# DICTIONARY

## OF

### THE ECONOMIC PRODUCTS OF INDIA.

<table>
<thead>
<tr>
<th>The Munj Grass (G. Watt.)</th>
<th>SACCHARUM arundinaceum</th>
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### SABADILLA.

**Sabadilla**, see *Asagrea officinalis*, *Linn.*; *Liliaceae*; Vol. 1, 336.


A genus of scandent shrubs, which comprises about ten species, natives of tropical and temperate India. Of these the most noticeable are Sabia campamulata, Wall. (*Bakul pata, Kumaon*), *S. limonacea, Wall.*, *S. leptandra, Hook. F.* (*Simal, Nepal; Poyangri, Lepcha*), *S. paniculata, Edgew.* and *S. viridissima, Kuns*.

With the exception of the last named, which is an inhabitant of the upper mixed forests of the Andaman Islands, the above species are found in the lower ranges of the Eastern Himalayas, the Kedda hills, and Assam.

**S. campamulata** is the most westerly species, being diffused along the Himalayas to Simla. They have a soft wood with large pores and broad medullary rays (*Fl. Br. Ind.*, II., 1-2).


A genus of grasses, which belongs to the tribe ANDROPOGONEAE. They are tall plants with compound, often dense, panicles, covered with long silky hairs. The spikelets are very small, and there are no awns to the flowering glumes, as in the majority of the tribe. Twelve species are described, including sugar-cane (*S. officinarum*), munj grass (*S. ciliare*), and khes (*S. spontaneum*).

[Northern India, 6; GRAMINEAE.

<table>
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<tr>
<th>Saccharum arundinaceum, Retz.; Duthit, fodder grasses of</th>
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<tr>
<td>Syn. — <em>S. bengalense, Retz.; S. procurn, Roxb.; S. exaltatum, Roxb.</em></td>
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<td>Vern. — Tong, Beng.; Sorkund, Ph.; Sertat, Raj.; Adivi chruka, kond-hemnamoo (Roxb.); Tut.; Phowung pur, Bum.; Ramthuk, Siva.</td>
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<td>Habitat. — A handsome perennial species, with stems 10 to 20 feet high; found in Bengal, Sikkim, and Southern India. Roxburgh (under <em>S. procurn</em>) says: <em>“By far the most beautiful of the genus I have met with. It comes nearest in appearance to <em>S. officinarum</em>, but is a taller and much more elegant plant.”</em></td>
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### SACCHARUM ciliare.

#### Domestic Uses.
- The culms are strong and straight, and are employed by the Natives for screens and various other economical purposes (Rosburgh 1.)

### Sabadilla.

**Symb.** — S. SAR A, Roeb., S. MUNJA, Roeb., 2.

**Vern.** — S. varun. varuna, saraka, sarpat, sarpatta, rama, manta, manjira, vom, saraka, shvar, shvar, bharda, kanda, ka, sa, sarpat, pat, Dargā, bhar, Ambón, Baco, Aman, Tāns- Tāns; S. SAR A, DINDI, S. GUNDA, PONSA, TEL.; Gándura, tejánaka, sharan, San.

The following names are also given to certain portions of the plant in different localities: — *Sawal* leaf sheaths, S. varun. leaves (Panjáb) bind or used as a calm or flowering stem (Dobh); *Sawari* (E. Districts of N.W. Prov.); *Sāmtha, hina*, lower portion of flowering stem; *Sirki*, fil, upper portion of flowering stem; *Thilī*, upper portion of flowering stem (Lahore); *Majōri*, the entire flowering stem; *Tilāt*, tīl, the flowers (Panjáb); *Ghum*, the flowers (E. Districts, N.W. Prov.).

#### References.
- Hackel, in DC., Monogr. Phan., VI., 118; Roeb., Ph. Ind., Ed. C.B.C., 82; Vogt, Hori. Sub. (c. 2), 709; Brandis, För. Fl., 567; Stewart, Ph. Pl., 26; Attichon, Cat. Ph. and Sind Pl., 172; Sir W. Elliot, Ph. Anv., 65, 119, 155; Sir W. Jones, Treat. Ph. Ind., V., 76; U. C. Dutta, Nat. Med. Hima., 309, 310, 316; Murley, Ph. Fl. Drugs, Sind., 11; Baden Powell, Ph. Pl., 517, 520; Attichon, Hist. Dist. (XV., X. V., P. Guna.), 321; Useful Ph. Bomb. (XIX.), Bomb. Gaz., 238; Econ. Prod. N.W. Prov., Pt. V. (Vegetables, Spices, and Fruits), 91, 100-101; Royce, Ill. Hist. Bot., 415; Lindæ, Mem. Paper-making Mat., 24, 25, 65, 71, 72; A. F. Förster (Blackman's Trans.), 1, 305-306; Settlement Reports — Panjáb, Dera Ismaîl Khan, 256; Lahore, 13; Fung., 12; Gaetan, — Panjáb, Dera Ismaîl Khan, 1, Hoskargor, 14; Kunwar Garg, 25; Tholom., 33; Montgomery, 76, 79; Kernal, 19; Ludhiana, 10; Fung., 18; Jalandhar, 5; N.W. P., 1, 88; IV., iex., Mycow. and Goreg., 1, 68; Agri. Hori. Soc. Ind., XII., 537, XII., 175, 315; XIV., 87; New Series, I., 108; VII., 6; Ind. Forster — V., 91; VII., 111; VIII., 171; XI., 34; Appendix, 53; Balfour, Cyclo. Ind., XIII., 465, 467.

#### Habitat.
- A tall handsome grass, 8 to 12 feet high, abundant over the greater part of North-West India, where, especially in the Panjáb, it covers large tracts of country. It is sometimes also planted in India as a boundary hedge, more particularly in low-lying localities subject to periodical inundation. It varies considerably in height, in size and shape of the inflorescence, as well as in the quality of the fibre yielded by the leaf sheaths. It flowers after the rains are over, and a little later than* Brevithus Ravennae*, a tall grass of similar habit of growth, and with which it is often confounded.

#### Medicine.
- The root is official in the Panjáb, under the name *garb ganda*. It is burned near women after delivery, and near burns and scalds, its smoke being considered beneficial (Dr. Stewart).

#### Fibre.
- The *munj* of fibre is much valued on account of its strength, elasticity, and power of resisting moisture, and is extensively employed in the manufacture of rope, string, mats, baskets, and paper. *Munj* matting is said to be proof against the attacks of white ants. In some of the Panjáb Districts the *india* or *ropes* with which the earthen pots in wells are fastened are composed of *munj*. The *munj* is burned at one end, then beaten with a mallet, and, finally, wisted into a rope. *Munj* fibre, according to Baden Powell, sells at $2 or $3 a maund in October and November; *Sirki* is the light thatch used for covering carts in wet weather, and is composed of the fil or upper portion of the flowering stem, the lower and thicker parts called *kana* are used in the manufacture of *chairs*, *tables*, etc.
Products of India.

The Sugar-cane. (G. Watt.)

SACCHARUM officinarum.

FIBRE. Baskets. 17
Screen. 18
Raffets. 19
FODDER. Grass. 20
Leaves. 21
Shoots. 22
Flowering Tops. 23
DORNIC & SACRED. 24


Fibres. — Kili, tillek, Hunt.; Kheri, patshokhe, Beng.; Kili, dix, ngan, N.-W. P.; Kanwurellu gaddi, Tel.; Ikawamita, San. The Sanskrit name sikka seems undoubtedly to denote the cultivated sugar-cane. It is somewhat curious therefore that this species should be called "the Sugar-cane: Sivick or soveke," that is, thatch.

References. — Roxb., Fl. Ind., Ed. C.R.C., 75; Vogt, Hort. Sub. Col., 729; Balfour, Fl. And., 81; Hackel in DC., Monogr. Phan., V., 127;

Habitat. — Frequent on moist ground in Bengal and along the base of the Himalaya, as far as Kashmir. The flowering stems are 5 to 8 feet high.

Fodder. — The culms are used in the manufacture of pens, screens, and light fences; the leaves and reeds, for thatch; and the leaf-sheaths, like those of most wild species of this genus, may be used to supply the fibre from which the sacrificial thread is prepared. Elliot, in Flora Andhraica, i. c., says: "The best dark-coloured reeds with which the natives write are made from this species; kandu means black, scorched."

S. officinarum, Linn.; Hackel, in DC. Monogr. Phanerog., VI., 112.

The SUGAR-CANE.

S. officinarum.

Note. — The reader may as well be warned that in the following attempt to give in this place the names that denote the plant as distinct from those for sugar and molasses, the author is conscious of the numerous mistakes that doubtless exist. Some of the names signify preparations of sugar, but they are often used by authors to denote the plant, and may, therefore, have both meanings.
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**Saccharum officinarum.**

The Sugar-cane.

릭리다타 which is the *chrombulo-bhodum* of the Telegu, kāŋguṟu, सकर, *kondo-secan*; *kesia-bhahar, kusa-life, arak.* [ diversos, per;] *Kusa, Japanese; Tilla, Java; Par, Madagascar; Kon-chi (S.-W. & Central), chab-chi, tilb-chi (Canton), shiš-mi, shad-ung (sugar), Chinese.

The reader will find a further enumeration of vernacular names under Sugar below, and it need only be here repeated that, although most of the above denote the Sugarcane, some of the names given mean simply Sugar.

Products of India.

The Sugar-cane. (G. Watt.)

SACCHARUM officinarum.

Porter, Nature and Properties of the Sugar-cane ; Pereira, Treatise on Food and Diet ; Raisuni, Food Adulterations ; J. Bell, Culture of the Sugar-cane and Distillation of Rum (Calcutta, 1831) ; W. J. Evans, Sugar-planter's Manual ; J. A. Lion, Manufacture and Refining of Sugar ; T. Kerr, Cultivation of the Sugar-cane and Manufacture of Sugar ; H. S. Olof, Sorgho & Impana, the Chinese and African Sugars (London, 1818) ; D. M. Cook, Culture and Manufacture of Sorghum ; R. Nicoll, Sugar and Sugar Refining ; W. Crookes, Beetroot Sugar in England and Ireland ; A. Voscher, Cultivation and Uses of Sugar-beet in England (Journ. Soc. Arts, XIX, 1871) ; F. Stahn, Methods of Extracting Sugar from Beet-root and Cane (Journ. Soc. Arts, XIX) ; C. H. Gill, Manufacture and Refining of Sugar (Canter Lecture Soc. Arts, 1866) ; Duncan and Neumann, the Allov Process for Extracting Sugar ; J. Skir, Testing Cane-juice and the process of clarification ; W. Drummond, Report on Production of Sugar from Sorghum ; E. S. Ware, the Sugar-beet ; W. G. Le Dues, Sorghum Sugar ; I. H. Tucker, Manual of Sugar Analysis ; R. H. Harland, Manufacture of Sugar from Sugar-cane ; GrierHou, Bihar Peasant Life, 232-237 ; Reports of the various Agricultural Departments, Experimental Fruits, and Botanic Gardens ; Indian Forester, 9th January 1896, 3rd July 1896, 29th October 1896, 11th October 1897, 9th June 1898, 25th January 1899, 16th February 1899, 24th March 1899, 22nd June 1899, 10th October 1899, Indian Agricultural, numerous passages ; Tropical Agriculturist, numerous passages ; Produce Markets' Review ; The Sugar-cane ; Indian Agricultural Gazette (July 1858) ; South Indian Observer ; Spence's Encyclopaedia, II, 1830-1837 ; Encyc. Brit., XXII, 629 ; Ball- foun, Cyclop. Ind., III, 734-726 ; Morton, Cyc. Agric., II, 525-503 ; Ore, Dict. Indus. Arts and Manuf., III, 683 IV, 684 ; Smith's Dict. Econ. Pl., 395-397 ; Sugar Growing and Refining by G. Warrard Lock and G. W. Wiggars and R. H. Harland (188) ; Sugar—A Handbook for Planters and Refiners by G. Warrard Lock, P. H. H. Neulands and J. A. R. Neulands (188) ; A voluminous Official Correspondence from the Proceedings of the East India Company in the 18th Century down to 1851 ; Selection of Parliamentary Papers and Reports issued by the Board of Trade, etc., etc.

Many of the above works deal with sugar more than sugar-cane; but it has been thought desirable to give in this place the reference to all works of a general nature, and to reserve those of a more specific character for the various chapters of this article to which they more especially belong.

Habitat.—A strong cane-stemmed grass, from 8 to 12 feet high, which produces a large feathery plume of flowers, cultivated throughout tropical and sub-tropical Asia and the islands of the Indian and Pacific Oceans. It is principally grown for its sugar; the expressed juice is boiled down, crystallised, and refined. The only mention of this plant having been found in a "wild" state in India is in the Transactions of the Agri-Horticultural Society (Pl. Proc. 7) where Dr. H. H. Sprey is represented as having sent to Dr. Waller "two large branches of sugar-cane procured from Car-Nicobar, where it grows in a wild state." This most interesting subject seems to have been overlooked. No modern botanist has recorded the occurrence of this plant in the Nicobars or anywhere else in India as an indigenous plant. (For an account of the cultivation see article Sugar, pp. 41-252.)

Fibre.—The refuse of the sugar-cane mill has been recommended as a paper material (Lloyd), and is said by Stewart to be sometimes made into well ropes, and on the Chonab to be twisted into the rough condare used for tying the logs into rafts. The destruction of the fibre is one of the reasons why the Natives of many parts of India object to the improved iron rollers now generally employed in the expression of the juice. It is somewhat surprising that the dried fibrous refuse is not universally employed as fuel in boiling the juice. In India this may be said to be only very occasionally utilised, the valuable fuel obtained from the sugar mills being thrown away as useless and what is even more surprising, it is in many cases not even used as manure.
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**The Sugar-cane.**

**Medicine.** — In the *Materia Medica of the Hindus* compiled from Sanskrit authors, sugar and treacle are said to have been largely used from a very early age, principally for the purpose of disguising unpleasantly-tasted medicines. For medicinal purposes, old treacle is preferred to new. The root also of the sugar-cane is said to have been employed in medicine, and to have been considered demulcent and diuretic (*U. C. Dutt*).

In Arabic manuscripts on *Materia Medica*, sugar is described as delicious, emollient, and is prescribed in doses of twenty dimes. Many writers speak of it as attenuant and pectoral. It has also been supposed to have virtues in colicky complaints (*Ainslie*). In the *Panjab*, *Baden Powell* says, sugar is considered by the Natives to be “heavy, tonic, and aperient, useful in heat delirium and disorders of the bile and wind.” In another part of his work he remarks: “In cases of poisoning, by copper, arsenic or corrosive sublimate, sugar has been successfully employed as an antidote, and white sugar finely pulverised is occasionally sprinkled upon ulcers with unhealthy granulations. The Hindus set a great value upon sugar, and in medicine it is considered by them as nutritious, pectoral, and anthelmintic.” The use of sugar as an antidote for arsenical poisoning is alluded to by many writers (*Chittholm, Vogt*, etc.).

In European medicine sugar is employed for making *syrups, electuaries*, and *lozenges*, and is regarded as useful not only for disguising the unpleasant taste of drugs, but also on account of the preserving influence it exerts over their active constituents. In India it is frequently employed in the preparation of *pills*. The following statement of the European uses of sugar in pharmacy may be reprinted here, since it summarises the facts generally given in works on *Materia Medica*:

**MEDICAL AND PHARMACEUTICAL USES.** — “The uses of sugar as an aliment and condiment are numerous. It is nutritious, but not capable of supporting life when taken exclusively as aliment, on account of the absence of nitrogen in its composition. It is a powerful antiseptic, and is used for preserving meat and fish; for which purpose it possesses the advantage of acting in a much less quantity than is requisite of common salt, and of not altering the taste or impairing the nutritious qualities of the aliment. *Professor Marchand* has ascertained that a solution of sugar has no action on the teeth out of the body. It may hence be inferred that the popular notion that sugar is injurious to the teeth is founded solely upon the fact that the excessive use of sugar has a tendency to cause acid dyspepsia. The medical properties of sugar are those of a demulcent; and as such it is much used in catarrhal affections, in the form of candy, syrup, etc. According to *M. Provencal*, it acts as a powerful antiphlogistic, when taken in the quantity of a pound or more daily, dissolved in a quart of cold water. For an account of the supposed therapeutic power of the vapour of boiling cane-juice, in bronchitis and incipient consumption, applied by living in a sugar-house, the reader is referred to the papers of Dr. *S. A. Cartwright*, of New Orleans, contained in the 49th and 51st volumes of the *Boston Med. and Surg. Journal*. In pharmacy, sugar is employed to render oils miscible with water, to cover the taste of medicines, to give them consistency, to preserve them from change, and to protect certain ferruginous preparations from oxidation. Accordingly, it enters into the composition of the compound infusion of roses of several mixtures, pills, and powders, of many fluid extracts, syrups, confections, and of all the troches. Molasses is used for forming pills, for which it is well fitted, preserving them soft and free from mouldiness, on account of its retentiveness of moisture and antiseptic qualities.

“The influence of sugar in preventing changes in organic substances may be ascribed to an extraordinary osmotic power in its solutions, by

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which infusoria and all other of the lower forms of life, to which fermentative processes are now generally ascribed, are almost instantly destroyed, the organism collapsing through the rapid exosmose of its fluids into the saccharine medium. All the different kinds of sugar susceptible of the alcoholic fermentation have this power." (Dr. Louis, Mand., Archives Gen. de Méd., 32 ser. XVI, 49, Juillet, 1860.) (United States Dispensatory, p. 1861.)

Food & Fodder.—For an account of the extraction of sugar and of the by-products in the manufacture of that article, see Sugar Manufacture below. A thick juicy variety of sugar-cane is grown over almost the whole of India, which is largely used in the raw state as a sweetmeat. It is strip of its leaves, cut up into lengths of about 1 to 2 inches, and thus prepared may be seen exposed for sale in most of the bazaars throughout the country. The extent to which the cane is eaten does not appear to have been sufficiently taken into consideration in the estimates of yield of sugar from the acreage of cane. Indeed, in many parts of India, it may be almost said that cane is exclusively cultivated as a fruit. Thus Montgomery it is stated that sugar-cane is very little cultivated for sugar-making, but is used simply as a pleasant article of food. Of Coimbatore and a few other districts the estimate has been made that the edible canes and seed-canes absorb about 10 to 15 per cent. of the total crop. It is probable that some such figure should be allowed for the whole of India; in other words, the area of sugar production should be accepted at 10 per cent. less than the actual area of the sugar-cane crop.

The leaves of the sugar-cane are employed as fodder. Stewart mentions that sugar-cane is occasionally grown without irrigation, the crop being used as chaff for feeding elephants. The Financial Commissioner of the Panjâb (in a report dated 1833) says that in Sialkot the inferior crops are sometimes sold for fodder at Rs5 to Rs7 per acre, and in Multan at Rs100. Mr. T. D. Macpherson, writing of Bengal, says that the leaves, stripped from the canes, mixed with the crushed refuse obtained after the extraction of the juice, are given as fodder to cattle. A very similar statement is made of one district and another throughout India. Thus in the Karnal (Panjâb) we read that the "cane is cut down and dressed on the spot by stripping the leaves and cutting off the crown (ganda). These are given to the cattle. In Ludhiana the flag which remains after cutting off the seed-joints is either given to the cattle to eat or is used as fuel for the boiling of the juice. But more direct references occur to the use of sugar-cane as a fodder. Thus, for example, of Gujurwala it is stated that a red coloured cane known as chahâa is "sometimes grown only as a fodder." The tops known as bhedyas are at Khandesh used to feed the cattle employed at the sugar-mill.

Mr. Benson (of the Saidapet Farm, Madras) furnishes the following instructive notice regarding the value of sugar-cane as a fodder—

"In order to test the capabilities of the crop as a fodder-producer, an average row of canes was cut down in November; the canes weighed 1,062 lb. and the lopings 352 lb.; or, together, 1,414 lb., equal to 131,521 lb. per acre, worth at least Rs200, so that it would have been far more profitable to have treated the crop as a fodder one, whilst, if the whole had been cut for fodder at the time the single row of canes was harvested, there would also have been a large saving in the cost of watering and weeding, and a large second crop would have been obtained. There can be no doubt but that sugar-cane as a fodder-producer is almost unequalled by any crop. Our municipalities, with their abundant supplies of manure, might find it worth while to grow sugar-cane as a fodder-crop; they might produce it in all favourable localities at Rs5 per ton, at which price it should meet

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SACCHARUM officinarum.

Domestic and Sacred Uses

FODDER.

with a large demand for feeding milch cows and draught cattle” (Satta-

As having a bearing on the subject of the extended employment of
sugar-cane as a fodder, it may be stated that many writers on the subject
of the advantages of sugar or molasses as a fattening article of diet
maintain that it has another property, and one highly injurious, viz., it tends
to render the breed sterile, both male and female. The reader will find
interesting particulars on this subject in the Journals of the Royal Agri-

Domestic and Sacred.—The refuse cane (after expression of the juice) is
sometimes dried and utilised as torches by the Natives of the central
parts of the Panjab where the strips are called pachchian. At other
times they are twisted and made into ropes, mats, or chairs. Owing to
these uses of the refuse, objection is sometimes raised to the iron roller
mills as breaking up the cane to such an extent that the fibre is valueless.
The refuse or “meggrass” is very generally used as fuel to boil the juice,
and all too rarely is it employed as a manure.

In its unrefined state sugar is used as a votive offering by the Hindus at
the shrines of their gods. It is given by inferiors to superiors as a mark of
respect. The cultivated plant cannot be said, however, to be held in the
same veneration as the wild Sara or Kasa. While the plant is not worship-
ped as an emblem of the gods, every operation in cultivation and manufacture
is governed by very pronounced religious observances, and the ultimate pro-
duct holds a high place in the esteem of the Hindu. The bow of Kāmadvē
the (Indian Cupid) is sometimes represented as made of sugar-cane, at other
times of sweet-smelling flowers. In either case the string is composed of bees.
His five arrows are each tipped with the blossom presented to Kāmadvē
d by Vasanta (Spring). Sir W. Jones translates a passage on this poetic
conception as follows:—

“**He bends the luscious cane,** and twists the string

**With bees; how sweet! but ah! how keen their sting,**

**He, with five flowered tips the ruthless dart,**

**Which through five senses pierce enraptured hearts.**

The intimate association of sugar-cane and sugar with the Hindu
religion has been urged (in the historic chapter below) as justifying the
belief that the cane, if not a native of India, has at least been cultivated in
this country for a longer period than can be shown in connection with any
other part of the globe. The Institutes of Manu make undoubted allusion
to sugar-cane as well as to palm sugar, honey, and other saccharine sub-
stances. There is, therefore, no room for the suggestion that sugar-cane
has recently been substituted in the religious observances of Hinduism
for māma or honey. Such substitution, if it took place, must have been
some 2,000 or 3,000 years ago. It has to be admitted, however, that the
earliest allusions in the classic literature of the Hindus to sweet substances
are such that it is impossible to determine what is actually meant. An
interesting feature of some of the religious practices have obviously been
inculcated with the object of regulating and guiding the cultivator of
cane. Thus, for example, the almost childish superstition against the
flowering of the cane has doubtless its origin in the observation that when
allowed to flower the cane loses its sweetness and degenerates until such
stems would probably prove valueless for the purpose of propagation.
This would lead to the supposition also, that it was early found that pro-
pagation by means of seed was of no value in preserving the saccharine
property of the stems. The flowering of the cane was therefore pronounced
a very ominous occurrence. It was a funereal flower, foreboding death to

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of the Sugar-cane. SACCHARUM officinarum.

whomever might chance to look on it. It is impossible in this place to find space for the very extensive series of passages that might be here quoted regarding the religious observances connected with cane culture and sugar manufacture. The two which here follow may be accepted as representative. In 1792 the Political Agent at Banaras furnished a long and most instructive report on sugar-cane, from which the following may be specially given as indicating the religious observances:

"The attachment of the Natives to their established customs and usages is well known, and on the present occasion it may not be improper to state some of the superstitious notions of the ryots respecting the cane, as it will tend to show that any improvement which may be attempted in the culture thereof, can only be effected by gradual steps and the most encouraging and lenient measures."

"The ryots consider the sugar-cane (and also the betel plant) in a sacred and superior light; they even class it amongst the number of their deities. The first fifteen days of Kuar (or September), termed Pileruputch, are devoted by the Hindus to religious ceremonies and offerings, on account of their deceased parents, relations, and friends; such of them as have been bereft of their parents refrain from every indulgence during the said period, as being the season of mourning and mortification; and as they deem the performance of the higher rites of their religion (such as making offerings of sweetsmeats, clothes, jewels, etc., in the temples of their several deities, and also the sacrifices denominated Homa-Yajus, etc.) a pleasure and enjoyment, those are likewise carefully avoided."

"The sacred appellation of the cane amongst the ryots is Nagbela, and hence, for the reasons above stated, the immediate owners of the cane plantations sedulously refrain from repairing to or even beholding them, during the continuance of the Pileruputch. On the 26th of Cateek (or October), termed by the ryots Daouthan, they proceed to the fields, and having sacrificed to Nagbela, a few canes are afterwards cut and distributed to the Bramins. Until these ceremonies are performed, according to the rules of established usage and custom, no persuasion or inducement can prevail upon any of them to taste the cane or to make any use whatever of it."

"On the 25th of Jeyte (or May), termed the Deshara, another usage is strictly adhered to. As it is usual with the ryots to reserve a certain portion of the crops of the preceding year, to serve as plants for their new cultivation, it very frequently happens that inconsiderable portions of cane remain unexpended after the said cultivation has been brought to a conclusion. Wherever this happens to be the case, the proprietor repairs to the spot, and having sacrificed to Nagbela (as before stated) he immediately sets fire to the whole, and is exceedingly careful to have this operation executed in as complete and efficacious a manner as possible."

"The cause of this extraordinary practice proceeds from a superstitious notion of a very singular kind. The act is committed from an apprehension that if the old canes were allowed to remain in the ground beyond the 25th of Jeyte, they would, in all probability, produce flowers and seed; for the appearance of these flowers they consider as one of the greatest misfortunes that can befal them."

"They unanimously assert that if the proprietor of a plantation happens to view even a single cane therein which is in flower, the greatest calamities will befall himself, his parents, his children, and his property; in short, that death will sweep away most of the members, or, indeed, the whole, of his family, within a short period of time after his having seen the cane thus in flower."

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Religious observances.

Sacred. Improvement difficult. 48

"If the proprietor's servant happens to see the flower, and immediately pulls it from the stalk, buries it in the earth, and never reveals the circumstance to his master, in this case they believe that it will not be productive of any evil consequences. But should the matter reach the proprietor's knowledge, the calamities before stated must, according to their ideas, infallibly happen."

"In support of this belief, many of the most aged annindars and ryats in this province recited several instances of the above nature, which they affirmed to have actually happened during their own time, and, moreover, that they had been personal witnesses to the evils and misfortunes which befell the unhappy victims of the disquisition alluded to. These superstitions have now originated at a very distant period, and the ryats are now so firmly rooted in the minds of the ryats in this part of the country."

"As the new cane is in the strength of vegetation during the rains, or in the months of Sawan and Bhadon (July and August), the proprietors, in many parts of this province carefully avoid repairing to, or viewing, their plantations during those months, lest a cane flower should accidentally strike their sight, and thus entail upon them those miseries, which they are fully persuaded, must speedily follow such a circumstance."

"The ryats have several other singular notions in regard to the cane; but the particulars I have already taken the liberty to enumerate will sufficiently show, that any measures which may be adopted for future improvement, in respect to the cultivation, etc., must be introduced with circumspection and care, and must hold out a more than ordinary degree of encouragement, otherwise it will be extremely difficult to overcome those prejudices and opinions, which have acquired so absolute an ascendancy over their minds, and which appear to have been entertained in this part of the country for ages past."

The following passage may be given as illustrative of the agricultural practices of the people of the present day:—

"Rites and sacrifices are performed on the germination of the cuttings, at the Nauvargha festival in September-October, and in the following month, to avert a disease (mund) which affects the crop. But the most important ceremonial connected with its growth is the Dashan in the end of October. This, which celebrates the awaking of Vishnu after his slumber in the infernal regions, is to sugar-cane what the Aranyae is to other crops—a sort of harvest-home. Before this day no Hindu will eat the cane, and even jackals are said to avoid it. But on the Dashan several stalks are cut, five being reserved by the owner of the crop, and five each distributed to the village priests and craftsmen. On a board named the saligrām are daubed, with cowdung and clarified butter, the figures of Vishnu and his consort. On the same receptacle are set ārād, cotton, and other vegetable offerings; while around it, tied together by their tops, the farmer places his five cane stalks. A burnt sacrifice and prayers are followed by the elevation of the saligrām. During this last process the women of the household repeat five times the following incantation:—"

"Arise, Oh God! Be seated, Oh Lord! Spread thy carpets, God of Gaya Gajadhar: Sit on them, highest Rama of Kanh. Arise, God, a thousand times arise."

All present then move round the saligrām. The tops (juri) of the five cane stalks around it are severed, hung up to the roof-tree, and burnt on the arrival of the Dus'ār festival some months later, when they are declared auspicious by the presiding Brahman the reaping of the crop begins. "The whole village is a scene of festivity, and dancing and

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