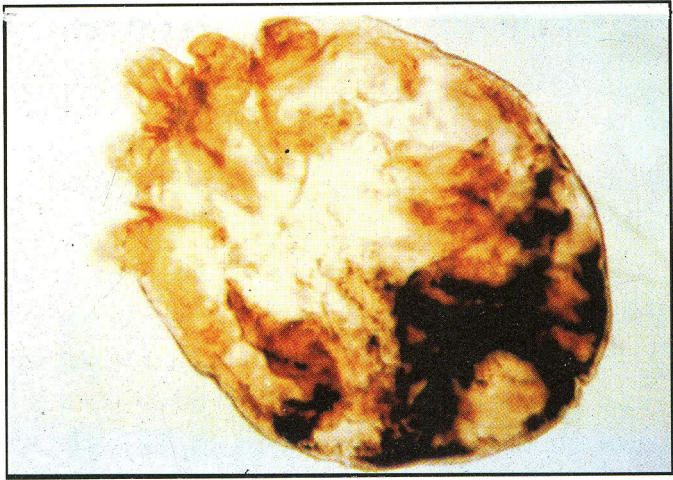
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## SARCOPTES SCABIEI VAR CAMELI

### Sarcoptic Mange (Scabies) in Camels – Preventive Measures and Treatment

Mange is one of the most common parasitic skin diseases of camel caused by mite *Sarcoptes scabiei* var. *cameli*, having zoonotic importance. It is commonly known as “Khujli, Khaj, Paanv”. The disease is highly contagious and occurs all time of year, but it is more severe during the winter months as compared to summer. Stress due to other diseases, over crowding, poor management and heat are the important pre disposing factors. As per the survey data, the morbidity is found higher in migratory herds (30-50 percent) as compared to camel keepers maintaining 1 or 2 camels for domestic use. Incidence under organised farm condition ranges from 23.0 to 43.1 percent depending upon managerial conditions. The incidence is observed to be high in adult camels as compared to young camels. At initial stage the lesions are confined to face, axilla, and inguinal regions with localised alopecia and pruritus. During chronic form of disease neck, head and flanks are badly affected leading to severe irritation, itching and rubbing. The animals loses the condition, becomes weak followed by anemia and thus affecting the general performance and production potential of camels.

The mite can also infect man through close contact, riding, etc. and mostly fingers and hands are affected indirectly through rubbing places. The mite can survive out side the body for about 1-2 weeks and they propagate in low temperature and high humidity.



*Sarcoptes scabiei* var. *cameli*-the causative agent of mange



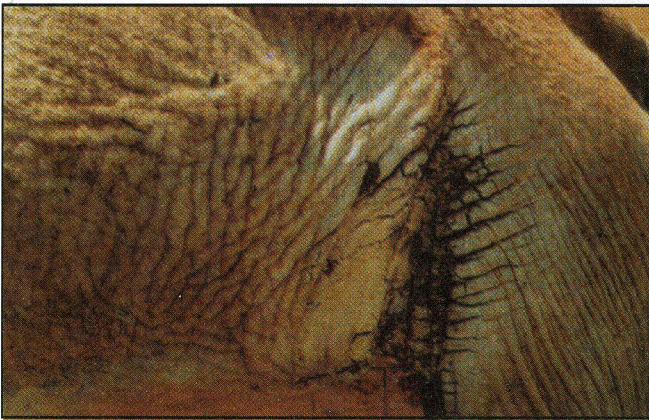
Mite infection at pectoral region of camel

### Characteristic Lesions

- The mites dig tunnels in the upper layer of skin and lay their eggs.
- Skin of affected sites becomes dry, thick and hard with lot of wrinkles followed by bloody discharge on rubbing.



Mite infection around the muzzle of camel



Intense mite infection at the inguinal region of camel

- Scabs develop in severe cases with itching and frequent rubbing to various objects (Walls, Trees, Fencing, etc.). Mites and eggs can be isolated by taking deep skin scrapping from different places.

## Diagnosis

For confirmatory diagnosis skin scrapping from different affected sites are to be taken, boiled in 10% KOH/water and examined under microscope for mites, eggs and fecal pellets. The size of mite may vary from 0.2 to 0.5 mm.

## Prevention and Care

- Infected camels in the herd should be separated from healthy animals immediately and should not be allowed to touch the rubbing places (Walls, Trees, Fencing, etc.).
- Grazing and browsing area should be changed immediately, intermixing of infected herds should be avoided.
- Adaptation of improved management practices at the National Research Centre on Camel, Bikaner has indicated that incidence of mange infection can be completely prevented by regular brushing/grooming of individual camel of herd at least once a month followed by spray of camels with simple water at monthly interval.
- Regular disinfection of housing area with lime, salt and spraying with acaricides at least once a year.
- Treat all the camels at the same time to avoid re-infection in animals that have been cured.
- Persons handling camels should wash their hands with soap and other disinfectant thoroughly after each operation.
- High level of cleanliness in the living quarters will minimise the livelihood of mite.

## Treatment

Identify and start treatment at an early stage. Traditional remedies are also being used and are quite effective

but takes little longer time in preparation. These are very popular among camel rearing societies Raikas/Rebaries, considering the low cost in comparison to other proprietary drugs.

- Used engine oil of vehicles along with sulphur in paste form is applied all over the body especially on the affected parts. The treated animals should not be exposed to intense sun for one/two days.
- Plastering of salty mud on body and it should be repeated twice a week.
- Boil younger neem leaves (*Azadrachta indica*) in water for about 30 minutes and allow it to cool and then spray the water on body and affected parts.

### **Traditional Medicine**

- Sulphur 50 gm, copper sulphate 50 gm, Mansil 50 gm, and Potash (Barood) 60 gm, crush all the ingredients and mix thoroughly in 5 kg of oil and rub all over the body. In case of more severity of disease warm the Aak leaves and the extraction of leaves can be mixed with above medicine before rubbing.
- Gammaxine powder 5 percent one part, 2 parts ash, 1 part sulphur to be thoroughly mixed in oil and is to applied on affected parts of body. The animals should be protected from severe sun rays.

### **Modem treatment**

- Scrub the crusts and then spray the whole body with available Acaricides. Spray should be repeated at interval of 10-15 days. Severe cases may require 3 to 4 sprays.
- Since acaricides are poison, wearing of rubber gloves/



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plastic gloves along with protection of eyes is essential. It is important to scrub the whole body as mange mites may be hiding in apparently healthy skin.

- The commonly available acaricides in the market are Tic Tak (Amitraz 2% Salution), Butox (Deltamethrin 0.4% solution), Cipermethrin 0.1% solution and Fenvalerate 0.2%. Normally spray is to be repeated after 15 days. Additional spray is also required depending upon severity of disease.
- Individual affected animal can also be treated by Ivermectin injection 1.0 ml/50 kg body weight, subcutaneously.
- 1% Flumethrin (Bayticol) is applied on spinalcord at the rate of 20 ml/100 kg body weight.
- Timely adaptation of preventive measures, care and treatment will be beneficial in control of disease as well as in maintaining the work potential and productivity of camels.

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## ANNUAL CALENDAR (Camel Management & Prophylaxis)

### January and February

- Breeding
- Calving
- Special care & Management of new born calves in milk feeding
- Screening for ecto/endo parasite

### March and April

- Hair Clipping
- Insecticide spray
- De-worming (if required)
- Chemo-prophylaxis for surra

### November and December

- Vit. A & Concentrate supplementation to breeding male
- Acaricide spray (if required)
- Breeding
- Special care and concentrate supplementation to advanced pregnant females
- Care of new born in milk feeding

### May and June

- Early pregnancy diagnosis
- Branding of camels (3 years & above)
- Screening for ecto and endo parasite
- Soil treatment of corrals and animal houses-tilting and application of limes etc.

### September and October

- Chemoprophylaxis against trypanosomes (surra)
- De-worming
- Spray for ecto parasites/skin infection
- Vit-A Supplementation to advance pregnant female camels
- Weaning

### July and August

- Screening for trypanosomes (surra)
- Screening for Ecto/Endo parasites