

India Papers > Medicine - Drugs > Report of the Indian Hemp Drugs Commission, 1894-1895 > Volume I


Permanent URL: <http://digital.nls.uk/74464868>

[Volume 1]: Report.

From: (107) Page 82

To: (116) Page 89

(Note: Blank pages will not be included in this PDF file.)

Images and transcriptions on this page, including medium image downloads, may be used under the [Creative Commons Attribution 4.0 International Licence](https://creativecommons.org/licenses/by/4.0/) unless otherwise stated. 

distant village is unavoidably necessary." The names of "male and unhealthy kind of plant" which must be weeded out are—

In Telugu country—

Kotmir.
Kokapoti (dog's tooth).
Yongpota.
Bougra.

In Aurungabad—

Mathisar.
Ardnar.
Morga.
Bhagira.

The last three Aurungabad names can probably be identified with the similar names used in Satara and Ahmednagar. It is stated that the extirpation of these plants is a heavy item in the labour bill. The Director mentions having seen ganja plants grown by a fakir in the compound of his hut in Warangal, which is in the eastern part of the territory, about seven to eight feet high, and each plant twelve to sixteen feet in circumference, the stem near the root eleven inches round. These were a few plants only. The cultivation is not confined to any particular class. The witnesses, however, lay stress on the fact that it requires special knowledge and skill, which are possessed by very few.

214. If there is any regular field cultivation in Rajputana in areas set apart for the crop exclusively, it is not very important, and the papers furnish no information of the methods employed in it. Some details are supplied of the desultory garden cultivation. It is carried on by those who possess gardens, who are generally *malis*, but may be *Kumbhars*, *Kachis*, *Ghanchis*, *Sivris*, or of any other caste. Bhang is rarely, if ever, grown as the principal crop. It is sown in the beds with poppy, tobacco, onion, or other vegetables in the month of January or February. Sometimes it is sown round these beds, which may contain in place of the crops mentioned above coriander, mustard, or *riika* grass. It is gathered in June. It does not appear to receive any special care. Its growth is to a great extent haphazard, and often springs from accidental sowings. The practice of removing the male plant is not found in any State. In some places the saline character of the soil and the scantiness of water forbid the cultivation. The Commission have been informed that experiments to grow the plant in Erinpura failed.

215. Mr. Gunion's memorandum contains a description of the methods of cultivation for ganja and seed in the Indore and Dewas States. The same field is cultivated for bhang and seeds in Indore, but in the Dewas State the male plant is removed from the bhang field. They do not materially differ from that of the Nimar district in the Central Provinces, and it may be doubted if the elimination of males in the Dewas bhang cultivation is a correct description of the selection which is made. It may be noted, however, that the Indore cultivator, unlike the Khandwa cultivator, does not trust himself to buy the seed or exterminate the male plant. Experts are employed for these purposes. In Mr. Gunion's account mention is made of "inferior and unhealthy plants" to be exterminated apart from the removal of males, and it would appear from this that the cultivator, or it may be the Indore reporter, had not such clear ideas of the various sexual forms of the plant as the Nimar cultivator was found to possess. In the Indore cultivation gaps caused by faulty sowings or failure of seed to germinate are filled up with

new seed. The soil on which the plant is grown in Dewas is described as "dry, stony, elevated loam." In these States the cultivation is not carried on by any particular class, but it would appear that in Rewah the *Kachis* alone undertake the industry.

The Political Agent of Bhopawar gives the following description of the desultory kind of cultivation employed in that part of Central India: "Hemp seed is sown in poppy or maize fields. When the plant is above two-and-a-half feet high, the main stem is split near the root and a piece of tile thrust in. This prevents the plant from setting seed freely and makes the tops fit for ganja. When particularly strong ganja is required, each hemp plant is watered once with half a tola of opium dissolved in water. The cultivators believe that by transplanting the young plant into the mouth of a dead venomous snake (cobra preferred) the ganja becomes unusually strong." The Commission have heard of the extirpation of male plants in the cultivation of the Gwalior State, and the same information is furnished by Mr. Gopal Ram in the appendix to the North-Western Provinces memorandum. The latter authority also mentions that the crop is irrigated, and that "some cultivators sow wheat in the ganja fields in the months of October and November." The cultivation covers the season from July to December.

216. No details are furnished in the State report, but the cultivation is of very small extent, and it may be confidently assumed that its methods are the same as those of the Gujarat Division of Bombay, with which the greater part of the Baroda territory is intermingled.

217. The State report would show that there is no cultivation in Kashmir. Dr. Royle's "Fibrous Plants of India" and the references to the hemp plant in "Punjab Products" have been consulted without finding any definite statement to contradict this information. In the latter work both the bhang and "fibre" sent from Kashmir and Ladakh to the Punjab Exhibition are mentioned, but they may very well have been the produce of the wild growth. Dr. Watt refers in his "*Hemp or Cannabis sativa*" to cultivation of the plant in Kashmir, but without mentioning his authority. Dr. Royle's abstract of information at page 327 states: "All along the Himalayas, that is, in Nepal, in Kumaon, in Garhwal, and up to the newly acquired hills of the Punjab, at elevations of from 3,000 and 4,000 to 7,000 feet hemp is cultivated by the hillmen." Beyond this point westward his information does not go. There is a curious statement by the Governor of Kashmir that "almost all wild hemp, which is called *talía* in the Punjab, and is generally female plants in the above-mentioned tahsils, is used for the preparation of ganja locally known by name *gard bhang* (*chura charas*)." The meaning is not clear; but the preponderance of the female plants, if it is the fact, indicates either some peculiarity in the environment of the plant in these regions or tending by man.

218. The answers to the Commission's questions furnished by the Nepal Darbar would lead to the belief that cultivation is very uncommon, and only carried on in a desultory way by consumers of the narcotics. But in Dr. Royle's "Fibrous Plants of India" will be found at page

Mr. Hodgson—Page 323 of Dr. Royle's "Fibrous Plants of India."

Nepal.

323 a description by Mr. Hodgson of the cultivation for fibre. He states that the cultivation is peculiar to the northern districts of Nepal. These districts, "popularly called Cachar, are nevertheless the prime seats of culture, and there alone is the plant manufactured into rope or cloth, though the edible extracts are sometimes prepared nearer to and around Katmandu." Regular cultivation for fibre is therefore confined to the northern districts. The season of sowing is from March to April. The season is earlier, but the course of cultivation is much the same as in Kumaon. Mr. Hodgson states that "damp soils, comprising black earth, are fittest for this crop." This description does not agree with other information on the subject. The plants flower and fruit in July, and are in their full growth at the beginning of August. While yet succulent and in flower they are cut, with the exception of some seed plants, which are not to be reaped till October. It is the bark of the young but full grown July plants which is soft that is used for making cloth. That of the old or October plants is hard and not suitable for manufacture. Mr. Hodgson says nothing in the extract made by Dr. Royle, if there is anything to be said, of the processes adopted for developing the narcotic in the growing plant. The fibre cultivator of Kumaon does not apparently do anything with this special object, and yet his female plant yields charas. It is probable that the early removal of the males may have the tendency in both places.

219. The Darbar answers say nothing about the fibre cultivation, but they contain some information regarding the scattered cultivation for narcotics. The following morsels may be quoted: "When the plants put forth fine down, the tip of the plants is cut off, and the big leaves are plucked off, and the plant is shaken from time to time so that the down may fall off. This causes a large number of branches and fine leaves to be produced, and the latter, getting twisted and stuck together, are called in Nepalese *lata*." "The plant which produces much seed is no good; that which produces little seed is good." "Some persons in the hills plant a few trees which are to be had growing wild." "By slitting the stem of the plant and inserting a piece of opium or clove or *bhiroza* wood and tying up the part with a string the ganja becomes somewhat more intoxicating. This is done by those who know about it, and is not the work of any particular class." "The male plant of the ganja is solid; the female one is hollow. The male plant is more intoxicating than the female. When the plant has attained a height of two or two-and-a-half feet, it is slightly slit, and ascertained whether it is a male or female."

From these extracts it may be gathered that the wild seedlings are transported and planted in suitable places, and that every endeavour is then made to encourage the secretion of the resin in the female (called male) plants. Probably the cultivators know the effect of exterminating the male plant, and follow the practice, though this is not expressly stated.



Survey of India Offices, Calcutta, August 1894.

GATHERING THE GANJA CROP, NAOGAON.
16TH FEBRUARY 1894.

CHAPTER VI.

PREPARATION OF THE RAW DRUGS FROM THE CULTIVATED AND WILD PLANT.

220. The preparation of the finest sort of ganja is a somewhat laborious process, and requires skill and knowledge. For a full description of the preparation of flat, round, and chur ganja in the Ganja Mahal, the reader is referred to Babu Hem Chunder Kerr's report. Dr. Prain has given a shorter account of it. It must be remembered that the terms 'flat,' 'round,' and 'chur' are peculiar to the Bengal manufacture and excise system. Their exact meaning is rarely understood outside the province. The more important details of the processes may be briefly noticed.

Bright sunny weather is essential to the best manufacture. The crop does not all come to maturity at the same time, and the plants must be manipulated within three or four days of maturity, or they become useless. These conditions have to be borne in mind in arranging for the manufacture, and it would seem that the plants have sometimes to be gathered before they are full ripe. The plants are cut in batches, as many as can be handled, by the available labour and means in three days. The *Khasia* plants are left standing, or, if gathered by mistake, are rejected in selecting the portions of the plant to be worked up.

221. The manufacture of flat ganja takes three days, and is carried out on a piece of ground near the field which has been specially levelled for the purpose, and is called the *chator* or *khola*. The number of plants handled in each three-days' operations is usually about fifty or sixty. The first day the plants are cut in the morning, brought to the manufacturing ground, and spread out in the sun till the afternoon. They are then cut up one by one into lengths of about one or two feet. Those having flower spikes upon them are retained, and the rest is thrown away. The portions selected are spread out in the dew for the night.

The work of the second day begins at noon. It consists in alternately pressing and drying the crop and getting rid of useless leaf and seed. The branches are piled by bundles of five or ten, flower spikes inwards and overlapping, in a circular heap about four feet in diameter. The workmen tread this down, moving round upon it and supporting one another. Bundles are added from time to time till the heap is about two feet high. A mat is then placed over the heap, and the men sit or place weights upon it. After half an hour of the pressure the pile is unstacked, the bundles are taken off and beaten together over a mat to shake out seeds and leaf. The heap is again built exactly as before, the upper layers of the previous heap being put at the bottom of this, and the processes of treading, pressing, unstacking, and beating are repeated. The bundles are now laid out side by side on mats and trodden individually, the workman holding the stem ends with one foot while he passes the other foot downwards over the flower. The bundles are turned and beaten against the mat during this process. When it is complete, they have been reduced in size, and consist of four or five twigs each. They are then laid in slanting position over a pole on the ground, and left for the night.

The third day's work begins in the early morning. The twigs are separated, and again piled in bundles in the same circular form as before, trodden for a short

while, and covered up. Work is resumed at 10 A.M. The heap is unstacked and the bundles are carefully handled to remove leaf. They are then laid out in rows and trodden. During this process they are turned over, and at intervals the sun is allowed to play upon them. They are then handled again and gently beaten, and spread out more completely than before. Those that have retained an undue quantity of leaf are stood up in the sun. The last process is to press the twigs individually with the feet in the way already described. The manufacture is now complete. The flower spikes have been pressed into flat masses, and the leaf and seeds have been as far as possible removed. In the larger specimens the branches stand out from the stem and one another, the whole being quite flattened. The twigs are gathered into bundles of two standard sizes—a certain quantity of large twigs in the one and of small twigs in the other. This is called flat or *chaptā* ganja.

222. The manufacture of round ganja is not completed till the fourth day after the plants are cut. The plants are gathered somewhat later in the day and laid out under the open sky for the night. The sorting is done the next morning, a great deal more of the woody portion being rejected than in the case of flat ganja. The twigs are laid out in the sun till noon, when the men return to the *chator* and rolling is begun. A horizontal bar is lashed on to uprights about four feet from the ground, and mats are placed on the ground on each side of it. Bundles of twigs, either tied together by the stem ends or not, according to the skill of the treader, are set out on the mats. The men range themselves on each side of the bar, and, holding on to it for support, proceed to roll the bundles with their feet. One foot is used to hold the bundle and the other to roll it, working down from the stems to the flower heads. This process goes on for about ten minutes, and during it the bundles are taken up and shaken from time to time to get rid of leaf. The bundles are then broken up and the twigs exposed to the sun. A second but shorter course of rolling by foot follows, and then the twigs are hand-pressed, four or five together. After this the twigs are opened up and exposed to the sun again. Towards evening the twigs are made into bundles of about one hundred, and placed on mats and covered up for the night.

The next morning the bundles are untied and the twigs again exposed to the sun. If they are sufficiently dry by midday, they only require a little handling and rolling to complete the manufacture. If they are not dry enough, the first course of rolling has to be repeated, after which the useless leaves fall off with a very little manipulation. The twigs are next sorted according to length and tied into bundles of three descriptions—short, medium, and long. In this process all useless twigs and sticks are eliminated. The bundles are placed in rows under a mat which is kept down by a bamboo, and left for the night. The manufacture is completed the next day by exposing the bundles to the sun, heads upwards, till the afternoon, and then searching them with hands and bits of stick for any leaves that may have remained in them. These are shaken out, and with them pieces of the compressed flower heads, which have been accidentally broken off, fall on to the mats.

223. Babu Hem Chunder Kerr writes that when the preparation of the round ganja is carried out by the dealer who has bought the standing crop, much more care is taken to reject stick and inferior flower head than when the cultivator is the manufacturer. The round

The Bengal manufacture specially elaborate.



Survey of India Offices, Calcutta, August 1894.

PREPARING FLAT GANJA, NAOGAON.

16TH FEBRUARY 1894.

drug is the superior product, and contains much less useless matter than the flat. But it is plain that in both cases the process of manufacture in Bengal is technical and elaborate, and this is the point which it is desired to bring into strong relief. It may be noted that occasionally, when the weather is unfavourable, the drying is effected by fire, with the result that the ganja is discolored and reduced in market value.

224. Dr. Prain describes the purposes which are served by the above processes : " The drying process (a) removes the watery juices of the plants, and thus not only reduces its weight as an excisable article, but removes to a considerable extent the risk of mould ; (b) causes the comparatively inert small leaves to shrivel, and so makes their removal more easy. The kneading process (a) removes more or less completely the comparatively inert leaves, still further reducing the weight. The article produced, being for its bulk more active in proportion to the absence of leaves, the more thoroughly they are removed, the better a sale does it command ; (b) it presses together the resinous parts on which the active principle is most plentifully deposited. These being rendered somewhat sticky by the presence of the resin become more or less agglutinated, and are thus less liable to fall off in transit, and so reduce the active power of the ganja." And he discusses these principles with some care. The Commission would have been inclined to attribute a great part of the importance of the kneading process to its effect in shutting out the access of air to the interior of the ganja masses, and so tending to delay their deterioration.

225. It has been seen that a great quantity of stick, leaf, and seed, and not a little flower head, have been separated from the bundles of prepared ganja. The stick may be used as fuel. The leaf is winnowed from the seed and thrown away, though it has been proved by analysis to contain the narcotic principle in larger quantity than ordinary bhang. But it cannot be ascertained that it is used as bhang. The seeds are kept for the next year's culture, and the superfluity may find its way into the market. The seeds are not narcotic, and they are sometimes eaten, besides being used for the expression of oil and other purposes. The bits of flower head are, in the case of flat ganja, picked up and pressed into the mass of the flower heads again or burnt. The latter will probably depend on the vigilance of the Government supervisors. In the case of round ganja, they form the " chur " or " fragments " on which the excise tariff imposes the highest duty, because in that state the drug is absolutely free of leaf and stick.

226. Bhang as recognized by the Excise Department is the dried leaf of the *wild* plant. The drug that enters the Bengal golas is collected chiefly in the districts of Bhagalpur, Monghyr, and Purnea. But the bhang of Patna, Benares, and Behar is also spoken of as being of high quality. The preparation consists simply in drying the leaves. The plants are cut in April, the *Chaitra Sankranti* being considered an auspicious as well as a seasonable day, but the gathering goes on up to June and July. They are laid out in the sun, and one day may be sufficient to dry them so as to allow the leaves to be shaken or beaten off. The leaves are collected with precautions against the mixture of dust or dirt, packed in bags, and so conveyed to the local gola, and eventually to the shops. The early flowering stage would seem to be that in which the plant yields the best bhang.

From the manner of collection and manufacture, plants of both sexes and also some flower heads must enter into the product. It is stated by one witness that the seed is as far as possible separated and rejected. This is probably correct. Another states that "wild bhang is collected by the people in Bhagalpur, Monghyr, and Purnea districts in two forms—one consisting of dried leaves and small stalks, and the other of the flowering shoots; this latter not to a great extent." This appears to refer to the collection for home consumption, and not that by the licensed dealers for sale. The flowering shoots here referred to are probably the female flower heads, in which there is reason to suppose the resin is occasionally secreted in more than the usual quantity, even when the plant is uncultivated.

Bhang is gathered from the spontaneous growth for home use wherever that growth is found. There is considerable conflict of opinion as to the extent of the practice. The Commission are inclined to accept Mr. Gupta's view that "the use of untaxed bhang is general," and that, among the rural population at least, the consumers collect the drug for themselves whenever the plant is at hand. Looking to the prevalence of the wild growth over a great part of Bengal, and the absence of any technicality in the preparation of the raw article, any other view would require to be supported by strong evidence. The leaf is for the most part simply dried; but Mr. Jenkins, Collector of Dacca, reports that he has been told of a more costly process, which consists in the leaf being boiled in milk and water after being sun-dried, and again dried for storage. This is confirmed by a pleader of Dinajpur, who professes to know the method of preparation of bhang from the wild plant. He says, probably confusing the sexes, that the female plant is generally used, though the male may be also, and that "after the leaves are dried for some time, they are boiled in a mixture of from 10 to 25 per cent. of milk and 90 to 75 per cent. of water. After drying the leaves once again, they are fit for use as siddhi or bhang." It is, however, certain that this practice is uncommon, and that simple drying is the method by which bhang is almost universally prepared for keeping.

227. It has already been suggested that ganja can be got from the wild plant.

Preparation of ganja from spontaneous growth.

The question is important, and must be examined in some detail at the risk of the discussion appearing elementary to many readers. It has been shown that the plant is not wild in the exact sense of the word, and for present purposes this fact must be emphasized. The plant is not only an old escape from cultivation, but its tendency to revert to the uniform characters of a wild species is being constantly checked by contact with cultivation. Its association with man frequently supplies it with the richest kinds of food, and with all vegetation this tends to the development of abnormal characters. The generative functions may thus be affected to the extent of partial or even complete destruction in individual plants or groups of plants, and these may be of either sex. It is possible also for the female plant to be secluded in a variety of other ways. The experience of cultivation justifies the presumption that if the female plant in healthy growth is prevented from freely developing its seed, its flower spike will be highly resinous. There appears therefore to be a strong probability *a priori* that the spontaneous growth quite untended should often produce a flower head which can be converted into ganja. Evidence is not wanting to corroborate this conclusion, for it speaks of wild ganja being collected and smoked; but it is impossible to pronounce posi-

tively with regard to any of it that the plants from which the ganja was gathered was altogether innocent of cultivation or tending.

228. The quality of this evidence may be judged from the following references. It leaves no doubt that many people are able to distinguish the plants of different sexes in the spontaneous growth, calling them by the names of ganja and bhang, and recognize the more narcotic character of the female or ganja plant, sometimes preserving it for the purpose of smoking. The Assistant to the Director of Land Records and Agriculture, when enquiring regarding the spontaneous growth in Bhagalpur and Purnea, observed that a few selected plants, mostly females, were not uncommonly left in the ground. He reports: "These acquire a nice bushy appearance not unlike that of the ganja-bearing plant. All this made me suspect that the people knew a great deal more about the bhang plant than they were willing to avow. I was told by several persons, among them a European gentleman who has long resided in North Bhagalpur, that bhang is often used to adulterate ganja." Abhilas Chandra Mukharji says: "*Jata* bhang (*Sivajata* bhang).—The flower of this kind of bhang is whitish; it grows luxuriantly, and the plants are of a larger size than the ordinary wild ganja plants. The flowers resemble ganja flowers. The flowers and leaves agglutinate naturally, and look like *Sivajata* (cluster of hair of the god Siva, from which it derives its name). Its intoxicating properties are less than the Rajshahi ganja. The flowers are collected and smoked just like ganja. It grows along with other hemp plants rather scantily. It grows near Toke and in some parts of the Manikganj Sub-division of the Dacca district." He states again (9-23) that bhang is rarely smoked, and that only by the lower and poorer classes; that the part of the plant used for smoking is the *sir-kali* (leading flower spike), which is dried and preserved. Sosi Bhushan Roy says after remarks which show that he has a very fair idea of what he is talking about: "It may also be supposed that hemp in its degenerated and wild condition becomes what we call bhang or siddhi. I have myself seen that such bhang plants as have a luxuriant growth bring forth leaves, which sometimes get matted together, and, if collected before inflorescence, might to some extent serve the purpose of ganja." Witness (82) states (answer 23) that the Nepalese prepare a crude sort of ganja which they call bhang, and this they always smoke, and (22) gives evidence to the same effect. Mr. Maguire (23), Officiating Collector of Khulna, writes: "A sort of ganja is prepared from the wild plant wherever grown, but, except when prepared from female hemp, it is very weak." The Collector of Bankura (10) reports the possibility of preparing ganja of very inferior quality from the wild plant. Babu Suresh Chunder Bal (69) says: "I think ganja can be prepared from that particular variety of the wild plant which is known to the people as the ganja plant." Bhuban Mohun Sanyal of Purnea (225) states: "I hear that ganja cannot be prepared from the hemp plant generally growing wild in the district. I have, however, heard that it can be prepared from a plant sometimes seen (though very rarely) growing wild and known as ganja plant." These are all good witnesses, though the evidence of some of them is based on inquiry and not personal observation. It is unlikely that they are talking of anything but the hemp plant, for it is very well known in India generally, and specially in Bengal and Northern India. The descriptions given by witnesses 63 and 196 portray the female hemp plant very clearly. It appears then that a very