BAZAAR DRUGS IN VETERINARY PRACTICE. I.

Most of the common drugs mentioned in the Pharmacopœia are, to a certain extent, obtainable in our bazaars. They are no doubt far from pure, but they recommend themselves on account of their cheapness, and the ease with which they can be procured, especially in places where a chemist's shop or a dispensary is hardly ever to be met with. There is on the other hand some little difficulty in utilizing these drugs. First and foremost, there is the difficulty as regards their names. The bazaar parlance is different from the chemist's, and even the common names of the drugs are seldom known to the retailers in the bazaar, who have their own names for the different articles they expose for sale, some of which are Sinhalese, some Tamil, or corruptions of other Indian lingos.

The second difficulty experienced is in regard to the purity of the drugs, which are not subjected to any process of purification before they are exposed for sale. Hence, it is of great importance to know the likely impurities which they may contain, and the best method of getting rid of them. It is also important, that the purchaser of bazaar drugs should be able to distinguish the different products from one another, as it frequently happens that the bazaar man himself is quite ignorant of the substances with which he deals. He no doubt labels his different drugs, but if by some means these labels are lost, one cannot possibly depend on his knowledge to classify and name the drugs on his own account. Again, failures are often experienced in the use of drugs obtained from the bazaars on account of their being spoilt through being kept in store for a long period. All these difficulties have to be fully realized in using these drugs. But the advantages set forth, viz., cheapness and accessibility, are two important factors to be considered, and with a little care and trouble bazaar drugs could be utilized to great advantage. The few notes appended hereto regarding some of these drugs will, it is to be hoped, help in some way in extending their use:—

Nitre.—Saltpetre Potassæ Nitras, Potassium Nitrate. *Sing.*, Vedilunu; *Tamil*, Pettiluppu; *Indian*, Shorakar.

This salt is met with in many parts of Northern India, Persia and Egypt in the form of an incrustation on the surface of the soil. The incrustation itself is not pure nitre, but contains a large proportion of the substance. The formation of this deposit is due to the potash found in these soils, coming in contact with nitric acid. The crude matter is purified by dissolving in water and by the addition of potash carbonate, obtained by burning plants. Repeated solutions in water and subsequent evaporations make the material more or less pure. The chief impurities met with are common salt, and nitrate of lime, but none of these impurities affect the value of nitre as a drug. Another method of preparing nitre is in vogue in France and other European countries. Manure and vegetable and animal refuse are collected in heaps, and to these are added from time to time, lime in different shapes, whether it be plastering from old buildings or gypsum, &c.; the heaps are sheltered from rain, but freely exposed to the action of the air. They are thus left for over two years, and at the expiration of the period are dissolved and purified much in the same way as in the case of natural deposits. It is stated that at one time nitre was prepared in Ceylon from bats' dung, large deposits of which are often found in caves and under ledges of rock in the less populated regions of the island. Nitre in the bazaar is generally seen in the form of white (generally dirty white) crystalline fragments. It gives a peculiar cold tingling sensation when placed on the tongue. When a piece of nitre is thrown into fire or on red hot charcoal it deflagrates. If a small quantity of the salt is dissolved and mixed with a few drops of sulphuric acid and warmed in a test tube it gives off red fumes.

The action of nitre is very rapid, it enters the blood easily and in its course reduces blood pressure; further, it promotes perspiration and increases the flow of urine. It also acts beneficially on the lungs. In all febrile diseases, repeated doses of nitre prove to be of great use. It has also slight laxative properties. Horses may be given an ounce at a time and cattle one to two ounces; dogs take from four to eight grains and cats half this quantity. In large doses nitre is a poison. In man an ounce of nitre generally produces toxic effects, whereas horses and cattle tolerate large quantities, from ½ a pound to a pound being required to produce poisonous effects. A solution of nitre in water applied externally is a good refrigerant. Nitre does not spoil by keeping. A pound of it costs from 20 to 25 cents in the bazaar.

2. *Alum.*—Alumen, Aluminium Potassium sulphate; *Sing.*, Sinnakkaram; *Tamil*, Phitkari; *Hindi.*, Phitkari.

There are three varieties of alum known in commerce; of these the principal and the most commonly used is potash alum, the other two being known as soda alum and ammonia alum. Potash alum is prepared by calcining shale or clay and treating it with sulphuric acid. The resulting liquor contains sulphate of aluminum, to which is added potash, when alum is formed. Alum is found in the bazaars in the form of white crystalline masses, having a sweet-acid-astringent taste. Ammonium sulphide and strong ammonia solution added to a solution of alum gives a white precipitate. Alum is an astringent used both internally and externally. Internally administered it arrests the various secretions such as sweat, urine, milk, &c. It is useful in diarrhœa and dysentery. Externally it is a useful application in wounds and also in diseases of the eye. It also arrests bleeding.

W. A. D. S.

REVIEW.

In our issue of July 1892, we began a series of Zoological Notes for agricultural students, and by way of preface said that agricultural students generally experience much difficulty in isolating from large and comprehensive text-books, such matter for study as would give them a knowledge of animals, whether they belong to highest or lowest orders of the kingdom, whose life-history is more or less of interest to the agriculturist. Our object as then stated was to supply the want of a convenient collection of notes for agricultural students.

It is a curious coincidence that while we were writing the last of the series of notes (appearing in this number), that a new work entitled *Agricultural Zoology* should have reached our hands. The author is Dr. Bos of the Royal Agricultural College, Wageningen, Holland, and the translator Mr. Ainsworth Davies, B.A. (Trinity College, Cambridge), a professor in the University of Wales. Miss Eleanor Ormerod, the distinguished entomologist writes an introduction to the work which is furnished with 149 illustrations.

We quote as follows from the preface by Miss Ormerod:—By request of Professor Ainsworth Davies, the skilful translator of the "hand-book" on Agricultural Zoology, I add some words of introduction; and I have special pleasure in doing so, not that any observations of mine can add value to the work of the well-known author, but because, having myself had the advantage for many years of colleagueship, and important help in my own work from the assistance of Dr. Ritzema Bos, I am well acquainted both with his extensive knowledge and also his scrupulous care in observation, and I believe that this abstract of his larger work, [*Animal foes and friends*] now given in a form in which it is available for general use, will meet a great demand. We have long wanted a book, plain in wording and of moderate size, dealing with the wild animals or animal infestations generally, which occur in connection with farm life—a manual, in fact, which while suitable for the use of agricultural students and teachers, should at the same time not be too technically scientific to be unintelligible to practical farmers or general readers . . . I trust this Manual of Agricultural Zoology will take its place in our farm and school libraries, which I believe it to be excellently fitted to fill. The five sub-kingdoms as given by Dr. Bos are (beginning from the highest) Vertebrata, Arthropoda, Vermes, Mollusca, Echinodermata, Coelenterata, and Protozoa. The publishers of the book, which is well got up, are Messrs. Chapman & Hall, and the selling price in England is 5*s*. We heartily commend it to all students of agriculture.

LAWS OF CEYLON RELATING TO AGRICULTURE.

Ordinance No. 23 of 1889.

[*Continued from the issue of April 1891 of this Magazine.*]

Chapter IV.

Irrigation Headmen.

1. If the meeting referred to in Chap. III. § 3 shall think it necessary, one or more headmen shall be elected for the district for which the meeting has been called. Such headmen shall attend, subject to the Government Agent, to all matters connected with the irrigation and cultivation of paddy lands, and the maintenance of rights and works connected therewith, and to the prevention of any acts opposed to ancient customs, or likely to damage the interests of the proprietors.

2. (*a.*) The headmen shall be elected by a majority of the proprietors present at such meeting, either in person or by proxy in writing. (*b.*) The Government Agent may dismiss any headman for misconduct; and in such a case, or in case of vacancy by death or resignation, another headman may be elected at a meeting of the proprietors, duly notified and held, and the Government may appoint a headman provisionally, and if at a meeting no headman is elected, the Government Agent may appoint a person to the office. (*c.*) No one convicted of any infamous crime is eligible for election as headman.

Whenever any act shall have been committed contrary to ancient customs, or likely to damage the interests of the proprietors, it shall be the headman's duty to repair to the place, and to take immediate steps to prevent injury, if prompt action is necessary, and to place matters *in statu quo*, and forthwith to report matters to the Government Agent. When prompt action is not necessary to prevent injury, the headman may communicate with the Government Agent, and then act according to instructions. Although the headman has taken prompt action, the Village Council may investigate such matters in districts where both systems exist.

4. Whenever a headman incurs any expenditure in the execution of his duty, and the person in consequence of whose act the expenditure was incurred denies his liability, and refuses to pay it, the Government Agent, on being satisfied that the expenditure was justly incurred, may issue to such person a certificate setting out his name, the nature of the act, the amount of expenditure, and the name of the headman. And if the sum is not paid within ten days, the Government Agent may proceed against him as provided by Chap. IX. of this Ordinance.

5. If any headman shall fail or neglect to perform his duties, or acts in excess of his authority, or in bad faith, or without probable cause, or wantonly and maliciously, he shall be answerable to the injured person and be guilty of an offence, and be liable to a fine not exceeding fifty rupees.

6. Any person unlawfully resisting, molesting, or obstructing any headman in the discharge of his duties shall be liable to a fine not exceeding fifty rupees.

7. The Committee appointed under § 3 of Chapter III. of this Ordinance, or the Government Agent if no Committee shall have been appointed, may award remuneration to irrigation headmen either in kind, from the produce of the district for which such headman is appointed, or in money, and the proprietors of such district shall be liable to make such remuneration, and in case of default, the same shall be recovered from them as provided in Chap. IX. of this Ordinance.

H. A. J.

(*To be continued.*)

ADVANTAGES OF GREEN MANURING.

Dr. Webb gives the following as the typical advantages of green manuring:—

1. There is a direct addition of plant-food to the soil, as during the growth of the plant it absorbs food from the air, and the upper layers of the soil are enriched by matter brought up from the subsoil, and which, when the plants are ploughed in, becomes almost immediately available for the succeeding crop.

With certain crops this gain in plant-food is much more marked, as it consists in an increase of the *nitrogen* in the soil at the expense of that of the air.