

SALT LICKS IN SABARAGAMUWA

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IT is a principle observed by breeders of animals and birds, that the food supply of domesticated animals and birds should not only contain constituents to supply protein, carbohydrates, and fats which promote heat, energy and formation of flesh, but the ration should contain calcium, phosphorus, chlorine, iron and iodine. Any deficiency in these substances affects their growth.

The poor condition of many a calf born to pure bred cows, osteoporosis in horses, certain eye diseases in elephants, sterility of stall-fed cows, are attributable to want of a ration based on scientific principles of feeding. It may be mentioned here that an analysis of grass grown in Ceylon has revealed that only in Jaffna and Hambantota Districts does grass contain a sufficiency of minerals for the normal growth of animals.

If the food supply for wild animals is deficient in salts, it is natural to inquire how these animals thrive so well. Those who have read Cowper's *The Last of the Mohicans* will recollect that wild animals in America resort to "Licks." Such licks are found in abundance in the dry zone of Ratnapura District. In 1927, when occupied in suppression of a virulent outbreak of rinderpest in the dry zone of this district, I came across licks in the neighbourhood of Embilipitiya, which was not then as accessible as it is to-day. A sample was forwarded to the Agricultural Chemist, Peradeniya, who reported that "the soil is a most interesting one. A preliminary examination has shown that it is an alkaline soil—its pH value being 8. It contains soluble sodium and magnesium salts, viz., sulphates, chlorides, etc. The presence of these salts in the soil would account for the partiality of elephants to it."

In February, 1937, further investigations into the presence of licks in other parts of the district were carried out and I was successful in locating three large licks on the bank of a stream at Handagiriya—a ruined city in Meda Korale. In one of the licks, the marks of the antlers of deer could be seen; in the second one, knobs formed by friction of the backs of elephants against the tap root of a *kumbuk* tree (*Terminalia arjuna* W. & A.) indicated that this one was frequented by wild elephants; and the third one disclosed no distinct marks as did the others. At the last-mentioned lick a giant tick was collected and was identified as a species of *Amblyomma*. The villagers who accompanied me were of opinion that these ticks infest wild buffaloes, so the inference was that this spot was visited by wild buffaloes.

A sample of soil obtained from Handagiriya lick was utilized for feeding two sets of hens in a small farm at Tennehena in Kuruwiti Korale. In each run were placed six hens which had not laid for three months previous to 17th February, 1937—when the experiment was commenced—and one cockerel. By 2nd March, the combs of all the birds had become bright. By the end of March the hens started laying, those over three years laying every other day only. When the small supply of soil from the salt lick was exhausted the hens ceased to lay as regularly.

Further investigations in the Embilipitiya area resulted in the discovery of a large circular deep lick at Moraketiya forest, four miles from Embilipitiya. The diameter of the hollow is about nine to ten feet and it is so deep that a large elephant could lie down in it comfortably. A sample of soil from this spot and one from the Embilipitiya lick were sent to the Agricultural Chemist for analysis. His report on the two samples is as follows:

	<i>Embilipitiya</i>	<i>Moraketiya</i>
Total soluble salts ..	1.534%	.099%
Total sand and gravel	42%	55%
Organic matter ..	high	poor
Carbonate	little	considerable
		4.38%
Reaction	alkaline	alkaline
	pH 8	pH 8.5

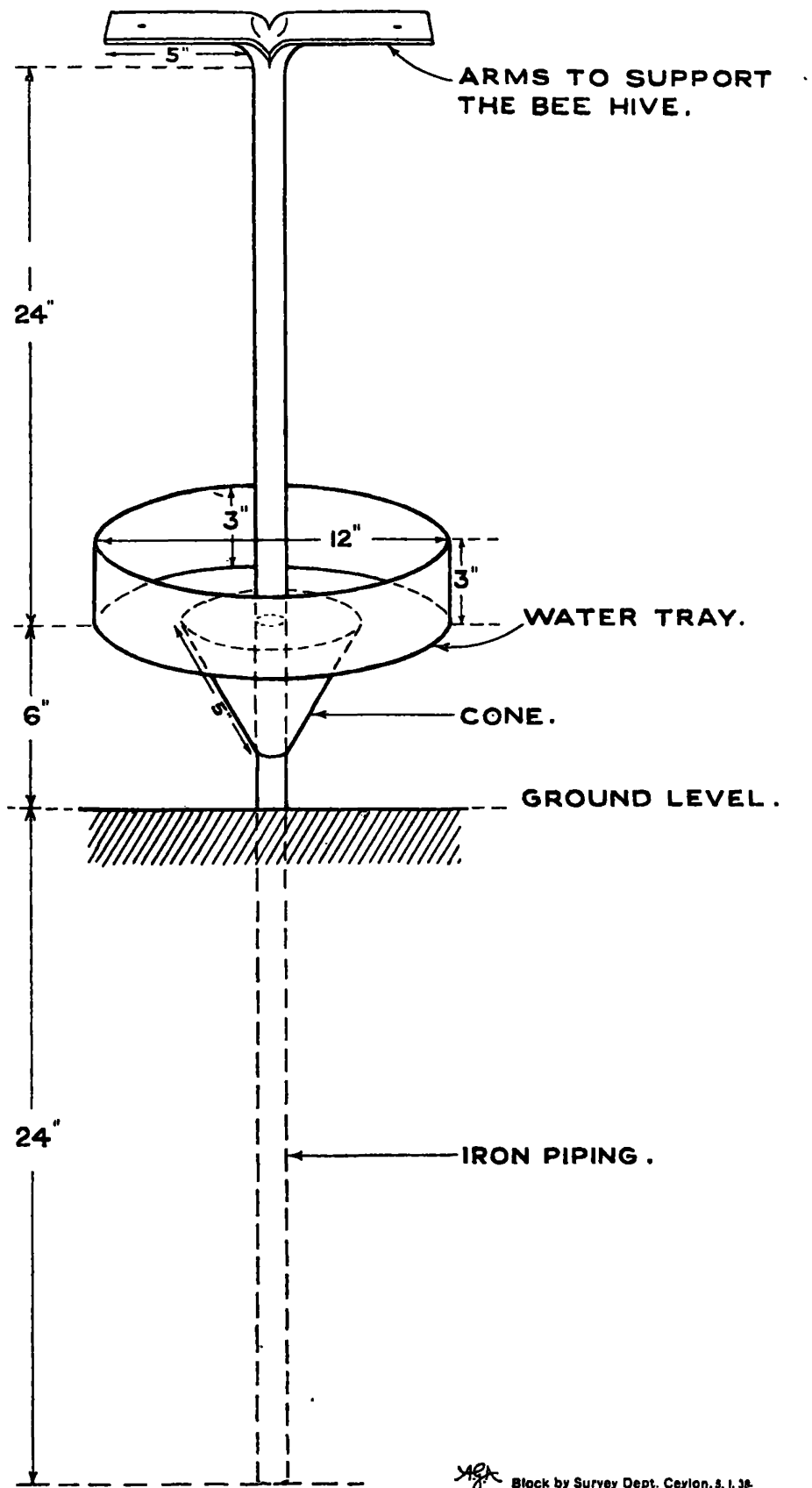
		<i>Embilipitiya</i>	<i>Moraketiya</i>
Calcium ..	..	low	high Ca 3.7%
Magnesium ..	..	low	low
Chlorides ..	..	fair	trace
Sodium ..	..	fair	poor
Iron ..	..	high	high, but not so high as Embili- pitiya sample
Phosphate ..	..	present	negligible
Inference ..	..	Partiality of ani- mals to this soil is probably due to the fact that it contains a high proportion of sol- uble salts, mainly chlorides of so- dium and magne- sium and also iron in fair quantity	Partially of ani- mals to this soil is due mainly to the fair quantity of calcium carbo- nate present in it, probably, as cal- cite. Some mag- nesium carbonate is also present. Iron occurs in fair quantity

Owing to the increased attention now paid in Ceylon to livestock farming, the specific functions of the important minerals mentioned in the above report are deserving of mention.

Calcium and Phosphate.—These two minerals are always found in combination in the body. Lack of them results in rickets in young animals, sterility and abortion in cows, osteoporosis (spongy bones) in horses, and frequent sores and eye diseases in elephants.

Iron.—This plays an important part as a carrier of oxygen in the blood, and a deficiency causes anaemia. Sucking animals receive a trace of iron in the milk of the mother, so the importance of iron in the food of pregnant animals is obvious.

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