HEALTH HAZARDS OF CAMEL IN IRRIGATED AND NON-IRRIGATED ZONES OF THAR DESERT

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(Received : 24-07-2006; Accepted : 07-03-2007)

Disease affection plays a major role in the economics of camel husbandry. The information on camel health hazards are of prime importance in controlling camel diseases in irrigated and non-irrigated Thar regions.

Materials and Methods

Data were collected from 14 veterinary hospitals belonging to 7 each of irrigated and non-irrigated zones of Bikaner (Thar) district from March 1998 to March 2003. During the period 2482 and 2066 camels were examined from irrigated and non-irrigated regions, respectively. Diseases were diagnosed by symptoms, history, clinical observations and mercuric chloride test for Trypanosomiasis. Survey data were also collected from 167 camel keepers, 79 from irrigated belt and 88 from non-irrigated zone. From each village, sample of 11-12 camel keepers were drawn using stratified random sampling technique. Details and comparative observations were recorded on camel health disorders in different years, system involvement, management practices, morbidity and mortality, camel keeping pattern, treatment cost etc. The results were analyzed statistically using Spearman's rank and Chi-square tests. The cost of treatments were worked out by tabular analysis.

Results and Discussion

The incidence of mange was highest in

both irrigated (49.11%) and non irrigated (45.85%) zones. This was followed by ruminal impaction, diarrhoea, other G.I. disorders and Trypanosomiasis. Incidence of pneumonia, upper respiratory infection, retention of placenta, other reproductive problems, wound/ abscess/saddle gall and miscellaneous health problems varied over the years in irrigated and non-irrigated region. Miscellaneous health problems were fracture, sprain, injuries, tail gangrene, pica, avitaminosis, agalactia pyrexia, ecthyma, mastitis and conjunctivitis etc.

The skin infection (mange and fungal infection), blood protozoan (trypanosomiasis), respiratory system involvements and saddle gall / wound / abscess were more in irrigated belt as compared to non-irrigated areas. In irrigated belt, moisture content is comparatively high which is conducive for growth and proliferation of causative organism (*Sarcopic scabie cameli*) for mange and also very conducive for fungal growth and affects skin of camel, which is major problem. These moisturized zones also adversely affect respiratory system of camel. In irrigated region where water source are available, comparatively some vegetation are also found. It is a suitable breeding place of tabnid flies, which act as a major vector for the infection of *Trypanosoma evansi*. In irrigated area camel are mostly used for transportation / load carrying purpose which lead to higher

incidence of saddle gall / wound / abscess. Rank correlation (spearman's rank test) indicates that disease pattern significantly ($P < 0.01$) varied between irrigated and non-irrigated region.

Farmers having one camel, most of them used to rear their camel at household level and those who has more than 5 camels, used to rear in extensive mode of grazing. The most of medium category farmers (having 2-5 camels) used to send in grazing (loose type) around village. Chi-square test indicates that camel number of farmers significantly ($P < 0.01$) affect management practices in both regions.

The morbidity of Surra was more in irrigated belt (9.26%) as compared to non-irrigated region (8.37%). The mortality trends as per field records showed highest mortality due to ruminal impaction (82 deaths) followed by mange (59 deaths) and surra (31 deaths) in both of these regions. Bhakar and Sahani (2001) found that field mortality in camel calf (< 1 year aged) and adult were $33.05 \pm 2.63\%$ and $8.10 \pm 1.07\%$ respectively. Mehta *et al* (2003) reported that maximum mortality (48.78%) of NRCC farm camel was due to the involvement of digestive system. Involvement of digestive system as a major cause of mortality has

also been reported by Khana *et al.* (1992), Sayed *et al* (1998) and Agab (1998).

Most of farmers (78.48% of irrigated and 80.68% of non-irrigated zone) preferred traditional treatment. The traditional treatment cost of mange was low as compared to allopathic treatment. The traditional treatment cost varied Rs. 20 to 125/- per camel. The allopathic treatment cost varied Rs. 250 to 500/- per camel (injectable type) and Rs. 90 to 160 (spray/ application type). The allopathic treatment cost of surra was low (Rs. 90 - 100) as compared to traditional treatment (Rs. 450 - 1000). It is concluded that incidence of mange is the major problem of camel of thar desert and it is followed by ruminal impaction and other G.I. tract disorders higher health hazards in irrigated belt.

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