

“Chokuwa rice of Assam”

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Facilitated by
Assam Agricultural University,
Jorhat, Assam -785013

The registration details:

Name of the product : “Chokuwa rice of Assam”

Name of the registered proprietor and address : Seuj Satirth
Address : Secretary, Seuj Satirth, Central Cultural Building, Kachumari, Dehajan, Dimow-785 662, District: Sivsagar, Assam, India

Facilitated by : Assam Agricultural University, Jorhat, Assam

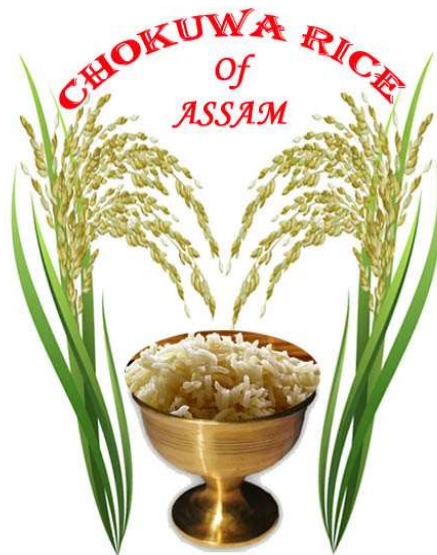
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Logo of “Chokuwa rice of Assam”:



Description and specification:

North-East India, including Assam, is endowed with exceptionally rich biodiversity. Assam is traditionally a rice growing area and rice plays a pivotal role in the socio-cultural life of the people of the state. Due to highly variable rice growing ecosystems, the crop has enormous diversity in the region. The variations in agro-climatic conditions and ethnic diversity with varied consumer preferences in Assam lead to spontaneous occurrence of many indigenous rice varieties having special uses. Among them, aromatic rice “Joha”, waxy rice “Bora”, Semi waxy “Chokuwa” and deep and floating rice “Red Bao” are the unique 'gift of nature'. These varieties are grown in this region from time immemorial to cater the household needs of the farmers. The different classes of rice have different uses. Farmers traditionally selected some of the land races to be consumed as a staple food. The rice varieties with high and intermediate amylose content are consumed as staple foods and the landraces with low amylose content are selected to make specialty products. Low amylose rice varieties, locally termed as Chokuwa rice varieties, are preferred over the waxy varieties to prepare various products specially “Komal chaul”. Komal chaul (soft rice) is a whole grain, ready-to-eat product which needs no cooking and can be consumed after simply soaking in cold to lukewarm water. Chokuwa rice varieties are also not known in other parts of the world. This class of rice is also known as soak-n-eat rice without the requirement of cooking, thereby contributing to reduction of use of fuel in cooking. Though Chokuwa rice varieties with low amylose content (AC) rice exhibit soak-n-eat character, it is also reported that not all low AC rice varieties exhibit soak-and-eat property. The tradition of preparation and consumption of Komal chaul in Assam is an age-old practice. Komal Chaul of Chokuwa rice is produced in various districts of Assam viz., Tinsukia, Dhemaji, Dibrugarh, Lakhimpur, Sivsagar, Jorhat, Golaghat, Nagaon, Morigaon, Sonitpur etc. between the latitude of 26.00⁰ N to 27.50⁰ N and the longitude of 93.96⁰ E to 95.00⁰ E. Komal chaul is prepared from Chokuwa rice by boiling paddy followed by sun drying for a day and then it is dehusked.

This preparation of Komal chaul can be preserved for quite long time and can be consumed instantly by soaking the rice either in cold or hot water for a short period of time. This preparation can be consumed with sugar or molasses, milk or curd and even with salts, oils and pickles. These preparations seem to be useful for sailors, travellers, mountaineers, people in military services or in any places where there is a scarcity of fuel for cooking etc. Rice

powders and rice flakes prepared from Chokuwa rice are very tasty and preferred by the local people of the area. Thus this class of rice is metaphorically termed as "magical rice" as it becomes ready to use just by soaking and it must have a great demand in the domestic as well as foreign market once properly marketed as a convenience food.

Characteristics of Chokuwa rice:

The Chokuwa rice plants are tall, have long duration and are photosensitive. Rice has an average grain yield of 2.5/ ha.

The average plant characters of these rice varieties are given below:-

1. Plant height: 158 cm
2. Panicle number: 9.2
3. Days to maturity: 160 days
4. Number of filled grain: 158
5. Number of chaffu grain: 15
5. Kernel Length: 6.6 mm
6. Kernel breadth: 2.4 mm
7. Kernel Length /breadth ratio: 2.75
8. Amylose content (%): 16.0

Proximate composition and energy values of brown rice of *Chokuwa* varieties of Assam

Names of 'Chakua' varieties	% Moisture (wet basis)	% Crude protein	% The crude fat(dry basis)	% The Crude fibre(dry basis)	% Total carbohydrate (dry basis)	% Ash (dry basis)	Energy value (kCal/100g)
Boga Chakua	11.1	11.24	2.27	0.75	73.62	1.02	359.87
Boka Chakua-1	10.4	9.99	2.82	1.55	74.58	0.66	363.66
Boka Chakua-2	10.3	11.24	2.81	0.95	74.70	1.32	369.05
Bor Chakua	10.5	4.99	1.19	0.70	81.64	0.98	357.23
Bora Chakua	11.0	2.91	0.08	0.85	84.37	0.786	349.84
Chakua-6	10.9	6.18	1.92	0.45	79.69	0.86	360.76
Haru Chakua	10.6	11.66	2.09	0.40	74.13	1.12	361.97
Kagoli Chakua	11.8	13.32	1.72	0.30	71.58	1.28	355.08
Kalomdani Chakua	11.2	7.08	1.68	0.40	78.65	0.99	358.04
Lahi Chakua	10.6	0.83	0.90	0.25	85.9	1.52	355.02
Maju Chakua-1	10.8	12.07	4.97	1.05	69.96	1.15	372.85
Maju Chakua-2	10.1	8.33	2.40	1.65	76.71	0.81	361.76
Malbhog Chakua	10.9	6.66	Nil	0.45	81.02	0.97	350.72
Nepali Chakua	10.8	9.99	8.00	0.80	69.30	1.11	389.16
Sam Chakua	11.3	6.66	8.20	1.30	71.47	1.07	386.32
Saru Chakua	10.6	8.74	4.35	1.05	73.98	1.28	370.03
Pozo Chakua	10.2	15.41	2.45	0.85	69.92	1.17	363.37
Mean	10.77	8.66	2.81	0.80	75.95	1.06	363.80

CD _{0.05}	0.34	2.37	0.33	0.08	0.10	0.02	0.01
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The amylose content (% , dry weight basis) of brown rice of *chakua* varieties of Assam

Names of Chakua varieties	Amylose content%
Boga Chakua	13.76
Boka Chakua-1	9.84
Boka Chakua-2	10.26
Bor Chakua	9.12
Bora Chakua	12.78
Chakua-6	10.50
Haru Chakua	12.44
Kagoli Chakua	11.78
Kalomdani Chakua	14.04
Lahi Chakua	16.02
Maju Chakua-1	14.84
Maju Chakua-2	12.70
Malbhog Chakua	9.22
Nepali Chakua	11.72
Sam Chakua	10.14
Saru Chakua	12.28
Pozo Chakua	12.76
Mean	12.01
CD _{0.05}	0.046

The mineral content (mg/100g) of brown rice of *chakua* rice varieties of Assam (on dryweight basis)

Varieties	Sodium (mg/100g)	Potassium (mg/100g)	Phosphorus (mg/100g)	Iron (mg/100g)
Boga Chakua	20.48	216.97	280.18	3.70
Boka Chakua-1	19.08	152.67	269.31	3.81
Boka Chakua-2	19.08	153.22	230.55	4.08
Bor Chakua	14.82	84.71	205.10	10.97
Bora Chakua	20.48	287.60	250.20	7.68
Chakua-6	20.48	152.78	262.46	7.73
Haru Chakua	17.84	87.32	192.54	4.09
Kagoli Chakua	20.48	169.38	198.07	643.50
Kalomdani Chakua	19.08	214.87	291.66	3.20
Lahi Chakua	22.7	86.28	173.95	3.92
Maju Chakua-1	20.48	276.73	239.52	1.04
Maju Chakua-2	19.08	216.25	195.75	3.39
Malbhog Chakua	19.08	154.92	213.77	4.04
Nepali Chakua	21.6	220.22	311.40	3.87
Sam Chakua	19.08	219.92	267.58	6.86
Saru Chakua	19.08	154.21	219.47	44.97
Pozo Chakua	21.60	222.02	328.78	2.72
Mean	19.67	180.59	242.95	44.68
CD _{0.05}	0.064	0.01	0.044	0.04

Source: P. Das, A. D. Singha, K. Goswami and K. Sarmah, (2018)

Method of production:

The Chokuwa rice is grown along with the staple rice varieties during Sali season. The farmers cultivate these varieties to be consumed during special occasions. The actual area of production of Chokuwa rice is not available as it is clubbed under Sali rice with traditional landraces. The productivity of these photoperiod sensitive, tall traditional Chokuwa cultivars is not more than 1.0 – 1.5 t/ ha. Moreover, Chokuwa rice is grown in relatively marginal lands. Since the inception of the Rice Research Station at Titabar, germplasm collection drives had been made and a number of varieties were collected at the station. About 23 Chokuwa rice cultivars collected from different parts of the state are conserved in this station. Assam is one of the seven states of northeast India and the State is surrounded by Arunachal Pradesh, Nagaland, Manipur and Myanmar in the East, Mizoram, Tripura and Meghalaya in the South, Bangladesh and West Bengal in the West and Bhutan and Arunachal Pradesh in the North. The state is surrounded by many hills in all directions. The total geographic area of Assam is 78523 sq. km with a population of 31 million as per census 2011. The climate of Assam is of humid subtropical nature with warm humid summer and cool dry winter. Due to unique geographical location coupled with varied physiography, the state has wide array of climatic conditions. The soil of Assam is acidic and high in available phosphorus and potassium and moderate in organic matter and nitrogen. The most typical characteristics of Assam soil is its pH which generally ranges between 4.2 to 5.8. The annual normal rainfall is 2431.9 mm of which 1550.0 mm occurs during the months of June to September. Most of the Chokuwa rice cultivation is under the mercy of monsoon rain during Sali season (June/July - Nov /December). The mean annual maximum temperature varies from 23.6⁰ C to 31.7⁰ C and minimum temperature varies from 10⁰ to 25.2⁰ C. Chokuwa rice is grown in marginal lands, uplands or on Sali seed beds after uprooting the seedlings, late in the season. Harvesting of crop is done once the crop attains physiological maturity as a transplanted crop.

Raising of Seedlings:

Seed beds of 1.0 m length and 1.25m breadth are prepared with 30 cm gap in between the beds in thoroughly puddle soil. The length of the bed may vary according to convenience. Seed beds are mainly fertilized with dry cowdung. The nursery is raised by wet method. Germinated seeds are used for sowing in the well prepared nursery bed and adequate irrigation facilities are provided. The nursery bed is drained occasionally to encourage

production of vigorous seedlings with short roots. Seedlings will be ready for transplanting 25-30 days after sowing.

Field preparation:

Field should be prepared thoroughly by ploughing 4 to 5 times followed by harrowing and laddering. Ploughing should be started at least 21 days ahead of transplanting so that weeds are dried up/decayed. Well rotten FYM or compost @ 10t/ha has to be applied during field preparation. In addition, the inorganic nutrients are also suggested at rate of 20N: 10P₂O₅: 10K₂O (in Kg/ha) in areas with moderate fertility level. Since Chokuwa rice cultivars are less responsive to chemical fertilizer and inaccessibility of chemical fertilizers to many farmers results in very limited application of chemical fertilizer in Chokuwa rice. Seedlings are transplanted @ 2-3 seedlings per hill in rows at a gap of 30-35 x 20-25 cm, at a depth of 3-4 cm in medium land situation. Farmers hardly apply in chemicals for pest control, since traditional varieties of Chokuwa rice have moderate level tolerance to major pests. The crop has duration of 135-165 days. The temperature between 28⁰C and 30⁰C during flowering and dough stage are ideal for grain filling.

Harvesting:

Harvesting of crop is done once the crop attains physiological maturity. This usually coincides with November-December months. Upon attaining physiological maturity, panicles are selected using strict quality standards based on the characteristic morphological features of the Chokuwa rice for the collection of seeds for the next season. Threshing of the harvested panicles is done by rubbing with feet in a clean and dry place. After manual threshing, seeds are cleaned and dried in sunlight to a moisture level of 12 to 13 per cent. Seeds are stored in "Toom" after proper drying and cleaning. (Toom is a container made of bamboo covered with straw. Straw used in Toom should be of the same variety that is used for storage).

Traditional knowledge associated with production of Chokuwa rice of Assam:

- i. Farmers know the art of selection of proper site for cultivation.
- ii. Farmers have the traditional knowledge on the method of cultivation.
- iii. Farmers possess the traditional know-how on issue relating to plant protection of Chokuwa rice varieties.
- iv. Use of traditional know-how and skill in preparing the products from

- Chokuwa rice varieties.
- v. Knowledge on extent of cooking of the grains inside the husk followed by drying while preparing Komal chaul from Chokuwa rice.
 - vi. Use traditional method of milling with *dheki* (a traditional method of pounding) while producing different products from Chokuwa rice.

Uniqueness:

- I. Chokuwa rice is a particular class of rice with low amylose content, traditionally identified and selected by farmers.
- II. Chokuwa rice is a unique gift of nature. This group of rice exhibits “soak and eat” characteristics for which instant preparations like Komal chaul (soft rice) can be made. For the “soak and eat” characteristics of this rice, this class of rice is metaphorically termed as “magical rice” also.
- III. Chokuwa rice varieties belong to traditional Sali rice varieties which are photosensitive and long duration (160 days) varieties exclusively grown in Assam. This class of rice is not known in any other parts of the world.

Geographical area of production:

Chokuwa rice varieties are grown in most of the districts of Assam except two hill districts during sali season (June/July-October/November). The districts in which Komal chaul is prepared are: Tinsukia, Dhemaji, Dibrugarh, Lakhimpur, Sivsagar, Jorhat, Golaghat, Nagaon, Morigaon, and Sonitpur between the latitude of 26.00⁰ N to 27.50⁰ N and the longitude of 93.96⁰ E to 95.00⁰E.

The latitude and longitude of the Chokuwa rice growing districts of Assam are:

Charaideo : 26.941, 94.8741

Darrang: 26.4523° N, 92.0273° E

Dhemaji :27.6087° N, 94.7692° E

Dibrugarh: 27° 29'N, 94° 54'E

Golaghat :26° 31'N, 93° 58'E

Hojai: 26° 00'N, 92° 52'E

Jorhat :26° 45'N, 94° 13'E

North Lakhimpur :27° 14'N, 94° 07'E

Majuli: 27.0016° N, 94.2243° E

Marigaon: 26.2600° N, 92.2630° E

Nagaon: 26° 21'N, 92° 41'E

Sibsagar: 26° 59'N, 94° 38'E

Sonitpur : 26.6739° N, 92.8577° E

Tinsukia: 27° 30'N, 95° 22'E

Proof of Origin (Historical records):

The Statistical Account of Assam written by W.W. Hunter (1879) mentioned 87 varieties of rice. Among these Chokuwa are so soft that the people in Assam used them un-boiled just by soaking in water which was then called Komal Chaul (pp. 250, 253,300). The same document also revealed the presence of Chokuwa varieties of rice like 'goru chakua', 'saru chakua' and 'bar chakua' (page 370).

(William Wilson Hunter (1879). A Statistical Account of Assam. Published by Trübner & co., London, (pp 250, 253,300)

The second historical record states that the military systems of Ahoms of medieval period specifically mentioned Komal Chaul, a product of Chokuwa rice, as soldiers' food. This was referred by famous histrorician of Dr S K Bhuyan in his book “History of Assam” published in 1965. It was stated in that book that "The food menu of an Assamese soldier was extremely simple. He had in his kit a bag of specially prepared raw rice, soaked in water, - Komal Chaul as it called - and he thrust morsels into his mouth from time to and thereby satisfied his alimentary need."

STUDIES IN THE HISTORY OF ASSAM

BY

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1960

The topography of Assam dictated its methods of warfare. The trained cavalry of the Moguls were too much of a match for the Ahoms, and they therefore avoided open encounters in the plains. Guerilla tactics consisting of ambushes and sudden attacks constituted their principal *modus operandi*. Their commando soldiers entered into hostile camps during the still hours of the night when they carried off the treasures or gagged the muzzles of the guns kept ready for action next day. The Ahoms studied Mogul strategy very carefully, including the details of Mogul engagements in other parts of India. They knew that the later hours of the night were very suitable for attacking the Moguls as they fell fast asleep at that time. Shivaji's successes against the Moguls in 1665 encouraged the Ahom king Chakradhwaj Singha to speed up his preparations to recover Gauhati. The Assamese soldier was the master of a variety of activities which he acquired as a cultivator and a householder. Erection of hedge-fencing, rowing, swimming, digging and house-construction constituted the normal occupation of an Assamese cultivator, and this varied knowledge was brought to bear upon his military career. This versatility amazed the Mogul general Raja Ram Singha of Amber and he exclaimed at the conclusion of the hostilities,—“Every Assamese soldier is an expert in rowing boats, in shooting arrows, in digging trenches, and in wielding muskets and guns. I have not seen such specimens of versatility in any other part of India”.

The food menu of an Assamese soldier was extremely simple. He had in his kit a bag of specially prepared raw rice, soaked in water,—*komal chaul* as it is called—and he thrust morsels into his mouth from time to time and thereby satisfied his alimentary need.

A STATISTICAL ACCOUNT OF ASSAM.

1873

BY W. W. HUNTER, B.A., LL.D., C.I.E.

SECRETARY-GENERAL OF ASSISTANT TO THE GOVERNMENT OF ASSAM,
AND OF THE COMMISSIONER OF THE ASSAM DISTRICTS; MEMBER OF PARLIAMENT OF THE
ROYAL SOCIETY OF EDINBURGH FROM 1854 TO 1861, OF THE ASSOCIATION OF
AGRICULTURAL SCIENTISTS, OF THE ASSOCIATION OF 1871, AND OF
THE METEOROLOGICAL SOCIETY, LONDON; HONORARY FELLOW OF
THE CALCUTTA UNIVERSITY; MEMBER ELECTORAL OF
THE ROYAL GEOGRAPHICAL SOCIETY, &c.

VOLUME I.

DISTRICTS OF KAMRUPT, DARRANG, MOWSONO, SIBSADIAH,
AND LAKHIMPUR.

TRUBNER & CO., LONDON 1873

two or three small detached huts, each containing from two to four rooms, and constructed of wood, bamboo, grass, and reeds. These huts are very low, damp, ill-ventilated, and built so close to one another as to render them almost inaccessible to light and air. Each hut seldom has more than one small door, just large enough to admit one man at a time, and has no windows at all. The houses are grouped together into villages without any regard to arrangement or sanitary considerations. They are generally surrounded with clumps of bamboo, plaintain, betel nut, and other trees, and, viewed from a distance, present a very picturesque aspect. The charm, however, disappears on closer inspection; jungle is found growing around every house, and stagnant water and filth of all descriptions abound on all sides. Small quantities of tobacco, mustard, and sugar-cane, are cultivated in the immediate vicinity of the villages, each family raising sufficient to supply its own household wants.

Food.—The ordinary food of the people of Sibsagar consists of rice, split-peas, fish, and vegetables. The use of flesh as an article of food is very rare. An Assamese cultivator generally takes three meals a day; one fresh cooked early in the morning, consisting of about a pound of rice mixed with split-peas and vegetables. The second meal, which he takes at noon if he is out in the fields, is composed of uncooked *lama* rice (a description which refers to the consistency of boiled rice after two hours immersion in cold water), eaten with molasses and plaintain. Should he be at home, he eats boiled rice with fish curry. The midday meal is always eaten cold. About evening he has his supper, which consists of the same substances that formed his morning meal, but fresh cooked. *Mithkuli* (*Phaseolus radiatus*) and *moori* (*Ervum lens*) are the varieties of pulse chiefly used by the common people. *Mij* (*Phaseolus mungo*), *hi* (*Cicer arretinum*), and *arhar* (*Cytisus cajan*), are only eaten by the wealthier classes. The vegetables used by all classes consist chiefly of leaves and tender stems, generically called *aj*. Other vegetables, such as potatoes, carrots, cabbages, turnips, onions, &c., are grown to a small extent in the towns, but only for sale to the European residents and men of easy circumstances. Milk is very little used by the mass of the people, though *doh* (butter-milk) is much consumed by the higher classes. The lower classes seldom use oil, and instead of salt they use potash procured by burning plaintain leaves. Clarified butter and sugar are only consumed by

VARIOUS STAGES OF RICE CULTIVATION.—Rice in the husk is called *shin*. When put by to be used as seed, it is placed in baskets with thatched sides, called *shun*, closely tied up and carefully stored away. Before sowing, the seed is soaked in water for three days to soften it, after which it is thrown broadcast on the surface of well worked-up mud, which forms the nursery. The plant when it sprouts is called *shiyé*. After it has been in the nursery about a month, the transplanting takes place. The young shoots are drawn out by the women, and the particles of dry earth knocked off, as by this time the nursery bed has become a hard cake. The plant is then termed *net*, and is planted out into the field where it is to grow, after the soil has been ploughed four times. For the varieties of rice which do not require transplanting, the land, previous to sowing, must be either watered by a fall of rain, or have been inundated and the water afterwards either laid out or drained off. The land is then ploughed, and the seed is thrown on the surface. Water must not be allowed to gain on the plant until it has attained the height of nine inches or so, by which time any inundation or great rainfall can do no harm. To prevent the accumulation of water before the plant has grown to a proper height, the land is embanked in the case of *shé* rice; the other varieties being sown on high land, the water drains itself away.

THE VARIOUS PREPARATIONS MADE FROM RICE are as follow:—

- (1) *Ché*, paddy steeped in warm water and allowed to stand all night, when the water is drawn off, and the grain parched and powdered.
- (2) *Shé*, a coarse flour made from parched rice.
- (3) *Khat*, parched rice.
- (4) *Pohé*, rice immersed in water till it softens, after which it is dried and powdered into flour and used for making cakes.
- (5) *Kamal ché*, a preparation made from uncooked rice.
- (6) *Léyá*, a liquid preparation made from rice.

AREA: CULTIVATION OF CROPS, ETC.—The recently concluded Revenue Survey of the District returned the total area of Sibsagar at 1,877,995 acres, or 2833 square miles. Of this total there were, in 1873-74, 968,480 acres or 1460 square miles in actual cultivation; 1,592,840 acres or 238½ square miles were returned as cultivable, but not actually under cultivation; and 106,775 acres or 159 square miles as uncultivable and waste. In 1871 the Deputy-Commissioner returned the cultivated area at 170,000 acres, and estimated the comparative acreage under the principal crops to be as follows:—

(49) *jibhngi*, (51) *hamsimul*, (52) *dhulcha*, (53) *gumra*, (54) *hateri dahan*, (55) *kar sakpaman*, (56) *suru sakpaman*, (57) *chakravartani*, (58) *shikpali*, (59) *netori*, (60) *shar shen*, (61) *matangi*, (62) *kar bhani*, (63) *suru bhani*, (64) *shar sheng*, (65) *shikpali*, (66) *matpali*, (67) *suru chahal*, (68) *rangul-hori*, (69) *mar mahori*, (70) *shikpahari*, (71) *judhari*, (72) *shihori*, (73) *shidhari*, (74) *patthari*, (75) *angulhari*, (76) *shikpahari*, (77) *kar chahal*, (78) *suru chahal*, (79) *kar-mandi*, (80) *malhngi*, (81) *shani-dartha*, (82) *gumrahori*, (83) *mitthari*, (84) *patthari*, (85) *sharshikpali*, (86) *shikpali*, (87) *malhngi-mahori*, (88) *gumrahori*, (89) *shikpali*, (90) *rangul shikpali*, (91) *shikpali shikpali*, (92) *shikpali shikpali*, (93) *suru shikpali*, (94) *kar shikpali*, (95) *mar shikpali*, (96) *gumrahori shikpali*, and (97) *shikpali shikpali*. The above varieties are all transplanted,

with the exception of those numbered 16, 17, 18, 21, 24, and 26, which are sown broadcast on marshy lands. All *shikpali* rice is planted during the months of June, July, and August, and reaped during November, December, and January. The *shikpali* or *kar* rice is subdivided into twenty-two classes, of which (1) *shikpali shikpali* and (2) *rangul shikpali* are transplanted, being sown during March and April, and reaped in October and November. The remaining classes of this variety of rice are sown broadcast during the months of February, March, and April, and harvested in July and August—(3) *shikpali*, (4) *shikpali shikpali*, (5) *suru shikpali shikpali*, (6) *shikpali shikpali*, (7) *shikpali shikpali*, (8) *shikpali shikpali*, (9) *shikpali shikpali*, (10) *shikpali shikpali*, (11) *shikpali shikpali*, (12) *shikpali shikpali*, (13) *shikpali shikpali*, (14) *shikpali shikpali*, (15) *shikpali shikpali*, (16) *shikpali shikpali*, (17) *shikpali shikpali*, (18) *shikpali shikpali*, (19) *shikpali shikpali*, (20) *shikpali shikpali*, (21) *shikpali shikpali*, (22) *shikpali shikpali*. All the above descriptions of paddy are converted into one of two kinds of rice—*shikpali shikpali* or *shikpali shikpali*, which is simply paddy treated in the ordinary way by pounding; and *shikpali shikpali*, in which the paddy is boiled before being pounded.

Several varieties of Indian corn are grown in the District, as follows—(1) *shikpali shikpali*, (2) *rangul shikpali shikpali*, (3) *shikpali shikpali shikpali*, (4) *shikpali shikpali*, (5) *shikpali shikpali*, (6) *shikpali shikpali*, (7) *shikpali shikpali*, and (8) *shikpali shikpali*, all of which are planted on dry lands, but the total area under Indian corn is insignificant. No other cereal crop, such as wheat, barley, or oats, is grown in Lahimpur.

PEAS.—The green crops grown in the District consist of (1) *shikpali shikpali*, (2) *shikpali shikpali*, (3) *shikpali shikpali*, (4) *shikpali shikpali*, (5) *shikpali shikpali*, (6) *shikpali shikpali*, (7) *shikpali shikpali*, (8) *shikpali shikpali*, (9) *shikpali shikpali*, and (10) *shikpali shikpali*.

Some traditional varieties of “Chokuwa rice of Assam”:



Source: Somnath Roy et. al., 2020



“Goru Chokuwa variety”



“Gomi Chokuwa variety”

Photo credit: Mahan Bora

Inspection Body:

1. Director of Research (Agri), Assam Agricultural University, Jorhat or his nominee.
2. Chief Scientists, Regional Agricultural Research Stations of AAU in Titabor, Lakhimpur, Nagaon.
3. District Agriculture Officers in concerned districts
4. Representative of Seuj Satirth
5. Two representatives from the Producer Group.

The internal Watchdog mechanism consists of the following members

1. Director of Research (Agri), Assam Agricultural University, Jorhat or his nominee.
2. Chief Scientists, Regional Agricultural Research Stations of AAU in Titabor, Lakhimpur, Nagaon.
3. District Agriculture Officers in concerned districts
4. Representative of Seuj Satirth