#### 1. INTRODUCTION

The agricultural sector continues to play a dominant and strategic role in the development and growth of India. Where, Agricultural innovations play a significant role in fighting poverty, lowering per unit costs of production, boosting rural income and reducing hunger. An entrepreneurial farmer can loosely be seen as that who looks at his farm as a business in which he/she invests with a view of making profits while ensuring further growth of the farm. Broadly, entrepreneurial competences necessary for farmers to enhance their productivity and competitiveness in addition to product development, record keeping, improved organizational functioning and diversification. With these competences, farmers' abilities and attitudes towards entrepreneurship rather than just farm management are strengthened while making agriculture a viable venture.

Universities are among the institutions in an innovation system framework with the responsibility to build up these competences for sustainable agricultural development among smallholding farmers. University of Agricultural Sciences, Bangalore build farmers' competences through its boundless extension programmes. Increased demand for improved knowledge, information and technologies from farming community are evident enough to show the role of UASB in framing a vicious cycle of knowledge transfer process. The production technologies developed by UASB are documented as Package of practices, which are available both in the university website and as books (both soft and hard copy).

University of Agricultural Sciences, Bangalore has opted the commercialization of knowledge as an entrepreneurship building tool in agriculture that not only transfers technology but also generates wealth and employment opportunities among farming communities. Commercialization reorients farmers into taking up and applying new management practices that embolden their confidence and attitudes to take risks of using improved technologies.

The pyramid of commercialization of technologies (Fig-1) developed by UASB has three loose corners framed to uphold farmer's security. Varieties/

Hybrids and apiary setup developed for enhanced productivity, Farm machinery and equipment's developed come in hand at the present days labour scarce situation and value added products developed reduces the post-harvest losses.

- ♣ Crop Varieties/ hybrids: Among the 306 varieties/ hybrids developed at the university, 82 varieties/ hybrids have the potentiality to endeavor into business line
- ♣ Value added products: 66 delicious and nutritious products with native village touch are available for commercialization
- → Farm Machinery & Equipments: 23 Multi-purpose machineries that are both labour and time saving are market ready. Equipment's fabrications and engineering drawings along with the design and sketch will be provided for both farm use and commercial production

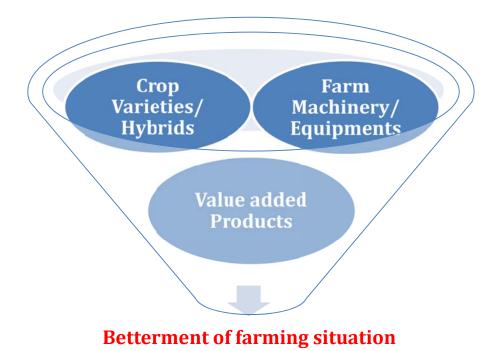


Fig-1: Components of Agriculture technology transfer/
Commercialization

University has an innovative ecosystem that has encouraged scientists to acquire patents. Quick and Hassel-free licensing procedure of signing MoA is designed by the university in selling these patents. UASB has 10 patents in its credit.

Technologies developed at UASB are typically transferred through a sale agreement in which the university grants to a third party a license to use its defined technology. In this direction university has made MoU with National Research and Development Cooperation (NRDC), New Delhi which is further involved in the process of commercialization. The expenses incurred towards licensing and its maintenance can be justified in view of introduction of better products, increased competition in the market, enhanced customer satisfaction, and more revenue and tax generation.

#### 2. TECHNOLOGIES FOR COMMERCIALIZATION

### I. CROP VARIETIES / HYBRIDS

UASB is a repository of germplasm for over 46 different crops collected over the years. UASB is the pioneer in developing Cotton hybrid in the world while we are the pioneers of hybrids in sunflower and paddy. The scientific interventions in screening and selecting these have resulted in development of a number of elite germplasm, improved varieties, hybrids besides parental lines in crops like sunflower. UASB contributed a lot in enhancing the agriculture production by continuously staying focused on developing high yielding varieties, enhancing special traits and imbibing multiple disease resistance in agriculture and horticulture crops and also in developing advanced production technologies to increase the productivity of crops. Varieties/ Hybrids developed by UASB resulted in a number of viable business opportunities by multiplying and selling the same.

The following are the crop varieties available for commercialization:

No.	Crop	Details	Number
A	Cereals		
1	Paddy	Hybrids; High yielding varieties; Aerobic Varieties and Bio-fortified varieties	14
2	Maize	Hybrids	4
3	Ragi	Inter-racial high yielding varieties and white ragi variety for confectionary purpose	15
4	Millets	Little Millet, Proso Millet, Foxtail Millet, Browntop Millet	6
В	Pulses		
4	Redgram-5, Cowpea-7, Fieldbean-3, Blackgram-2, Greengram-1, Horsegram-1	High yielding dual purpose varieties: vegetable and seed	19
С	Oilseeds		
5	Soybean	High yielding dual purpose varieties: vegetable and seed	3
6	Sunflower	Hybrids	7
7	Groundnut	High yielding varieties	3
8	Niger	High yielding varieties	2
9	Sesamum	High yielding varieties	1

No.	Crop	Details	Number
D	Commercial Crops		
10	Sugarcane	High tonnage & Sugar rich varieties for sugar & jaggery purpose	5
E	Horticultural Crops		
11	Horticultural Crops	High yielding Tamarind & Jamun variety; Stevia: Alternate to sugar	3

### II. VALUE ADDED PRODUCTS

Approximately one third of the world's food produced for human consumption is wasted. Of this, post-harvest loss due to unsafe and mishandling and processing is the major shareholder. UASB has developed a vast range of Post-Harvest Technologies and Value Added Products. These technologies reduce the risk of food spoilage by extending its shelf life so that they are ideal for food processing industries and can also be produced at the comfort in homes in a small scale. The target end users of these technologies include start-ups, women, FPOs, commercial growers, wholesale dealers, exporters, start-ups. The following are the Food based technologies available for commercialization

<b>Particulars</b>		Details	Number
A.	A. Process		
1	Milk Powder	Instant Donkey Milk Powder	1
В.	Products		
B1.	Ready to Cook		
1	Maize	Breakfasts	3
2	Millet	Malt, Vermicelli, Probiotic mix, Dosa and Chapathi Mix, Other Breakfasts	17
3	Jackfruit	Vegetable & Milkshake mix	2
4	Moringa	Tea	2
5	Quinoa-Chia Complementary food		1
B2.	Ready to Eat		
1	Millet	Khakras, Flakes, Bakery Confectionaries, Hurihittu & Snack bars	19
2	Coconut	Value added products using coconut powder	8
3	Jackfruit	Drinks; Bakery Confectionaries & Snacks	9
4	Moringa	Chocolates	2
5	Quinoa-Chia	Bakarawada & Nachos	2

# III. FARM MACHINERY & EQUIPMENTS

Primary postharvest operations such as shelling, threshing, de-hulling and decortications are very important in pods, seeds and nuts processing. Modern machines for improvement in the condition of pod, seeds and nut have been developed in the recent time. UASB has taken initiative in this direction and developed a number of machine designs for direct farm use and Artificial domiciliation for native bee pollinators has been developed to enhance pollination and thus yield with added income from Honey and its byproducts. Processing Industry which are available for licensing by interested entrepreneurs. Processing equipment's developed for small scale farmers and cottage industries can be used for both personal subsistence and for sale in nearby markets. They add value by enhancing the quality of the product farmer is intending to sell. Information on each item contains a brief description of its features, broad specifications, its uses and power source required are provided in this section. At the end of each item, its source of availability has been provided for ready reference. The following are the equipment's/ machineries available for commercialization

No.	Crop	Details	Number
1	Multiple crops	Thresher-cum-Sheller, Portable winnower, Composter, Tractor drawn automatic seed-cum-fertilizer drill etc	5
2	Sericulture	Multipurpose Mobile Solar Tunnel Dryer	1
3	Multiple crops	Solar-cum-Biomass Energy Dryer	2
4	Small Millets	Dehuller	1
5	Groundnut	Stripper and decorticator	3
6	Sunflower	Dehuller	1
7	White pepper	processing machine	1
8	Tamarind	Dehuller and Deseeder	3
9	Coconut	Dehusker	1
10	Mango	Harvester	1
11	Sapota	Harvester	1
12	Arecanut	Dehusker	1
13	Pongamia	Decorticator	1
14	Apiary	Artificial domiciliation for native bee pollinators: Bee Nivas	1

# IV. PATENTED TECHNOLOGIES

Months of tinkering and experimenting has yielded the technology worth patenting. UASB has till date earned 18 patents that are worth selling and enduring into business world are listed below,

No.	Title	Patent no.	Grant date
1.	An Improved method of Producing plant based Rabies vaccine	Indian patent 224630	30.10.2008
2.	A Wheat chocolate bar for sustained energy release.	Indian patent 229291	16.02.2009
3.	Method of Manufacturing highly soluble siliceous fertilizer from husk incineration ash	Indian patent 4894057	06.01.2012
4.	Composition for amelioration of peri- and post-menopausal symptoms and a process for producing the same	US patent 9855308 b2	02.01.2018
5.	A process for manufacturing Nata-De-Coco	Indian patent 303710	29.11.2018
6.	Aloe Vera Gel Filleting Machine and a Method for Filleting	Indian patent 310723	02.04.2019
7.	Selectable marker system	Indian patent 334157	06.03.2020
8.	Enhanced loop-mediated isothermal amplification method for detecting latent Xap Infection in pomegranate	IP Australia 2021101342	28.04.2021
9.	An apparatus for Sugarcane propagation and a method thereof	IP Australia 2021102640	16.06.2021
10.	Rapid Genotyping of the Rice R Genes Resistant to Bacterial Leaf Blight using LAMP Technology	IP Australia 2021103516	28.07.2021
11.	Multiplex Detection of Magnaporthe oryzae and Sarocladium oryzae in Rice Seed using a Foldable Membrane Platform based on LAMP Technology	IP Australia 2021103517	28.07.2021
12.	System of duplex detection of <i>Magnoporthe oryzae</i> in rice seeds using a single membrane platform based on LAMP technology in resource - constrained areas		02.03.2022
13.	A process for the preparation of tomato (Solanum lycopersicum) bread and tomato bread thereof	Indian patent 396430	09.05.2022

No.	Title	Patent no.	Grant date
14.	Sub-baric storage system	Indian patent 401836	22.07.2022
15.	Rapid and accurate point –of –care lamp colorimetric based diagnostic dipstick	Indian patent 401825	22.07.2022
16.	A Soil conditioner and applications related thereto (Yellow gypsum as a source of Sulphur, Silicon and other micro nutrients in agriculture)	Indian Patent 450892	12.09.2023
17.	A Biosensor for the Early Detection of Plant Pathogens	Indian Patent 456261	03.10.2023
18.	Solar powered roof top aquaponics food production system	Indian Patent 497178	10.01.2024

# A. Cereals

# 1. Paddy

# 1.1 KMP-225

1	Crop	Paddy
2	Variety	KMP-225
3	IC Number	IC642474
4	Year of Release	2022
5	Duration	120 – 125 days
6	Grain Yield	2400 – 2600 kg/acre
7	Straw Yield	2600 – 2800 kg/acre
8	Special Features	<ul> <li>Short duration variety</li> <li>Suitable for sowing during July 3rd to 4th week</li> <li>Long bold grains similar to that of IR64</li> <li>Moderately resistant to leaf and neck blast diseases</li> </ul>
9	Developed Centre	ZARS, V. C. Farm, Mandya
10	Recommended Zone	Zone - 6



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# 1.2 KMP - 220 (Mandya Jyothi)

1	Crop	Paddy	
2	Variety	KMP-220 (Mandya Jyothi)	
3	IC Number	IC 637186	
4	Year of Release	2021	
5	Duration	125-130 days	
6	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
7		2400-2600	2.80 - 3.20
8	Special features	<ul> <li>Suitable for July 1st to 2nd week sowings while it can be transplanted within 1st week of August</li> <li>Long bold grains with red kernel comparable to Jyothi variety</li> <li>Moderately tolerant to blast disease</li> </ul>	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone – 6	



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# 1.3 MSN - 99 (IET-28349 : Samrudhi)

1	Crop	Paddy	
2	Variety	MSN-99 (IET-28349 : Samrudhi)	
3	IC Number	IC 637626	
4	Year of Release	2021	
5	Duration	115-120 days	
6	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		2480-2800	2.80 -3.00
7	Special features	late Kharif (Augus Summer (January) areas  Medium tall (100-11 Strong culm and favoring close phills/sqmt	erect growing habit,
8	Developed Centre	ZARS, Mandya	
9	Recommended Zone	Zone - 6	



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### 1.4 Daksha (KMP-175)

1	Crop	Paddy	
2	Variety	Daksha (KMP-175)	
3	Year of Release	2016	
4	IC Number	IC 620838	
5	Gazette Notification	SO. 1379 (E) dated 27.0	03.2018
6	Duration	115-120 days	
7	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		1800-2000	2.40-2.60
8	Special features	<ul> <li>Suitable for aerobic cultivation during Kharif and Summer seasons</li> <li>Semi-tall variety (95-110 cms)</li> <li>Long slender grains with good cooking qualities.</li> <li>Resistant to Blast disease</li> </ul>	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone-6	



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### 1.5 Paustic - 9

1	Crop	Paddy		
2	Variety	Paustic – 9	Paustic – 9	
3	Year of Release	2016		
4	IC Number	IC 621499		
5	Duration	125-130 days		
6	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)	
		1800-2000 2.40-2.50		
7	Special features	<ul> <li>Suitable for <i>Kharif</i> and <i>Summer</i> seasons</li> <li>Thick stem and erect plant type</li> <li>High protein content (13-13.5%)</li> <li>Tolerant to blast disease</li> </ul>		
8	Developed Centre	ZARS, GKVK		
9	Recommended Zone	Zone-5		



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# 1.6 Paustic- 1

1	Crop	Paddy	
2	Variety	Paustic – 1	
3	Year of Release	2016	
4	IC Number	IC 621497	
5	Duration	120-125 days	
6	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		1800-2000	2.10 -2.25
7	Special features	<ul> <li>Zinc rich (45-50 ppm)</li> <li>Fine grain variety</li> <li>Suitable for both <i>Kharif</i> and summer seasons</li> </ul>	
8	Developed Centre	ZARS, GKVK	
9	Recommended Zone	Zone-5	



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# 1.7 Paustic - 7

1	Crop	Paddy		
2	Variety	Paustic – 7		
3	Year of Release	2016	2016	
4	IC Number	IC 621498		
5	Duration	120-125 days		
6	Yield (Irrigated)	Grain (kg/acre) Straw (t/acre)		
		1800-2000 2.10-2.30		
7	Special features	Figure 12 Iron rich (30-35 pp.	m)	
		> Suitable for both	Kharif and Summer	
		seasons		
		<ul><li>Resistant to blast disease</li></ul>		
8	Developed Centre	ZARS, GKVK		
9	Recommended Zone	Zone-5		



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### 1.8 KRH-4

1	Crop	Paddy	
2	Variety	KRH-4 (Hybrid)	
3	Year of Release	2012	
4	IC Number	IC 613756	
5	Gazette Notification	SO. 112 (E) dated 12.1.2015 (MH-GJ)	
6	Duration	130-135 days	
7	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		3000-3500	3.50 -4.00
8	Special features	Suitable for irrigate	ed maidan areas
		Good cooking quali	ty
		Medium slender grains without aroma	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone 6	



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### 1.9 KRH-2

1	Crop	Paddy		
2	Variety	KRH-2 (Hybrid)		
3	Year of Release	1997	1997	
4	Gazette Notification	SO. 401 (E) dated 15.05.1998		
5	Duration	120-125 days		
6	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)	
		3000-3500	3.50 - 4.00	
7	Special features	<ul><li>Suitable for puffing</li></ul>		
8	Developed Centre	ZARS, Mandya		
9	Recommended Zone	Irrigated command Karnataka.	areas of Southern	



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# 1.10 ARB-6 (BI-33 / Anagha)

1	Crop	Paddy	
2	Variety	ARB 6 (BI-33 / Anagha)	
3	Year of Release	2009	
4	Gazette Notification	SO. 1146 (E) dated 24.	.04.2014
5	Duration	110-120 days	
6	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		1800-1900	2.10 - 2.20
7	Special features	<ul> <li>Suitable for direct seeding and aerobic situation</li> <li>High degree of drought tolerance</li> <li>Good grain quality with medium slender grains and cooking characters</li> </ul>	
8	Developed Centre	ZARS, GKVK	
9	Recommended Zone	Zone-5	



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# 1.11 Ona Siri (MAS-26)

1	Crop	Paddy	
2	Variety	Ona Siri (MAS-26)	
3	Year of Release	2008	
4	Gazette Notification	SO. 2187 (E) dated 21.08.2009	
5	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		2200-2300	2.50 - 2.80
6	Special features	<ul> <li>Early duration</li> <li>Suitable for aerobic cultivation</li> <li>Developed through Marker assisted selection (MAS)</li> </ul>	
7	Developed Centre	ZARS, GKVK	
8	Recommended Zone	Zone-5	



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# 1.12 Sharada (MAS-946-1)

1	Crop	Paddy		
2	Variety	Sharada (MAS-946-1)		
3	Year of Release	2007	2007	
4	Gazette Notification	SO. 2187 (E) dated 21.08.2009		
5	Duration	100-120 days		
6	Yield (Irrigated)	Grain (kg/acre) Straw (t/acre)		
		2200-2300	2.30 - 2.45	
7	Special features	<ul> <li>Suitable for aerobic cultivation</li> <li>Developed through Marker assisted selection (MAS)</li> </ul>		
8	Developed Centre	ZARS, GKVK		
9	Recommended Zone	Zone-5		



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# 1.13 KMP-101 (Thanu)

1	Crop	Paddy	
2	Variety	KMP-101 (Thanu)	
3	Year of Release	2004	
4	IC Number	IC 528121	
5	Gazette Notification	SO. 2458 (E) dated 16	.10.2008
6	Duration	130-135 days	
7	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		2600-2800	2.75 - 3.00
8	Special features	<ul> <li>Suitable for both <i>Kharif</i> and <i>Summer</i> seasons</li> <li>Medium, slender and white grains</li> <li>Good cooking quality</li> <li>Tolerant to blast and sheath rot disease</li> </ul>	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone 6 & 7	



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#### 1.14 BR-2655

1	Crop	Paddy	
2	Variety	BR-2655	
3	Year of Release	2001	
4	IC Number	IC 528120	
5	Gazette Notification	SO. 599 (E) dated 25.0	4.2006
6	Duration	140-145 days	
7	Yield (Irrigated)	Grain (kg/acre)	Straw (t/acre)
		2400-2600	3.00 - 3.20
8	Special features	<ul> <li>Long duration</li> <li>High yielding Semi tall variety</li> <li>Highly tolerant to leaf blast</li> <li>Moderately tolerant to neck and sheath blast</li> </ul>	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone-6 & 7	



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# 2. Maize

# 2.1 MAH-14-138 (Single Cross Hybrid)

1	Crop	Maize
2	Variety	MAH-14-138
3	IC Number	IC 644682
4	Year of Release	2022
5	Duration	115 – 120 days
6	Grain Yield	3400 – 3800 kg/acre
7	Special Features	<ul> <li>Long cobs with attractive light orange grains fetches higher price in the market</li> <li>Stays green even at harvest</li> <li>Resistant to Turcicum leaf blight</li> <li>Moderately resistant to Sorghum downy mildew diseases</li> </ul>
8	Developed Centre	ZARS, V. C. Farm, Mandya
9	Recommended Zone	Zone – 5 & 6



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### 2.2 MAH-14-5

1	Crop	Maize	Maize	
2	Single Cross Hybrid	MAH-14-5		
3	Year of Release	2017		
4	Gazette Notification	SO. 6318 (E) dated 26.1	2.2018	
5	Duration	110-120 days		
6	Yield	Grain (kg/acre)	Straw (t/acre)	
	Rainfed	2000-2800	8	
	Irrigated	3200-3500	12	
7	Special features	<ul> <li>Wider adaptability: Rainfed and Irrigated situation</li> <li>Stay green leaves, even at harvest</li> <li>Resistant to Turcicum leaf blight</li> <li>Moderately resistant to Sorghum downy mildew</li> <li>Moderately susceptible to Fusarium stalk rot</li> </ul>		
8	Developed Centre	ZARS, Mandya		
9	Recommended Zone	Zone-5 & 6		



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# 2.3 Hema (NAH - 1137)

1	Crop	Maize		
2	Single Cross Hybrid	Hema (NAH-1137)		
3	Year of Release	2010		
4	Gazette Notification	SO. 2238 (E) dated 29.0	6.2016	
5	Duration	120-125 days (110-120)		
6	Yield	Grain (kg/acre)	Straw (t/acre)	
	Rainfed	2000-2500	8	
	Irrigated	3000-3200	12	
7	Special features	<ul> <li>Wider adaptability: Rainfed and Irrigated situation</li> <li>Stay green leaves, enabling farmers to harvest both matured cobs &amp; green fodder at a time</li> <li>Tolerant to sorghum downy mildew, turcicum leaf blight and polysora rust.</li> </ul>		
8	Developed Centre	ZARS, Mandya		
9	Recommended Zone	Zones-4, 5, 6 & 7		



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# 2.4 Nithyashree (NAH - 2049)

1	Crop	Maize	
2	Single Cross Hybrid	Nithyashree (NAH-2049)	
3	Year of Release	2006	
4	Gazette Notification	SO. 449 (E) dated 11.02.2	2009
5	Duration	110-120 days	
6	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	2000-2500	8
	Irrigated	3000-3200	12
7	Special features	<ul> <li>Resistant to lodging</li> <li>Tolerant to stalk bores</li> <li>Tolerant to Turcicum mildew and stem bore</li> </ul>	n leaf blight, downy
8	Developed Centre	OFRS, Naganahalli	
9	Recommended Zone	Zone-4, 5, 6 & 7	



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# 3. Finger millet (Ragi)

# 3.1 ML-322

1	Crop	Ragi	
2	Variety	ML-322	
3	IC Number	IC -648947	
4	Year of Release	2023	
5	Duration	105-110 days	
6	Grain Yield	Rainfed: 10-12 q/acre	
		Irrigated: 15-20 q/acre	
7	Straw Yield	2.0-2.2 t/acre	
8	Special Features	<ul><li>Medium height (100-105 cm) variety</li></ul>	
		<ul><li>Possess stiff stalk that resists lodging</li></ul>	
		➤ More number of tillers (6-7)	
		> Resistant to neck and finger blast and is	
		drought tolerant	
		<ul><li>Releases less chaff dust during threshing</li></ul>	
9	Developed Centre	Dept. of Genetics and Plant Breeding	
10	Recommended Zone	Zone – 5	



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#### 3.2 KMR-316

1	Crop	Finger millet (Ragi)	
2	Variety	KMR-316	
3	IC Number	IC 637187	
4	Year of Release	2021	
5	Duration	100-105 days	
6	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	1100 - 1300	1.5-1.9
	Irrigated	1700 - 1900	1.9-2.0
7	Special features	<ul> <li>Suitable for <i>Kharif</i> (June - July) and late <i>Kharif</i> (Aug-Sept) sowings</li> <li>Suitable for cultivation in both irrigated and rainfed condition</li> <li>Green ear heads with long tip incurved fingers</li> <li>Resistant to blast and foot rot disease</li> </ul>	
8	Developed Centre	ZARS, Mandya	
9	Recommended Zone	Zone - 5 & 6	



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### 3.3 KMR-630

1	Crop	Finger millet (Ragi)		
2	Variety	KMR-630		
3	Year of Release	2018		
4	Gazette Notification	SO. 3482 (E) dated 07.1	0.2020	
5	Duration	95-100 days		
6	Yield	Grain (kg/acre)	Straw (t/acre)	
	Rainfed	1400-1600	1.6-2.0	
	Irrigated	1800-2000	2.0-2.5	
7	Special features	> Non-lodging		
		Suitable for mechanical harvest		
		Resistant to neck blast and rust disease		
		Tolerant to aphids		
8	Developed Centre	ZARS, Mandya		
9	Recommended Zone	Zone-5 & 6		



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### 3.4 KMR - 340

1	Crop	Finger millet (Ragi)		
2	Variety	KMR-340		
3	Year of Release	2016		
4	Gazette Notification	SO. 2805 (E) dated 25.0	8.2017	
5	Duration	95-100 days		
6	Yield	Grain (kg/acre)	Straw (t/acre)	
	Rainfed	1200-1400	1.6-2.0	
	Irrigated	1800-2000	2.0-2.5	
7	Special features	<ul> <li>White ragi variety, hence preferred for value added products preparation</li> <li>Suitable for late <i>Kharif</i> season</li> <li>Rich in iron (4-5 mg) and protein (11-12 mg) content</li> <li>Resistant to blast and blight diseases</li> <li>Tolerant to Stem borer and Aphids</li> </ul>		
8	Developed Centre	ZARS, Mandya		
9	Recommended Zone	Zones - 5 & 6		



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#### 3.5 KMR-204

1	Crop	Finger millet (Ragi)		
2	Variety	KMR-204		
3	Year of Release	2012		
4	Gazette Notification	SO. 1146 (E) dated 24.04.	2014	
5	Duration	100-105 days		
6	Yield	Grain (kg/acre)	Straw (t/acre)	
	Rainfed	800-1000	1.5-2.0	
	Irrigated	1200-1400	3.0-3.5	
7	Special features	Suitable for late <i>Kharif</i> and <i>Summer</i>		
		<ul><li>Brick red grains</li><li>Resistant to blast</li></ul>		
		Tolerant to stem borer & aphids		
8	Developed Centre	ZARS, Mandya		
9	Recommended Zone	Zones – 4, 5 & 6		



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### 3.6 KMR-301

1	Crop	Finger millet (Ragi)	
2	Variety	KMR-301	
3	Year of Release	2009	
4	Gazette Notification	SO. 2326 (E) dated 10	0.10.2011
5	IC Number	IC 594591	
6	Duration	115-118 days	
7	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	800-1000	1.5 - 2.5
	Irrigated	1200-1400	3.0 - 3.5
8	Special features	<ul> <li>Suitable for <i>Kharif</i>, late <i>Kharif</i> and <i>Rabi</i> season</li> <li>Bold and brick red grains</li> <li>Tolerant to neck blast and finger blast diseases.</li> <li>Tolerant to grasshopper and ear head caterpillar</li> </ul>	
9	Developed Centre	Developed Centre ZARS, Mandya	
10	Recommended Zone	Zone-6	



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#### 3.7 GPU-66

1	Crop	Finger millet (Ragi)	
2	Variety	GPU-66	
3	Year of Release	2009	
4	Gazette Notification	SO. 1379 (E) dated 27.	03.2018
5	Duration	110-115 days	
6	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	800-1000	1.5 - 2.5
	Irrigated	1200-1400	3.0 - 3.5
7	Special features	<ul> <li>Suitable for cultivation in <i>Kharif</i>, late <i>Kharif</i> and <i>Summer</i> season</li> <li>High yielding under rainfed condition</li> <li>Tolerant to neck blast and finger blast</li> </ul>	
8	Developed Centre	ZARS, GKVK	
9	Recommended Zone	Zone-4, 5 and 6	



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#### 3.8 GPU-67

1	Crop	Finger millet (Ragi)	
2	Variety	GPU-67	
3	Year of Release	2009	
4	Gazette Notification	SO. 733 (E) dated 01	.04.2010
5	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	1000-1200	0.9-1.0
	Irrigated	1400-1600	1.0-1.2
6	Special features	<ul> <li>Decumbent plant</li> <li>Complete panicle flag leaf</li> <li>Profuse tillering</li> <li>Non lodging</li> </ul>	type exertion with erect
7	Developed Centre	ZARS, GKVK	
8	Recommended Zone	Zone 5	



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### 3.9 ML-365

1	Crop		Finger millet (Ragi)	
2	Variety		ML-365	
3	Year of Release		2008	
4	Gazette Notification		SO. 2187 (E) dated 2	1.08.2009
5	Duration		105-110 days	
6	Yield		Grain (kg/acre)	Straw (t/acre)
		Rainfed	800-1000	1.5 - 2.5
		Irrigated	1200-1400	3.0 - 3.5
7	Special features		<ul><li>Suitable for Kharif season</li></ul>	
			Profuse tillering	
			Moderately tolera	nt to neck and finger
			blast	
8	Developed Centre		ZARS, GKVK	
9	Recommended Zone	·	Zone - 5	



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### 3.10 GPU-48 (Ratna)

1	Crop	Finger millet (Ragi)	
2	Variety	GPU-48 (Ratna)	
3	Year of Release	2005	
4	Gazette Notification	SO. 449 (E) dated 11.02.20	09
5	IC Number	IC 565523	
6	Duration	100-105 days	
7	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	700-800	1.5 - 2.0
	Irrigated	1000-1200	2.5 - 3.0
8	Special features	Ideal for late Kharif and under rainfed conditions	
		<ul><li>Suitable for catch irrigated conditions</li></ul>	cropping under
		Short duration & high y	ielding variety
		<ul><li>Profuse tillering</li></ul>	
		Tolerant to blast	
9	Developed Centre	ZARS, GKVK	
10	Recommended Zone	Zone-4, 5, 6 and 7	



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# 3.11 MR-6 (Divya)

1	Crop	Finger millet (Ragi)	
2	Variety	MR-6 (Divya)	
3			
4	Year of Release	2004	
5	Gazette Notification	SO. 2458 (E) dated 1	6.10.2008
6	IC Number	IC 560482	
7	Duration	120-125 days	
8	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	900-1200	2.0 - 3.0
	Irrigated	1600-1800	3.5 - 4.0
9	Special features	<ul><li>Suitable for both Kharif</li><li>Highly tolerant blast</li></ul>	to neck and finger
10	Developed Centre	ZARS, Mandya	
11	Recommended Zone	Zone 5 and 6	



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#### 3.11 GPU-28

1	Crop		Finger millet (Ragi)	
2	Variety		GPU-28	
3	Year of Release		1997	
4	Gazette Notification		SO. 401 (E) dated 15	.05.1998
5	Duration		110-115 days	
6	Yield		Grain (kg/acre)	Straw (t/acre)
		Rainfed	800-1000	1.0-1.2
		Irrigated	1300-1500	1.3-1.5
7	Special features		Suitable for Khari	fseason
			Tolerant to Blast	
8	Developed Centre		ZARS, GKVK	
9	Recommended Zone		Zone-5 & 6	



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#### 3.13 MR-1

1	Crop	Finger millet (Ragi)	
2	Variety	MR-1	
3	Year of Release	1990	
4	Gazette Notification	SO. 401 (E) dated 15.05	5.1998
5	Duration	120-125 days	
6	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	900-1200	2.0 - 3.0
	Irrigated	1600-1800	3.5 - 4.0
7	Special features	<ul> <li>Suitable for early (Programmer of the Suitable for early</li></ul>	re-monsoon and
8	Developed Centre	ZARS, GKVK	
9	Recommended Zone	Region-III	



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# 3.14 Indaf-9 (Chitta)

1	Crop	Finger millet (Ragi)	
2	Variety	Indaf-9 (Chitta)	
3	Year of Release	1985	
4	Gazette Notification	SO. 10 (E) dated 01.01.1	988
5	IC Number	IC 75487	
6	Duration	95-105 days	
7	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	800-1000	1.5 - 2.0
	Irrigated	1200-1400	3.0 - 3.5
8	Special features	<ul> <li>and Summer (irrigate and July sowing</li> <li>Brown, uniform sized</li> <li>High initial vigour temperature</li> <li>Tolerant to water conditions</li> </ul>	nsoon, late <i>Kharif</i> , <i>Rabi</i> ed areas) except for June seed and resistant to cold logging and salinity a 2 months after maturity
9	Developed Centre	ZARS, Mandya	· ·
10	Recommended Zone	Zone-6	



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# 3.15 Indaf-7 (Hastha)

1	Crop	Finger millet (Ragi)	
2	Variety	Indaf-7 (Hastha)	
3	Year of Release	1981	
4	Gazette Notification	SO. 596 (E) dated 13.08.1	1984
5	IC Number	IC 75484	
6	Duration	115-120 days	
7	Yield	Grain (kg/acre)	Straw (t/acre)
	Rainfed	800-1000	1.5 - 2.5
	Irrigated	1200-1400	3.0 - 3.5
8	Special features	<ul> <li>Suitable for <i>Rabi</i> sease</li> <li>Moderate tillering</li> <li>Non pigmented</li> <li>Thumbs are conspicate ear head</li> <li>Good cooking quality</li> </ul>	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone 5 & 6	



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# 4. Foxtail Millet (Navane)

### 4.1 GPUF-3

1	Crop		Foxtail millet (Navane)
2	Variety		GPUF-3
3	Year of Release		2021
4	IC Number		IC 635733
5	Duration		85-90 days
6	Yield:	Grain	600-800 kg/acre
		Straw	0.7-0.9 t/acre
7	Special features		<ul> <li>Suitable for sowing in both Kharif (June-July) and summer (January)</li> <li>Semi-compact and oblong shaped inflorescence with oval shaped yellow colored seeds</li> <li>Moderately resistant to rust and leaf blight diseases</li> </ul>
8	Developed Centre		ZARS, GKVK
9	Recommended Zone		Zone 5 & 6



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# 5. Little millet (Same)

### **5.1** GPUL-11

1	Crop	Little millet
2	Variety	GPUL – 11
3	IC Number	IC-645428
4	Year of Release	2023
5	Duration	90-95 days
6	Grain Yield	6.1-8.1 q/acre
7	Straw yield	1.2-1.5 t/acre
8	Special Features	<ul> <li>Arched shaped inflorescence with intermediate compact panicle.</li> <li>Oval shaped dark grey grain</li> <li>Suitable for sowing in <i>kharif</i> (June-July)</li> <li>Highly resistant to grain smut and leaf blight disease</li> </ul>
9	Developed centre	AICRP on Small millets, GKVK
10	Recommended zone	Zone – 5 & 6



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#### 5.2 GPUL-6

1	Crop	Little millet (Same)
2	Variety	GPUL-6
3	Year of Release	2021
4	IC Number	IC 635734
5	Duration	85-90 days
6	Yield: Grain	600-800 kg/acre
	Straw	0.9-1.1 t/acre
7	Special features	<ul> <li>Suitable for sowing in both <i>Kharif</i> (June-July) and summer (January)</li> <li>Compact panicle with archid shaped inflorescence</li> <li>Oval shaped with dark brown grains</li> <li>Moderately resistant to leaf blight and brown spot diseases</li> <li>Resistant to shoot fly</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone 5 & 6



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# 6. Proso Millet (Baragu)

### 6.1 GPUP-32

1	Crop	Proso millet
2	Variety	GPUP - 32
3	IC Number	IC-645427
4	Year of Release	2023
5	Duration	80-85 days
6	Grain Yield	7.2-8.1 q/acre
7	Straw Yield	1.2-1.5 t/acre
8	Special features	<ul> <li>Intermediate compact with diffused shaped inflorescence</li> <li>Semi-tall variety</li> <li>Oval shaped golden yellow colour grain with higher test weight</li> <li>Suitable for sowing in <i>kharif</i> (June-July)</li> <li>Highly resistant to grain smut and brown spot disease</li> </ul>
9	Developed centre	AICRP on Small millets, GKVK
10	Recommended zone	Zone – 5 & 6



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#### 6.2 GPUP-28

1	Crop	Proso millet (Baragu)
2	Variety	GPUP-28
3	Year of Release	2021
4	IC Number	IC 635735
5	Duration	80-85 days
6	Yield: Grain	600-800 kg/acre
	Straw	0.8-0.9 t/acre
7	Special features	<ul> <li>Suitable for sowing in both Kharif (June-July) and summer (January)</li> <li>Intermediate compact with globule-elliptic shaped inflorescence.</li> <li>Oval shaped with golden yellow grain</li> <li>Moderately resistant to leaf blight and resistant to brown spot diseases</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone 5 & 6



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# 7. Browntop Millet

### 7.1 GPUBT-2

1	Crop	Browntop millet
2	Variety	GPUBT 2
3	IC Number	IC 639753
4	Year of Release	2022
5	Duration	85-90 days
6	Grain Yield	600-800 kg/acre
7	Straw Yield	1000-1200 kg/acre
8	Special features	<ul><li>Medium duration</li></ul>
		> Semi-tall (110-120 cm)
		Number of tillers (15-20)
		Compact shaped inflorescence (Dundu korale)
		> Resistant to leaf blight disease
9	Developed centre	AICRP on Small millets, GKVK
10	Recommended zone	Zone – 5 & 6



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# **B.** Pulses

# 1. Pigeon pea

### 1.1 BRG -3

1	Crop	Redgram
2	Variety	BRG-3
3	Year of Release	2017
4	Gazette Notification	SO. 6318 (E) dated 26.12.2018
5	Duration	160-170 days
6	Yield	Pure crop: 500-600 Kg/acre
		Inter crop: 100-200 Kg/acre
7	Special features	> Red flowers
		Light brown mottled seeds
		<ul><li>Resistant to Fusarium wilt</li></ul>
		<ul><li>Resistant to Sterility mosaic disease</li></ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5 & 6



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### 1.2 BRG-5

1	Crop	Redgram
2	Variety	BRG-5
3	Year of Release	2014
4	Gazette Notification	SO. 3540 (E) dated 22.11.2016
5	Duration	170-180 days
6	Yield	Pure crop: 500-600 kg/acre Inter crop: 100-200 kg/acre
7	Special features	<ul> <li>Green pods with dark streaks and brown seeds</li> <li>Suitable for both rainfed and irrigated conditions</li> <li>Resistant to Fusarium wilt</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5



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### 1.3 BRG-4

1	Crop	Redgram
2	Variety	BRG-4 (BRG-10-2)
3	Year of Release	2012
4	Gazette Notification	SO. 1146 (E) dated 24.04.2014
5	Duration	140-150 days
6	Yield	Pure crop: 500-600 kg/acre
		Inter crop: 100-200 kg/acre
7	Special features	Early maturing  Suitable for late planting (deleved manager)
		<ul><li>Suitable for late planting (delayed monsoon)</li><li>Indeterminate growth habit</li></ul>
		<ul><li>Yellow flowers and green pods with dark</li></ul>
		streaks
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5



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### 1.4 BRG-2

1	Crop	Redgram
2	Variety	BRG-2
3	Year of Release	2005
4	Gazette Notification	SO. 449 (E) dated 11.02.2009
5	IC Number	IC 565447
6	Duration	150-170 days
7	Yield	Pure crop: 500-600 kg/acre
		Inter crop: 200-250 kg/acre
8	Special features	<ul><li>Suitable for late sown conditions</li></ul>
		<ul><li>Higher seed yield</li></ul>
9	Developed Centre	ZARS, GKVK
10	Recommended Zone	Zone-5



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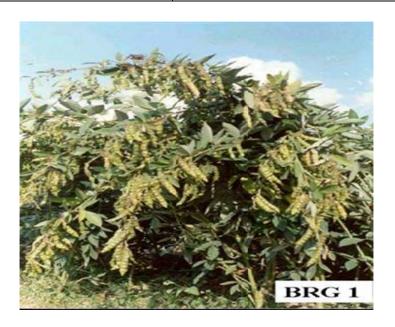
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### 1.5 BRG-1

1	Crop	Redgram
2	Variety	BRG-1
3	Year of Release	2004
4	Gazette Notification	SO. 1572 (E) dated 20.09.2006
5	Duration	180-190 days
6	Yield	Pure crop: 500-600 kg/acre Inter crop: 200-250 kg/acre
7	Special features	<ul> <li>Dual purpose</li> <li>Green pods are long and thick with bold seeds</li> <li>Resistant to major diseases and pests</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5



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# 2. Cowpea

# 2.1 KC 8 (KBC-11)

1	Crop	Cowpea
2	Variety	KC-8 (KBC-11)
3	Year of Release	2020
4	Gazette Notification	SO. 8 (E) dated 24.12.2021
5	Duration	80-85 days
6	Yield	500-550 kg/acre
7	Special features	<ul> <li>Medium bold and light brown seeds</li> <li>Suitable for <i>Kharif</i> (July-August) and late <i>Kharif</i> (Sept) and <i>Summer</i> (Jan-Feb) sowing.</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone - 5



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#### 2.2 PGCP-6

1	Crop	Cowpea
2	Variety	PGCP-6
3	Year of Release	2019
4	Gazette Notification	SO. 8 (E) dated 24.12.2021
5	Duration	70-75 days
6	Yield	280-320 kg/acre
7	Special features	<ul> <li>Short duration</li> <li>Suitable for early kharif, late <i>Kharif</i> and <i>Summer</i></li> <li>Suitable for intercropping</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone 5 & 6



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# 2.3 AV-6 (KBC-9)

1	Crop	Cowpea
2	Variety	AV-6 (KBC-9)
3	Year of Release	2017
4	Gazette Notification	SO. 6318 (E) dated 26.12.2018
5	Duration	80-85 days
6	Yield	400-500 kg/acre
7	Special features	<ul> <li>Suitable for July-August-Sept and Jan-Feb sowings</li> <li>Bushy and semi spreading plants</li> <li>Bold and light brown seeds</li> <li>Tolerant to rust disease</li> <li>Resistant to bacterial leaf blight disease</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone - 5 & 6.



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# 2.4 AV-5 (Vegetable type)

1	Crop	Cowpea (Vegetable type)
2	Variety	AV-5
3	Year of Release	2012
4	Duration	80-85 days
5	Green pod Yield	3000-4000 kg/acre
6	Special features	➤ Vegetable purpose
		Suitable for Aug – Sept & Jan – Feb sowings
		Erect and bushy plant type
7	Developed Centre	ZARS, GKVK
8	Recommended Zone	Zone - 4, 5 & 6.



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### 2.5 PKB-4 (Vegetable type)

1	Crop	Cowpea (Vegetable type)
2	Variety	PKB-4
3	Year of Release	2010
4	Gazette Notification	SO. 456 (E) dated 16.03.2012
5	IC Number	IC 587033
6	Duration	90-95 days
7	Green Pod yield	4400-5200 kg/acre
8	Special features	<ul> <li>Vegetable purpose</li> <li>Suitable for early <i>Kharif</i></li> <li>Bold, thin, smooth, fleshy and light green pods</li> <li>Nutritious vegetable variety with high protein, carotene content &amp; Vitamin C</li> </ul>
9	Developed Centre	ZARS, GKVK
10	Recommended Zone	Zone-5



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# 2.6 PKB-6 (Vegetable type)

1	Crop	Cowpea(Vegetable type)
2	Variety	PKB-6
3	Year of Release	2006
4	Gazette Notification	SO. 456 (E) dated 16.03.2012
5	IC Number	IC 587032
6	Duration	95 to 100 days
7	Pod Yield	Green pods: 4500-4800 kg/acre
8	Special features	<ul> <li>Vegetable purpose</li> <li>Dark green foliage with no pigmentation</li> <li>Bushy and semi spreading</li> <li>Bold, smooth, fleshy and light green pods and small green seeds</li> </ul>
		<ul><li>Rich in β-carotene (598mg/100 g)</li></ul>
9	Developed Centre	ZARS, GKVK
10	Recommended Zone	Zone - 5



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### 2.7 KBC-2

1	Crop	Cowpea
2	Variety	KBC-2
3	Year of Release	1998
4	Gazette Notification	SO. 92 (E) dated 02.02.2001
5	Duration	95-100 days
6	Seed yield	Irrigated: 500-600 kg/acre
		Rainfed: 300-400 kg/acre
7	Special features	<ul><li>Resistant to rust and yellow mosaic</li></ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5 and 6



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## 3. Fieldbean

# 3.1 Hebbal Avare - 5 (HA-5)

1	Crop	Field bean
2	Variety	Hebbal Avare-5
3	IC Number	IC 643947
4	Year of Release	2022
5	Duration	90 – 95 days
6	Green Pod Yield	1300 - 1400 kg/acre
7	Dry Seed Yield	250 – 300 kg/acre
8	Special Features	<ul><li>Photo – period Insensitive</li><li>Semi-Determinate growth habit</li></ul>
9	Developed Centre	ZARS, GKVK
10	Recommended Zone	Zone - 5



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# 3.2 Hebbal Avare-4 (HA-4)

1	Crop	Field bean
2	Variety	Hebbal Avare-4
3	Year of Release	2007
4	Gazette Notification	SO. 211 (E) dated 29.01.2010
5	Duration	95-105 days
6	Yield	Green pods: 1200-1500 kg/acre
		Grain: 300-400 kg/acre
7	Special features	<ul> <li>Photo-insensitive: can be grown throughout the year</li> </ul>
		➤ Good fragrance
		➤ Good aroma even in summer
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5



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# 3.3 Hebbal Avare-3 (HA-3)

1	Crop	Field bean
2	Variety	Hebbal Avare-3
3	Year of Release	1980
4	Gazette Notification	SO. 19 (E) dated 14.01.1982
5	Duration	90-100 days
6	Yield	Green pods: 1100-1300 kg/acre
		Grain: 250-300 kg/acre
7	Special features	<ul><li>Early maturing</li></ul>
		> Photo-insensitive: can be grown throughout
		the year
		➤ Mani avare type with good fragrance even in
		summer
8	Developed Centre	MRS, Hebbal
9	Recommended Zone	Zone - 5



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# 4. Black gram

### 4.1 LBG 791

1	Crop	Black gram
2	Variety	LBG -791
3	Year of Release	2019
4	Gazette Notification	SO. 8 (E) dated 24.12.2021
5	Duration	75-80 days
6	Yield	Irrigated: 600-800 kg/acre
		Rainfed: 300-400 kg/acre
7	Special features	Matures uniformly so can be harvested at
		once
		Resistant to Yellow mosaic disease
8	Developed Centre	ZARS, Mandya
9	Recommended Zone	Zone 5 & 6



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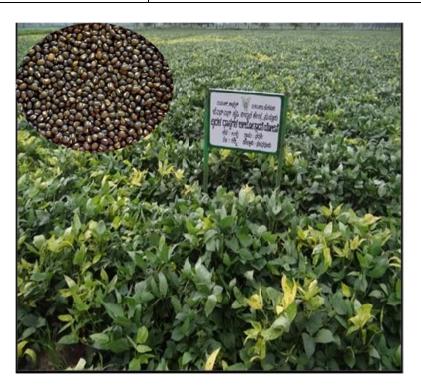
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# 4.2 LBG-625 (Rashmi)

1	Crop	Black gram
2	Variety	LBG-625 (Rashmi)
3	Year of Release	2002
4	Gazette Notification	SO. 2458 (E) dated 16.10.2008
5	Duration	70-75 days
6	Yield	Irrigated: 400-500 kg/acre
		Rainfed: 200-300 kg/acre
7	Special features	➤ High yielding
		Shining bold seeds
		<ul><li>Resistant to mildew disease</li></ul>
8	Developed Centre	ARS, Kathalagere
9	Recommended Zone	Zone-6



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# 5. Greengram

### 5.1 KKM-3

1	Crop	Greengram
2	Variety	KKM -3
3	Year of Release	2008
4	Gazette Notification	SO. 2187 (E) dated 21.08.2009
5	Duration	65-70 days
6	Yield	Irrigated: 400-500 kg/acre Rainfed: 200-300 kg/acre
7	Special features	<ul> <li>Short duration</li> <li>Grown between two paddy crops either as early <i>Kharif</i> or prior to summer season paddy to sustain paddy yield</li> <li>Uniform maturity</li> <li>Moderately resistant to yellow mosaic and powdery mildew</li> </ul>
8	Developed Centre	ARS, Kathalagere
9	Recommended Zone	Zone – 5, 6 &7



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# 6. Horsegram

### 6.1 PHG-9

1	Crop	Horsegram
2	Variety	PHG-9
3	Year of Release	1998
4	Gazette Notification	SO. 92 (E) dated 02.02.2001
5	Duration	100-105 days
6	Yield	300-400 kg/acre
7	Special features	> Tolerant to yellow mosaic disease
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone - 5 & 6



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# **B.** Oilseeds

# 1. Soybean

## 1.1 KBS-23

1	Crop	Soybean
2	Variety	KBS-23
3	Year of Release	2018
4	Gazette Notification	SO. 3482 (E) dated 07.10.2020
5	Duration	90-95 days
6	Yield	Irrigated: 1000-1200 kg/acre Rainfed: 800-1000 kg/acre
7	Special features	<ul> <li>Short duration</li> <li>Semi determinate type</li> <li>Suitable for different cropping systems</li> <li>Suitable for <i>Kharif</i> season under rainfed and irrigated condition</li> </ul>
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5 & 6



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### 1.2 MAUS-2 (Pooja)

1	Crop	Soybean
2	Variety	MAUS-2 (Pooja)
3	Year of Release	2010
4	Gazette Notification	SO.1146 (E) dated 24.04.2014
5	Duration	105-110 days
6	Yield	Irrigated: 800-1000 kg/acre
		Rainfed: 400-600 kg/acre
7	Special features	<ul><li>Suitable for all seasons</li></ul>
		➤ Oil yield: 19-20 per cent
		➤ Protein: 40-41 per cent
		Tolerant to major pest and diseases
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone-5



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#### 1.3 KARUNE

1	Crop	Soybean
2	Variety	Karune (Vegetable Type)
3	Year of Release	2009
4	Gazette Notification	SO. 2986 (E) dated 20.7.2021
5	IC Number	IC 596788
6	Duration	Green pods: 65-70 days
		Dry pods: 95-100 days
7	Yield (Irrigated)	Green pods: 2500-3000 kg/acre
		Seed: 350-400 kg/acre
8	Special features	<ul><li>Glabrous stem, leaves and pods</li></ul>
		Tolerant to major pests and disease
9	Developed Centre	ZARS, GKVK
10	Recommended Zone	Zone-5



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### 2. Sunflower

### **2.1** KBSH-85

1	Crop	Sunflower
2	Hybrid	KBSH-85
3	IC Number	IC644835
4	Year of Release	2023
5	Gazette Notification	SO. 4065 (E) dtd. 31.08.2022
6	Duration	95-98 days
7	Seed Yield	8.9-10.5 q/acre
8	Oil Yield	3.6-4.0 q/acre
9	Special Features	Medium height and
		Sturdy stem plant type category.
		<ul><li>Resistant to downy mildew</li></ul>
10	Developed Centre	AICRP on Sunflower
11	Recommended Zone	Zone – 5 & 6



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#### 2.2 KBSH - 78

1	Crop	Sunflower
2	Variety	KBSH-78
3	Year of Release	2018
4	Gazette Notification	SO. 3482 (E) dated 07.10.2020
5	Duration	80 - 85 days
6	Seed Yield	Irrigated: 700-900 kg/acre
		Rainfed: 400-500 kg/acre
7	Oil Content	39-41 %
8	Oil Yield	350-400 kg/acre
9	Special features	➤ Early duration hybrid by 10-15 days
		<ul><li>Medium height</li></ul>
		> Sturdy stem
		> Erect plant type
10	Developed Centre	ZARS, GKVK
11	Recommended Zone	Zone 4, 5, 6 & 7



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#### 2.3 KBSH - 79

1	Crop	Sunflower
2	Variety	KBSH-79
3	Year of Commercialization	2018
5	Duration	85-90 days
6	Seed Yield	Irrigated: 700–1000 kg/acre
		Rainfed: 360–400 kg/acre
7	Oil Content	36–38 %
8	Oil Yield	360-400 kg/acre
9	Special features	➤ High Seed Yield
		<ul><li>Resistance to Rust Decease</li></ul>
10	Developed Centre	ZARS, GKVK
11	Recommended Zone	Zone – 4 & 5



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#### 2.4 KBSH - 53

1	Crop	Sunflower
2	Variety	KBSH-53
3	Year of Release	2008
4	Gazette Notification	SO. 2187 (E) dated 21.08.2009
5	Duration	95-100 days
6	Seed Yield	Irrigated: 800-1000 kg/acre
		Rainfed: 400-500 kg/acre
7	Oil Content	42-44%
8	Oil Yield	400-460 kg/acre
9	Special features	➤ High oil content
		Tolerant to powdery mildew disease
10	Developed Centre	ZARS, GKVK
11	Recommended Zone	Zone 4, 5, 6 & 7



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#### 2.5 KBSH - 44

1	Crop	Sunflower
2	Variety	KBSH-44
3	Year of Release	2002
4	Gazette Notification	SO. 100 (E) dated 28.01.2003
5	Duration	95-100 days
6	Seed Yield	Irrigated: 800-1100 kg/acre
		Rainfed: 400-500 kg/acre
7	Oil Content	36-38%
8	Oil Yield	290-370 kg/acre
9	Special features	> Tolerant to downy mildew, alternaria rust and necrosis diseases.
10	Developed Centre	ZARS, GKVK
11	Recommended Zone	Zone 4, 5, 6 & 7 of Karnataka and all sunflower growing states



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### 2.6 KBSH - 42

1	Crop	Sunflower
2	Variety	KBSH-42
3	Year of Release	2000
4	Gazette Notification	SO. 122 (E) dated 02.02.2005
5	Duration	90-92 days
6	Seed Yield	Irrigated: 650-950 kg/acre
		Rainfed: 320-400 kg/acre
7	Oil Content	39-41%
8	Oil Yield	360-400 kg/acre
9	Special features	> Tolerant to downy mildew, alternaria, rust and necrosis diseases.
10	Developed Centre	ZARS, GKVK
11	Recommended Zone	Zone 5, 6 & 7



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#### 2.7 KBSH - 41

1	Crop	Sunflower
2	Variety	KBSH-41
3	Year of Release	2000
4	Gazette Notification	SO. 122 (E) dated 02.02.2005
5	Duration	90-100 days
6	Seed Yield	Irrigated: 800-1000 Kg/acre Rainfed: 400-500 Kg/acre
7	Oil Content	38-42 %
8	Oil Yield	320-400 kg/acre
9	Special features	<ul><li>Tolerant to downy mildew, alternaria, rust and necrosis diseases</li></ul>
10	Developed Centre	ZARS, GKVK
11	Recommended Zone	Zone - 4, 5, 6 & 7



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# 3. Groundnut

### 3.1 GKVK-27

1	Crop	Groundnut
2	Variety	GKVK-27
3	Year of Release	2020
4	Duration	110-115 days
5	Pod Yield	Irrigated: 1100-1250 kg/acre Rainfed: 800-1000 kg/acre
6	Special features	<ul> <li>Suitable for both Kharif (June-July) &amp;Summer (Dec-Jan) season</li> <li>Higher water use efficiency</li> <li>Moderately resistant to Rust and Late leaf spot diseases.</li> </ul>
7	Developed Centre	ZARS, GKVK
8	Recommended Zone	Zone - 5



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### 3.2 GKVK-5

1	Crop	Groundnut
2	Variety	GKVK-5
3	Year of Release	2015
4	Gazette Notification	SO. 3540 (E) dated 22.11.2016
5	IC Number	IC 613988
6	Duration	110-120 days
7	Pod yield	Irrigated: 1100-1200 kg/acre
		Rainfed: 800-1000 kg/acre
8	Oil yield	380 - 400 kg/acre
9	Special features	Drought tolerant
		Erect and semi spreading plants
		Moderately resistant to Rust and Late
		leaf spot diseases.
10	Developed Centre	ZARS, GKVK
11	Recommended Zone	Zone -4 & 5



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# 3.3. Chintamani -6 (KCG-6)

1	Crop	Groundnut
2	Variety	Chintamani -6(KCG-6)
3	Year of Release	2014
4	Gazette Notification	SO. 3540(E) dated 22.11.2016
5	Duration	110-120 days
6	Yield	Pod:1000-1200 kg/acre
		Oil yield: 300-400 kg/acre
7	Special features	Suitable for Kharif & Summer season
		<ul><li>Spanish bunch variety</li></ul>
		Tolerant to late leaf spot
		Tolerant to rust
8	Developed Centre	ARS, Chintamani
9	Recommended Zone	Zone -4 & 5



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# 4. Niger

### 4.1 KBN - 2

1	Crop	Niger
2	Variety	KBN-2
3	IC Number	IC 643838
4	Year of Release	2022
5	Duration	80-85 days
6	Grain Yield	190 – 200 kg/acre
7	Oil Yield	90 - 100 kg/acre
8	Special Features	➤ Short duration variety
		➤ More number of branches and filled pods
		➤ Bold black seeds with 47-48 per cent oil
		content
		➤ Suitable for Intercropping
9	Developed Centre	ZARS, GKVK
10	Recommended Zone	Zone - 5



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### 4.2 KBN - 1

1	Crop	Niger
2	Variety	KBN-1
3	Year of Release	2006
4	Gazette Notification	SO. 449 (E) dated 11.02.2009
5	IC Number	IC 565448
6	Duration	90-95 days
7	Seed yield	160-200 kg/acre
8	Developed Centre	ZARS, GKVK
9	Recommended Zone	Zone - 5



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# 5. Sesamum

#### 5.1 GKVKS-1

1	Crop	Sesamum
2	Variety	GKVKS-1
3	IC Number	IC 643837
4	Year of Release	2022
5	Duration	80-85 days
6	Grain Yield	180 – 200 kg/acre
7	Oil Yield	90 – 95 kg/acre
8	Special Features	<ul> <li>Short duration variety</li> <li>More number of branches and filled pods</li> <li>Leaves stays green even at harvest</li> <li>White seeds with 47-48 per cent oil content</li> </ul>
9	Developed Centre	ZARS, GKVK
10	Recommended Zone	Zone - 5



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# C. Commercial Crops

# 1. Sugarcane

### 1.1 CoVC 18061

1	Crop	Sugarcane
2	Variety	CoVC18061
3	Year of Release	2021
4	IC Number	IC 633964
5	Duration	12-14 months
6	Yield	Main crop: 70-80 t/acre
		Ratoon crop: 55-60 t/acre
7	Special features	<ul> <li>Sparse and late flowering variety</li> <li>Moderate lodging with Semi erect habitat</li> <li>Resistant to foliar disease and less susceptible to</li> </ul>
		<ul><li>early and top shoot borer. Moderately susceptible to internode borer</li><li>Suitable for all the planting seasons of Sugarcane</li></ul>
		<ul> <li>Ideal variety for January- February planting</li> <li>High tillering potential &amp; suitable for wide row planting with medium thick greenish yellow cane</li> </ul>
		Lush green and semi erect leaf canopy
		➤ Self dethrashing
		<ul><li>Exhibits good ratooning</li></ul>
		<ul><li>Possesses good jaggery recovery</li></ul>
8	Developed Centre	ZARS, Mandya
9	Recommended Zone	Zone – 6



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# 1.2 COVC 16061

1	Crop	Sugarcane	
2	Variety	COVC 16061	
3	Year of Release	2019	
4	Gazette Notification	SO. 8 (E) dated 24.12.2021	
5	IC Number	IC 633962	
6	Duration	10 months	
7	Yield	Main crop: 55-60 t/acre	
		Ratoon crop: 50-55 t/acre	
8	Special features	<ul> <li>Early maturing variety</li> <li>High tillering ability and suitable for planting in wider row planting (5 ft)</li> <li>Good ratooning ability</li> <li>Withstands moisture stress</li> </ul>	
	D 1 10 1	➤ Good for Jaggery preparation	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone 6	



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### 1.3 COVC 16062

1	Crop	Sugarcane		
2	Variety	COVC 16062		
3	Year of Release	2019		
4	Gazette Notification	SO. 8 (E) dated 24.12.2021		
5	IC Number	IC 633963		
6	Duration	12-14 months		
7	Yield	Main crop : 70-75 t/acre Ratoon crop: 55-60 t/acre		
8	Special features	<ul> <li>Suitable for planting during July to November months.</li> <li>High tillering ability and it is recommended for wider row planting (5 ft)</li> <li>Good ratooning ability</li> <li>Withstands to moisture stress conditions</li> <li>Good for Jaggery preparation</li> </ul>		
9	Developed Centre	ZARS, Mandya		
10	Recommended Zone	Zone 6		



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#### 1.4 VCF 0517

1	Crop	Sugarcane
2	Variety	VCF 0517
3	Year of Release	2017
4	Gazette Notification	SO. 6318 (E) dated 26.12.2018
5	IC Number	IC 623109
6	Duration	12-14 months
7	Yield	Main crop: 80-90 t/acre
		Ratoon crop: 70-80 t/acre
8	Special features	<ul><li>Suitable for July-November planting</li><li>Suitable for wider row (5ft) planting</li></ul>
		<ul> <li>Good for Jaggery making</li> </ul>
		<ul><li>High tillering potential</li></ul>
		<ul><li>Good Ratooning potential</li></ul>
		> Tall & thick cane
9	Developed Centre	ZARS, Mandya
10	Recommended Zone	Zone -6



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#### 1.5 COVC 99463

1	Crop	Sugarcane	
2	Variety	CoVC 99463	
3	Year of Release	2011	
4	IC Number	IC 611631	
5	Gazette Notification	SO. 1379 (E) dated 27.03.2018	
6	Duration	12-13 months	
7	Yield	Main crop: 70-75 t/acre	
		Ratoon crop: 60-65 t/acre	
8	Special features	<ul><li>Suitable for July-November planting</li></ul>	
		<ul><li>High tillering potential</li></ul>	
		Good ratooning variety	
		➤ Ideal for wide row planting (5ft)	
9	Developed Centre	ZARS, Mandya	
10	Recommended Zone	Zone – 6 & 7	



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# D. Horticultural Crops

# 1. GKVK Stevia - 1

1	Crop	Stevia		
2	Year of Release	2017		
3	Herbage Yield	3.7 – 3.8 t/acre		
4	Special features	<ul> <li>3.7 - 3.8 t/acre</li> <li>Suitable for May-June planting</li> <li>Higher Stevioside content (13.5%) and Rebaudioside content (5.94%)</li> <li>Big and thick leaves produce diterpene glycosides (Stevioside &amp; Rebaudioside)</li> <li>High potency &amp; natural source of non-calorie sweetener (300 times more sweeter than sugar</li> <li>Plants are hardy and can be repeatedly harvested</li> <li>Less flowering</li> <li>Tolerant to most of the insect</li> </ul>		
5	Developed Centre	ZARS, GKVK		
6	Recommended Zone	Zone -5		



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### 2. GKVK-17

1	Crop	Tamarind	
2	Variety	GKVK-17	
3	Year of Release	2015	
4	Yield	230- 233 kg/tree/year	
5	Special features	<ul> <li>Ideal planting is during June-July</li> <li>High pod weight, width and pulp to seed ratio: 119</li> <li>Dark brown pulp</li> <li>Compact &amp; umbrella shape crown</li> <li>Widely accepted by the farmers and industry</li> <li>Moderately tolerant to leaf spot, rust and leaf miner</li> <li>Adaptable to rainfed and irrigated areas</li> </ul>	
6	Developed Centre	ARS, Chintamani	
7	Recommended Zone	Zone-5 & 6	



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### 3. Chintamani Selection-1

1	Crop	Jamun
2	Variety	Chintamani Selection-1
3	Year of Release	2017
4	Yield	140-150 kg /tree/year
5	Special features	<ul> <li>High yield (190-198% higher yield over local variety)</li> <li>Compact umbrella shape crown with good fruit quality.</li> </ul>
6	Developed Centre	ARS, Chintamani
7	Recommended Zone	Zone-5



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#### A. PROCESS

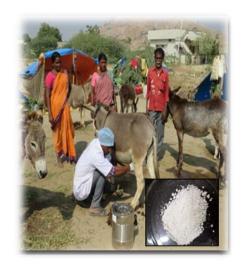
### 1. Instant Donkey Milk Powder

#### Features:

- Donkey milk powder possess nutritional composition close to human milk
- Nutritional alternative to infant feeding
- Stable at room temperature with a shelf-life of more than one year
- Good rehydration and re-constitutional properties
- Rich in lysozyme which is an immune booster
- Used as a basic ingredient in manufacturing of various nutraceutical and cosmetic products

### **Nutritional Composition**

Nutrient	Value
Moisture content	4.13 % (d.b.)
Fat	5.79 %
Protein	22.43 %
Carbohydrates	63.09 %
Ash	4.56 %
Titratable acidity	0.06 %
Colour values	90.27; -1.64
L*; a*and b*	and14.30
Water activity	0.28
Lysozyme	1027 mg/L
Mineral (mg/L)	24.15, 2223.14,
Al, Ca, Fe, K, Mg	95.91, 9743.80,
and Mn	1288.04, 1.92



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#### **B. PRODUCTS**

#### **B1. READY TO COOK**

### 1. Maize Suji Savoury Pongal Mix

The RTC maize savoury pongal mix of maize will yield more cooked product / unit quantity of mix.

#### Features:

- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	15.14
Iron (mg)	5.23
Crude fiber (g)	3.85
Carbohydrate (g)	62.88
Energy (kcal)	341



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### 2. Maize Suji Bhath Mix

The RTC mix of maize will yield more cooked product / unit quantity of mix

#### Features:

- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	15.46
Iron (mg)	3.03
Crude fiber (g)	3.30
Carbohydrate (g)	62.14
Energy (kcal)	344



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### 3. Maize Sweet Pongal Mix

The RTC mix of maize sweet pongal will yield more cooked product /unit quantity of mix.

#### Features:

- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

#### **Nutritional Composition**

Nutrient	Value (Quantity/100g)	
Protein (g)	11.04	
Iron (mg)	5.65	
Crude fiber (g)	2.15	
Carbohydrate (g)	69.46	
Energy (kcal)	353	



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#### 4. Millet Based High Fiber Food Mix

#### Features:

- Millet based high fiber food mixed with dehydrated fiber rich vegetable & pulses for reduction of body weight
- Regionally available millets, pulses, spices and vegetables (Cluster bean, drumstick leaves and curry leaves) are used in high fibre food mix
- Food mix contains high dietary fibre, moderate amount of protein & minerals and carbohydrate and low fat
- Food mix has storage stability of three months
- Traditional products such as dosa, roti and mudde (dumpling) can be prepared by using the developed high fibre food mix which are popular food items in the daily diet of South Karnataka

### **Nutritional Composition**

Nutrients, per 100 g	Content	Nutrients, per 100 g	Content
Protein (g)	15.00	Energy (kcal)	320
Fat (g)	2.60	Crude fiber (g)	10.11
Ash (g)	3.60	Dietary fiber (g)	24
Moisture (g)	7.10	Iron (mg)	8.23
Carbohydrate (g)	60.75	Calcium (mg)	366



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### 5. Finger Millet Malt

#### Features:

- Malt with Finger millet, Wheat, & Green Gram is suitable for preparing weaning food
- Beverage from malt is suitable for all age groups
- Easily digested & nutritious health beverage
- Rich in calcium

**Nutritional Composition** 

Nutrient	Value (Quantity/100g)
Protein (g)	9.0
Fat (g)	1.5
Energy (kcal)	360
Calcium (mg)	193
Iron (mg)	5.2



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### 6. Finger Millet Vermicelli

#### Features:

- Convenience foods
- Good Sensory appeal
- Rich in nutrients with Storage stability for 6 months
- Ease of preparation

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	16.65
Fat (g)	1.18
Ash (g)	2.30
Crude fiber (g)	3.60
Carbohydrate (g)	73.43
Energy (kcal)	371.0
Calcium (mg)	223.8
Iron (mg)	7.53





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# 7. Finger Millet Vermicelli with Ashwagndha Root Powder

#### Features:

- Convenience foods with functional property
- Good Sensory appeal
- Rich in nutrients with Storage stability for 6 months
- Ease of preparation

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	17.37
Fat (g)	1.11
Ash (g)	2.50
Crude fiber (g)	6.70
Carbohydrate (g)	71.26
Energy (kcal)	365.0
Calcium (mg)	256.6
Iron (mg)	9.15





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### 8. Finger Millet Vermicelli with Madhunasini Leaves Powder

#### Features:

- Convenience foods with functional ingredient
- Good Sensory appeal
- Rich in nutrients with Storage stability for 6 months
- Ease of preparation

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	3.40
Fat (g)	1.09
Ash (g)	2.80
Crude fiber (g)	4.40
Carbohydrate (g)	69.36
Energy (kcal)	363.0
Calcium (mg)	222.1
Iron (mg)	11.52





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### 9. Finger Millet Vermicelli with Jamun Fruit Seeds Powder

#### Features:

- Convenience food with functional ingredient
- Good Sensory appeal
- Rich in nutrients with Storage stability for 6 months
- Ready to cook

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	2.70
Fat (g)	0.88
Ash (g)	2.40
Crude fiber (g)	6.20
Carbohydrate (g)	70.57
Energy (kcal)	361.0
Calcium (mg)	179.3
Iron (mg)	11.32





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### 10. Finger Millet Vermicelli with Germinated Fenugreek Seed Powder

#### Features:

- Convenience foods
- Good Sensory appeal
- Rich in nutrients with Storage stability for 6 months
- Ease of preparation

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	2.00
Protein (g)	20.15
Fat (g)	0.88
Ash (g)	2.50
Crude fiber (g)	5.80
Carbohydrate (g)	68.76
Energy (kcal)	364.0
Calcium (mg)	200.1
Iron (mg)	9.55





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### 11. Finger Millet Vermicelli with Amruthballi Leaves Powder

#### Features:

- Convenience foods
- Good Sensory appeal
- Rich in nutrients with Storage stability for 6 months
- Ease of preparation

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	2.30
Protein (g)	18.40
Fat (g)	1.14
Ash (g)	2.70
Crude fiber (g)	4.70
Carbohydrate (g)	70.83
Energy (kcal)	367.0
Calcium (mg)	278.3
Iron (mg)	12.86





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#### 12. Dosa Mix

#### Features:

- Dosa can be prepared in 5 minutes
- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

#### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	13.60
Dietary fiber (g)	8.5
Iron (mg)	5.5
Carbohydrate (g)	62.30
Energy (kcal)	314.75



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### 13. Multipurpose Finger Millet Composite Mix

#### Features:

- Ragi dosa can be prepared in 5 minutes
- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	12.8
Dietary fiber (g)	13.3
Iron (mg)	5.0
Carbohydrate (g)	56.80
Energy (kcal)	306.1



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### 14. Nutritional Chapathi Mix

#### Features:

- Chapathi can be prepared in 3 minutes
- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	16.00
Dietary fibre (g)	15.10
Iron (mg)	5.40
Carbohydrate (g)	50.65
Energy (kcal)	306.97



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#### 15. Foxtail Millet Bisibele Bath Mix

#### Features:

- Bisibele bath can be prepared in 15-20 minutes
- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	17.00
Dietary fiber (g)	8.50
Iron (mg)	3.30
Carbohydrate (g)	58.10
Energy (kcal)	326.61



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### 16. Foxtail Millet Vangi Bath Mix

#### Features:

- Vangi bath can be prepared in 15-20 minutes.
- Easy to prepare with good sensory quality
- Excellent option for diversified diet
- No chemical additives added

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	12.3
Dietary fiber (g)	8.0
Iron (mg)	6.70
Carbohydrate (g)	61.0
Energy (kcal)	331.90



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### 17. Foxtail millet probioticated composite mix

#### Features:

- It is a healthy alternatives to dairy probiotic foods
- Suitable for lactose and gluten intolerance consumers
- It is rich in complex CHO, essential fatty acid, minerals, anti-oxidant activity and a very good substrate for microbial production.
- It enhances bioavailability of protein, calcium, phosphorous, iron and zinc
- Probiotication with *Lactobacillus acidophillus* and *Saccharomyces boulardii* had a good viable count and could be stored for up to one month
- Suitable for all age groups

### **Nutritional Composition**

Nutrient	Value (per100g)	Nutrient	Value (per100g)
Moisture (g)	5.71	Calcium (mg)	58.75
Protein (g)	19.53	Iron (mg)	2.56
Fat (g)	5.95	Zinc (mg)	1.56
Crude fibre (g)	3.45	Potassium (mg)	279
In Vitro Protein Digestibility	58.41	Anti-oxidant Activity (microgram/ml)	45.95
Carbohydrates (g)	65.28	Total minerals (g)	3.53
Energy (KCal)	393	Heavy metals(mg/L)	Nil





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### 18. Little millet probioticated composite mix

#### Features:

- It is a healthy alternatives to dairy probiotic foods
- Suitable for lactose and gluten intolerance and calorie-sensitive consumers
- It is rich in complex CHO, essential fatty acid, minerals, anti-oxidant activity and a very good substrate for microbial production.
- It enhances bioavailability of protein, calcium, phosphorous, iron and zinc
- Probiotication with Lactobacillus acidophillus and Saccharomyces boulardii
   had a good viable count and could be stored for up to one month
- Suitable for all age groups

### **Nutritional Composition**

Nutrient	Value (per100g)	Nutrient	Value (per100g)
Moisture (g)	5.41	Calcium (mg)	57.45
Protein (g)	18.65	Iron (mg)	2.35
Fat (g)	5.9	Zinc (mg)	1.49
Crude fibre (g)	3.41	Potassium (mg)	269
In Vitro Protein Digestibility	58.78	Anti-oxidant Activity (microgram/ml)	48.30
Carbohydrates (g)	66.53	Total minerals (g)	3.51
Energy (KCal)	394	Heavy metals(mg/L)	Nil





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### 19. Millet dosa mix

# Features:

- Convenience and nutritious product
- Easy to prepare and with good shelf life, good sensory appearance, texture and consumer acceptance

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	1.94
Protein (g)	1.69
Fat (g)	3.58
Ash (g)	1.26
Crude fibre (g)	13.84
Carbohydrate (g)	78.95
Energy (Kcal)	403





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# 20. Millet beverage mix

# Features:

- Convenience and nutritious product
- Easy to prepare and with good shelf life, good sensory appearance, texture and consumer acceptance

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	1.74
Protein (g)	3.77
Fat (g)	3.17
Ash (g)	3.40
Crude fibre (g)	9.29
Carbohydrate (g)	83.03
Energy (Kcal)	398



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# 21. Tender Jackfruit for use as Vegetable

#### Features:

- A 'vegetable meat' with high fiber and minerals
- Ready-to-cook tender jackfruit is rich in potassium, calcium and fiber
- Can be stored for 2 days at room temperature and 2 weeks under refrigeration

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Carbohydrate (%)	10 - 12
Protein (%)	2.0 - 2.5
Fat (%)	0.3 - 0.6
Fiber (%)	2.0 - 3.0
Energy (kcal)	50 – 65



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#### 22. Jackfruit Milkshake Mix

### Features:

- Ripen Jackfruit was dried and powdered
- Has good quality fiber and Beta carotene
- Contains good amount of macro and micro nutrients and polyphenols
- Helpful for malnutrition, constipation and weight management
- Highly liked by children, college students, adults and even elders

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	10.0
Carbohydrate (g)	61.0
Protein (g)	21.0
Fat (g)	11.0
Crude fiber (g)	3.0
Energy (Kcal)	428
Calcium (mg)	298
Iron (mg)	4.07
Zinc (mg)	2.02



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### 23. Moringa (Drum Stick) Rosemary Tea

#### Features:

- Moringa is rich in beta carotene, Vitamin C, Iron, Zinc, Calcium, and very good source of sulphur containing amino acids as well as phytonutrients
- Unique tea with bioactive ingredients, antioxidants and natural flavor
- Best alternative to regular green tea to boost immunity due to polyphenols
- Very refreshing and healthy green tea for all the age group with no issues of lactose intolerance



### **Quality attributes**

- Antioxidant activity: 92 %
- Shelf life- one year
- Acceptance- best accepted by trained panel and by consumer

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### 24. Moringa (Drum Stick) Tulsi Green Tea

#### Features:

- Moringa is rich in beta carotene, Vitamin C, Iron, Zinc, Calcium, and very good source of sulphur containing amino acids as well as phytonutrients.
- Moringa green with tulsi is a unique tea with bioactive ingredients, antioxidants and natural tulsi flavor
- Best alternative to regular green tea to boost immunity
- Very refreshing and healthy green tea for all the age group with no issues of lactose intolerance
- The health-promoting effects of this green tea are due to its polyphenol content



### Quality attributes

- Antioxidant activity: 89-90 %
- Shelf life- one year
- Acceptance- best accepted by trained panel and by consumer

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### 25. Quinoa based Complementary Food

• Gluten free formulation, rich in protein, energy, iron, calcium, and immunity boosting zinc

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	9.0
Carbohydrate (g)	52.0
Protein (g)	23.0
Fat (g)	10.0
Crude fiber (g)	3.62
Energy (KCal)	389
Calcium (mg)	132
Iron (mg)	6.17
Zinc (mg)	4.05



### Quality attributes

- Quinoa is a pseudo grain with high nutritional value as it is rich in proteins, lipids, fiber, vitamins, and minerals and has an extraordinary balance of essential amino acids
- Possess high amount of health-beneficial phytochemicals
- Enhances metabolic, cardiovascular, and gastrointestinal health in humans

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### **B2. READY TO EAT**

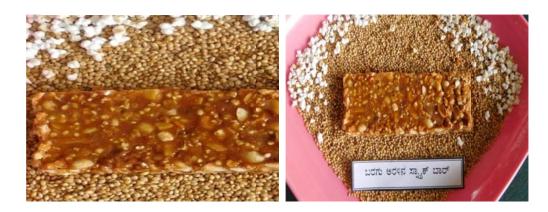
### 1. Proso Millet Snack Bar

### Features:

- Popped millet bar Natural and Nutritious
- Convenient food
- Storage stable for three months
- Rich in energy and protein
- Ready to eat

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	6.8
Fat (g)	7.2
Ash (mg)	2.0
Carbohydrate (g)	78
Energy (kcal)	407



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### 2. Little Millet Snack Bar

### Features:

- Nutridense millet based tasty confectionary
- Protein and energy rich
- Convenient and ready to eat
- Technology for processing and storage problems of millet grains.
- Storability for three months

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	6.6
Fat (g)	7.1
Minerals (mg)	1.9
Crude fiber (g)	4.65
Carbohydrate (g)	79
Energy (kcal)	470





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### 3. Protein rich Foxtail Millet breakfast cereals/ flakes

### Features:

- Developed flakes contain high amount of proteins and are rich in fibre.
- Shelf life of the millet flakes was up to 6 months.
- These millet based flakes could be used either as breakfast along with the milk or as masala snacks by blending masala.

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	23.16
Fat (g)	6.68
Carbohydrate (g)	58.28
Fibre (g)	5.63
Ash (g)	3.15
Moisture (g)	3.10
Energy (kcal)	385.88



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### 4. Protein rich Little Millet breakfast cereals/ flakes

### Features:

- Developed flakes contain high amount of proteins and are rich in fibre.
- Shelf life of the millet flakes was up to 6 months.
- These millet based flakes could be used either as breakfast along with the milk or as masala snacks by blending masala.

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	22.16
Fat (g)	5.24
Carbohydrate (g)	59.73
Fibre (g)	6.02
Ash (g)	3.25
Moisture (g)	3.60
Energy (kcal)	374.72



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# 5. Protein rich Sorghum Millet breakfast cereals/ flakes

### Features:

- Developed flakes contain high amount of proteins and are rich in fibre.
- Shelf life of the millet flakes was up to 6 months.
- These millet based flakes could be used either as breakfast along with the milk or as masala snacks by blending masala.

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	19.64
Fat (g)	4.50
Carbohydrate (g)	62.66
Fibre (g)	5.60
Ash (g)	4.20
Moisture (g)	3.40
Energy (kcal)	369.70



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### 6. Protein rich White ragi breakfast cereals/ flakes

### Features:

- Developed flakes contain high amount of proteins and are rich in fibre.
- Shelf life of the millet flakes was up to 6 months.
- These millet based flakes could be used either as breakfast along with the milk or as masala snacks by blending masala.

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	23.14
Fat (g)	4.84
Carbohydrate (g)	58.53
Fibre (g)	5.84
Ash (g)	3.85
Moisture (g)	3.80
Energy (kcal)	370.24



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### 7. Finger Millet Hurihittu

### Features:

- Rich in Protein & Calcium
- Energy dense nutritious ready-to-eat mix
- Suitable for all age group
- Can be consumed directly or in the form of laddu

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	7.0
Fat (g)	3.7
Energy (kcal)	387
Calcium (g)	164
Iron (mg)	6.3



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#### 8. Paustic Laddu

Nutri dense Laddu with millets, pulses, nuts & oil seeds for improving body weight and nutritional status

### Features:

- Nutridense millet based tasty confectionary
- Developed using locally available ingredients rich in nutrients

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (g)	9.80
Fat (g)	31.60
Iron (mg)	2.40
Calcium (g)	16
Carbohydrate (g)	42.40
Energy (kcal)	516



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### 9. Enriched Gluten Free Cookies

#### Features:

- Free from Gluten
- Good Sensory appeal and Taste
- No chemical Additives
- Good Storage stability

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	0.51
Ash (g)	1.44
Fat (g)	17.50
Crude fibre (g)	1.77
Protein (g)	10.33
Carbohydrate(g)	71.47
Energy (kcal)	485



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### 10. Low Fat Little Millet Biscuit with WPC

# Features:

- Free from Gluten
- Good Sensory appeal and Taste
- No chemical Additives
- Good Storage stability
- Reduced fat and increased protein content

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	1.01
Ash (g)	1.86
Fat (g)	15.63
Crude fibre (g)	1.53
Protein (g)	11.47
Carbohydrate(g)	70.03
Energy (kcal)	467



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### 11. Low Fat Foxtail Millet Biscuit with WPC

#### Features:

- Free from Gluten
- Good Sensory appeal and Taste
- No chemical Additives
- Good Storage stability
- Reduced fat and increased protein content

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	1.86
Ash (g)	1.71
Fat (g)	16.20
Crude fibre (g)	1.11
Protein (g)	13.80
Carbohydrate(g)	66.43
Energy (kcal)	466



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### 12. Gluten Free Little Millet Cookies

### Features:

- Free from Gluten
- Good Sensory appeal and Taste
- No chemical Additives
- Good Storage stability

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	1.10
Ash (g)	1.85
Fat (g)	17.78
Crude fiber (g)	0.82
Protein (g)	9.12
Carbohydrate (g)	70.15
Energy (kcal)	477



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### 13. Gluten Free Foxtail Millet Cookies

#### Features:

- Free from Gluten
- Good Sensory appeal and Taste
- No chemical Additives
- Good Storage stability

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	1.09
Ash (g)	1.67
Fat (g)	18.26
Crude fiber (g)	1.58
Protein (g)	9.81
Carbohydrate (g)	69.17
Energy (kcal)	477



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### 14. Kodo Millet Masala Khakhra

#### Features:

- Ready to eat millet based healthy snack
- Fibre rich, gluten free and nutritious snack
- Tasty, light in weight and has long shelf life
- No chemical additives are added

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	3.52±0.02
Fat (g)	3.07±0.03
Protein (g)	12.33±0.03
Carbohydrate (g)	56.80±1.61
Crude fibre (g)	13.33±0.05
Ash (g)	3.45±0.23
Energy (Kcal)	295.33±6.03
Calcium (mg)	43.89±2.49
Iron (mg)	5.00±0.01



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#### **15**. Kodo Millet Plain Khakhra

### Features:

- Ready to eat millet based healthy snack
- Fibre rich, gluten free and nutritious snack
- Tasty, light in weight and has long shelf life
- No chemical additives are added

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	3.86±0.02
Fat (g)	2.21± 0.10
Protein (g)	12.20±0.11
Carbohydrate (g)	68.44±0.42
Crude fibre (g)	11.29±0.13
Ash (g)	2.00±0.09
Energy (Kcal)	342.45±0.2
Calcium (mg)	22.87±2.92
Iron (mg)	2.72±0.08



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# 16. Little millet ginger biscuit

### Features:

- Ready to eat millet based healthy snack
- Gluten free, nutritious, low fat high protein and high fiber product
- Easy to prepare and with good shelf life, good sensory appearance, texture and consumer acceptance
- Good substitute for maida for making various bakery products

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	3.07
Fat (g)	13.10
Protein (g)	1.38
Carbohydrate (g)	75.68
Crude fibre (g)	6.77
Ash (g)	2.39
Energy (Kcal)	448



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#### 17. Foxtail millet cinnamon biscuit

### Features:

- Ready to eat millet based healthy snack
- Gluten free, nutritious, low fat high protein and high fiber product
- Easy to prepare and with good shelf life, good sensory appearance, texture and consumer acceptance
- Good substitute for maida for making various bakery products

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	2.87
Protein (g)	1.08
Fat (g)	22.86
Ash (g)	3.04
Crude fibre (g)	10.56
Carbohydrate (g)	62.63
Energy (Kcal)	498



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#### 18. Gluten Free Cake

### Features:

- Ready to eat millet based healthy snack
- Gluten free, nutritious, low fat high protein and high fiber product
- Easy to prepare and with good shelf life, good sensory appearance, texture and consumer acceptance
- Good substitute for maida for making various bakery products

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	16.78
Protein (g)	0.98
Fat (g)	18.69
Ash (g)	1.25
Crude fibre (g)	7.99
Carbohydrate (g)	55.56
Energy (Kcal)	422



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### 19. Multi-nutri bite mix

# Features:

- Convenience and nutritious product
- Easy to prepare and with good shelf life, good sensory appearance, texture and consumer acceptance

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (g)	1.28
Protein (g)	2.86
Fat (g)	3.54
Ash (g)	3.09
Crude fibre (g)	15.24
Carbohydrate (g)	77.08
Energy (Kcal)	401



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# 20. Coconut Flour Cookies

# Features:

- Good substitute for Maida for making various bakery products.
- Coconut flour as Functional food
- Good eating quality
- Ready to eat Crispy Cookies

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	3.78
Protein (g)	6.37
Fat (g)	30.09
Ash (g)	1.49
Crude fiber (g)	2.52
Carbohydrate (g)	55.75
Energy (kcal)	519.0



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#### 21. Coconut Flour Masala Biscuit

### Features:

- Defatted coconut flour is one of the major by product generated from the virgin coconut oil industry
- Good substitute for maida for making various bakery products
- Nutritious and healthy source of dietary fiber
- Most significant snack food

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	4.42
Protein (g)	8.80
Fat (g)	39.90
Ash (g)	4.01
Crude fiber (g)	8.48
Carbohydrate (g)	34.39
Energy (kcal)	532.0



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### 22. Coconut Flour Cake

# Features:

- Good substitute for maida for making various bakery products
- Unique taste and aroma
- Soft and Spongy cake

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	14.28
Protein (g)	7.15
Fat (g)	28.56
Ash (g)	1.31
Crude fiber (g)	6.30
Carbohydrate (g)	42.40
Energy (kcal)	455.0



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### 23. Coconut Flour Rusk

# Features:

- Functional food
- Good substitute for maida for making various bakery products
- Unique taste and aroma

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	8.19
Protein (g)	9.80
Fat (g)	13.87
Ash (g)	2.52
Crude fiber (g)	6.33
Carbohydrate (g)	59.29
Energy (kcal)	401.19



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### 24. Coconut Flour Sweet and Salt Biscuit

# Features:

- Tasty and mouth feel of having fresh coconut biscuit
- Functional food ingredient
- Good substitute for maida for making bakery products
- No Added Additives

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	3.45
Protein (g)	9.08
Fat (g)	37.27
Ash (g)	2.95
Crude fibre (g)	5.44
Carbohydrate (g)	41.81



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#### 25. Coconut Flour Salt Biscuit

#### **Features:**

- Crispi and good bite of nutrients to health
- Good substitute for maida for making healthy bakery products
- Scope for value addition to coconut
- No added additives

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	5.03
Protein (g)	9.17
Fat (g)	36.67
Ash (g)	3.02
Crude fibre (g)	6.53
Carbohydrate (g)	39.58



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# 26. Coconut Flour Nutri- Strips

#### Features:

- Crispy texture and unique flavor of coconut based snack food
- Nutritious and sensory appealed fried food
- Product with good protein content

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	1.88
Protein (g)	10.25
Fat (g)	29.44
Ash (g)	2.55
Crude fibre (g)	6.21
Carbohydrate(g)	54.67



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### 27. Coconut Flour Ladoo

### Features:

- Mouthwatering and nutritious coconut flour based ladoo
- Nutritious and healthy traditional food product
- Liked by children and adolescents

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Moisture (%)	5.79
Protein (g)	13.11
Fat (g)	22.58
Ash (g)	1.82
Crude fibre (g)	3.86
Carbohydrate(g)	52.84



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#### 28. Jackfruit Juice

#### Features:

- A tasty, refreshing beverage with distinct jackfruit flavor
- Low in added sugar; contains easily digestible sugars like fructose & sucrose
- Rich in ß-carotene and vitamin C
- Product shelf-stable up to 4 months under refrigeration

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Vitamin C (%)	2.82
Sugar (Brix)	11°
ß-carotene (µg/ml)	8-10
Acidity (%)	0.2
Fat (%)	0.0
Energy (kcal)	60



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### 29. Jackfruit Squash

#### Features:

- Jackfruit bulb-based squash for preparing tasty, refreshing beverage with distinct jackfruit flavor
- Low in added sugar; contains easily digestible sugars like fructose & sucrose
- Rich in \( \mathbb{S}\)-carotene and vitamin \( \mathbb{C}\)
- Product shelf-stable up to 6 months under refrigeration

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Vitamin C (mg)	3.0 – 6.0
Sugar (Brix)	24 – 34°
Acidity (%)	0.2 – 0.4
Fat (%)	0.0
Energy (kcal)	66



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#### 30. Jackfruit Bulb Flour and its Products

#### Features:

- Fully matured, unripe jackfruit bulbs are ground to get jackfruit bulb flour
- Bulb flour is used for preparing delicious jackfruit biscuit
- Crispy honey dew biscuit with rich natural flavor of jackfruit
- A delicious bakery product liked by children

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Carbohydrate (g)	53.5
Protein (g)	5.7
Fat (g)	22.4
Calcium (mg)	28.7
Iron (mg)	1.96
Energy (kcal)	442



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#### 31. Jackfruit Seed Flour and its Products

#### Features:

- Fully matured, unripe jackfruit bulbs are ground to obtain jackfruit bulb flour
- Bulb flour is used for preparing delicious jackfruit muffin
- A delicious bakery product with rich natural flavor of jackfruit
- Less added sugar and nutritionally better than refined wheat flour muffins

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Carbohydrate (g)	50.2
Protein (g)	5.4
Fat (g)	21.4
Calcium (mg)	27.4
Iron (mg)	1.3
Energy (kcal)	412



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#### Jackfruit Peda 32.

#### Features:

- A dairy sweet prepared from milk khoa and jackfruit pulp
- Jackfruit Peda has natural colour & flavor of jackfruit
- Contains less added sugar and more fiber
- Product has shelf-life of 7 days at room temperature

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (%)	9.0 - 9.5
Fat (%)	14 – 15
Fiber (%)	4.6 – 4.8
Energy (kcal)	346



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#### 33. Jackfruit Ice-Cream

#### Features:

- A delicious dessert prepared from jackfruit pulp
- Jackfruit ice cream has natural colour & flavor of jackfruit
- Contains less added sugar and more fibre
- Product has shelf-life of 6 months under frozen condition @ -18°C or below

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Protein (%)	3
Fat (%)	7 – 7.5
Carbohydrate (%)	15
Energy (kcal)	135



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#### 34. Jackfruit Shrikand

#### Features:

- An Indian delicious dessert made from strained curd and jackfruit pulp
- Shrikand is low in fat with natural colour & flavor of jackfruit
- Contains less added sugar and more fiber
- Product has shelf-life of 20 days under refrigerated temperatures

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Carbohydrate (%)	22.2
Protein (%)	8.9
Fat (%)	4.5
Fibre (%)	2.1
Energy (kcal)	66



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# 35. Jackfruit Chips

### Features:

- A very tasty and crispy deep fat fried chips made from fully matured unripened jackfruit bulbs
- Ready-to-eat crispy chips with slightly sweetish taste
- Shelf-life up to 2 months at room temperature when stored in nitrogen flushed packages

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)
Carbohydrate (%)	20
Protein (%)	2.0
Fat (%)	5
Fibre (%)	11.6
Energy (kcal)	140



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#### 36. Jackfruit Jam

#### Features:

- Product with pleasant, natural golden yellow colour with jackfruit flavor
- Jam with less added sugar with good spreadability

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)	
Carbohydrate (%)	56.6	
Protein (%)	1.4	
Fat (%)	0.0	
Vitamin A (%)	6.7	
Vitamin C (%)	100	
Energy (kcal)	237	



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### 37. Moringa (Drum Stick) Dark Chocolate

#### Features:

- Matured and processed moringa leaves are fortified to chocolate
- Bioactive ingredients in moringa chocolate helps to boost immunity and provides lot of energy as well as reduces fatigue
- Contains good amount of macro and micro nutrients and polyphenols,
- Yummy chocolates to suit any special occasions
- Highly liked by children, college students, adults and even elders

**Nutritional Composition** 

Nutrient	Value (Quantity/100g)	
Moisture (g)	3.2	
Carbohydrate (g)	57.37	
Protein (g)	10.70	
Fat (g)	47	
Crude fiber (g)	3.7	
Energy (Kcal)	696	
Calcium (mg)	230	
Iron (mg)	12.20	
Zinc (mg)	Zinc (mg) 5.56	
Beta carotene (µg)	5235	



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### 38. Moringa (Drum Stick) Green Chocolate

#### Features:

- Moringa is rich in beta carotene, Vitamin C, Iron, Zinc, Calcium, and very good source of sulphur containing amino acids as well as phytonutrients
- Sugar coated moringa leaves are fortified to chocolate
- Bioactive ingredients in moringa chocolate helps to boost immunity and provides lot of energy as well as reduces fatigue
- Contains good amount of macro and micro nutrients
- Yummy chocolates to suit any special occasions
- Highly liked by children, college students, adults and even elders

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)	Nutrient	Value (Quantity/100g)
Moisture (g)	3.2	Energy (KCal)	591
Carbohydrate (g)	56.31	Calcium (mg)	225
Fat (g)	36	Iron (mg)	10.1
Protein (g)	10.45	Zinc (mg)	5.47
Crude fiber (g)	3.7	Beta carotene(µg)	5166



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#### 39. Chia Bakarawada

- Yummy snack to suit any special occasions
- Extremely liked by children, teenagers, adults and even elders.
- Fried & crisp spiral, delightful snack with a sweet, spicy & tangy taste

# **Nutritional Composition**

Nutrient	Value (Quantity/100g)	Nutrient	Value (Quantity/100g)
Moisture (g)	9.0	Crude fiber (g)	6.6
Carbohydrate	63.0	Energy (KCal)	378
(g)	03.0	Calcium (mg)	184
Fat (g)	14.5	Iron (mg)	3.98
Protein (g)	14.7	Zinc (mg)	3.78



#### **Quality attributes**

- Better micronutrient profile (Polyphenols like quercetin, chlorogenic acid, caffeic acid) have anti-carcinogenic, antihypertensive, neuron protective effects)
- Rich source of omega 3 fatty acids, protein, fiber and antioxidants helps in prevention and treatment of risk factors related to life style diseases such as diabetes and cardiovascular diseases.

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### 40. Quinoa Chia Nachos

- Quinoa and Chia flour blended with Indian spices gives the product unique flavor, texture and crispiness
- Super-healthy snack that the entire family can munch on for every event

### **Nutritional Composition**

Nutrient	Value (Quantity/100g)	Nutrient	Value (Quantity/100g)
Moisture (g)	6.0	Crude fiber (g)	6.88
Carbohydrate	42.5	Energy (KCal)	275
(g)	12.0	Calcium (mg)	160
Fat (g)	8.0	Iron (mg)	3.12
Protein (g)	15.0	Zinc (mg)	3.59



### Quality attributes

- High in fiber, magnesium, B-vitamins, iron, potassium, calcium, phosphorus, vitamin E and various beneficial antioxidants.
- Quinoa Nachos is gluten-free, high in protein and one of the few plant foods that contain all nine essential amino acids.

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### FARM MACHINERY & EQUIPMENTS

#### 1. Tractor drawn automatic seed-cum-fertilizer drill

- Sowing of intercrop viz., Finger millet and Pigeonpea (8:2 or 10:2), Groundnut and Pigeonpea (8:2 or 10:2), Pigeonpea and Field bean (1:1), maize and pigeon pea (1:1).
- Sole crop viz., Ground nut, Finger millet, Field bean, Cowpea, Horse gram, Minor millet, Maize, Pigeonpea and Paddy.
- Strip cropping viz., Finger millet + Field bean (21:21), Finger millet + horse gram (21:21), Finger millet + Rice bean (21:21), Finger millet + Ground nut (21:21), Finger millet + Niger (21:21) and Finger millet + Sesamum (21:21)

# **Specifications**

Overall Dimensions (cms)	218(Length) x 158(Width) x 100(Height)
Weight (Kg)	275
Source of Power	Tractor
Man Power (Number)	2
Capacity (Kg/hour)	0.75



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### 2. 3-in-1 Groundnut Decorticator/ Sunflower Thresher/Maize Sheller

- Used for decorticating groundnut pods; shelling maize cobs and for threshing sunflower ear-heads
- Suitable for small & marginal farmers especially for seed production

# **Specifications**

Overall dimensions'L×W×H' (cm)	58 x 30 x 45
Weight (Kg)	8
Man Power (Number)	1
Capacity (Kg/hour)	
Maize	12-15
Sunflower	12-15
Groundnut	15



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#### 3. 2-in-1 Sunflower Thresher-cum-Maize Sheller

- Used for shelling maize cobs and for threshing sunflower ear heads
- Suitable for small & marginal farmers especially for seed production

# **Specifications**

Overall dimensions 'L×W×H' (cm)		40 x 38 x 105
Weight (Kg)		32
Source of Power	ſ	0.5 hp electric motor
Labour (Numbe	r)	2
Capacity	Maize	100
(Kg/hour)	Sunflower	20



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#### 4. Portable Winnower

- Used for winnowing agricultural produce after threshing
- Very handy when there is no wind for traditional manual winnowing
- Suitable for small & marginal farmers

### **Specifications**

Overall Dimensions 'L×W×H' (cm)	68 x 68 x137
Weight (Kg)	40
Source of Power	1 HP electric motor
Man Power (Number)	1
Capacity (Kg/h/labour)	500



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### 5. UASB Drum Composter

A machine for production of compost using agriculture, Agro-Industries and urban solid waste

- A simple, clean and hygienic technology for production of compost
- Installed at source of production of organic waste
- Avoids flies, mosquitoes, rodents etc., at the source of generation of waste
- It is eco-friendly controls soil, water and air pollution
- At most efficient utilization of organic waste in rural and urban areas
- Produces high quality of nutrient rich compost
- Short duration of composting (30-35 days)
- Compost from drum composter technology saves 50% chemical fertilizers, better crop yield and improves soil health
- A boon to self-employment

Overall Dimensions varies with volume of organic waste produced at the site





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### 6. Multipurpose Mobile Solar Tunnel Dryer

- For drying of wet silkworm pupae and silk waste
- Drying of fruits and vegetables
- Suitable for reelers, marginal and small farmers
- Trays four trays with mesh bottom of size 1.2 X 0.9 X 0.08 m were used to facilitate the loading and unloading of the products

# **Specifications**

Overall Dimensions	6.5 X 1.8 X 1.1 with MS square tube frame	
(Mts)	structure and covered with 5 mm thickness	
	toughened glass	
Source of Power	Solar	
Capacity (Kg)	60 kg wet silkworm pupae	
Insulation Material	Closed thermo-pore	
Drying time (hrs)	6.5 – 9.0	



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### 7. Solar-cum-Biomass Energy Dryer

- Used for dehydration for fruits and vegetable slices and also other agricultural produces
- It is a batch type hybrid dryer which utilizes both solar and biomass energy as heat source for drying
- Portable type dryer which can be used for on-farm drying and also suitable in production of raisin
- Suitable for non-electrified rural areas, small scale agro-processing units and self-help groups

### **Specifications**

Overall Dimensions 'L×W×H' (cm)	86 × 65 x 213
Weight (Kg)	100-125 approx.
Man Power (No)	1
Capacity	15 kg fruits and vegetables per batch
	(fresh weight basis)



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### 8. Solar-cum-Biomass Energy Dryer (Model-2)

- Used for dehydration for fruits and vegetable slices and also other agricultural produces
- Batch type hybrid dryer which utilizes both solar and biomass energy as heat source for drying
- It's a portable type dryer which can be used for on-farm drying and also suitable in production of raisin
- Suitable for non-electrified rural areas, small scale agro-processing units and self-help groups

### **Specifications**

Overall Dimensions 'L×W×H' (cm)	166 × 82 x 273
Weight (kg)	200-250 (approximate)
Man Power Required (No)	1
Capacity	40-45 kg fruits and vegetables (fresh
	weight basis) per batch
Approximate cost (Rs.)	60,000/- (without GST)



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# 9. Small Millet Dehuller (Abrasive Type)

- Used to dehull different small millets (Foxtail, Proso and Little One Pass;
   Kodo, Barnyard, Brown-Top Millets 2 passes) to get millet rice grains
- Suitable for small and marginal farmers, agro-processing units and custom hiring centres

### **Specifications**

Overall Dimensions 'L×W×H' (cm)	150 × 120 x 175
Weight (Kg)	200 - 250 approx.
Man Power (No)	1
Capacity (Kg/hour)	100
Efficiency (%)	>90
Source of Power	5 HP electric motor (3 phase)



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# 10. Groundnut Stripper (Loop type)

- Used for plucking groundnut pods from freshly harvested groundnut haulms
- Suitable for small & marginal farmers especially for bunchy type groundnut cultivars

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	120 x 110 x 152
Weight (Kg)	110
Source of Power	3 HP electric motor
Man Power (Number)	2
Capacity (kg/h/labour)	72



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#### 11. Mini Groundnut Decorticator

- Used for decorticating groundnut pods with low kernel breakage
- Suitable for small & marginal farmers especially for manually shelling groundnut seed pod

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	58 x 30 x 45
Weight (Kg)	8
Man Power (Number)	1
Capacity (Kg/hour)	15



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#### 12. Groundnut Decorticator

- Used for decorticating groundnut pods
- Eliminates drudgery in deshelling of pods
- Suitable for small & marginal farmers as well as for small oil expelling units (*rotaries*)

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	74 x 56 x 106
Weight (Kg)	42
Source of Power	0.5 HP electric motor
Man Power (Number)	1
Capacity (Kg pod/h)	120



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#### 13. Sunflower Seed Dehuller

- Used to remove the outer hulls from sunflower seeds and extract the kernels mainly for confectionary purpose.
- Suitable for cottage scale agro-processing units, Self Help Groups and bakery units

# **Specifications**

Overall Dimensions (cms)	40 x 29 x 99
Weight (Kg)	40
Source of Power	0.5 HP electric motor (Single phase)
Man Power (Number)	1
Capacity (Kg/hour)	15 - 20



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### 14. White Pepper Processing Machine

- A machine for production of natural white pepper corns from freshly harvested mature, green pepper berries
- Removes outer, pulpy pericorp from water steeped pepper berries
- Can be used for black pepper if outer pericorp is loosened by microbial retting process

### **Specifications**

Overall Dimensions 'L×W×H' (cm)	83 x 74 x 105
Weight (Kg)	45
Source of Power	0.5 hp electric motor
Man Power (Number)	1
Pepper Contact Parts	Food Grade SS & Nylon Brush
Capacity (Kg/hour)	125 -150



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#### 15. Tamarind Dehuller and Deseeder

- Used for dehulling of freshly harvested, dry tamarind fruits and then expelling seeds from the dry dehulled fruits
- Suitable for small & marginal farmers

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	68 x 68 x137
Weight (Kg)	45
Source of Power	2 hp electric motor
Man Power (Number)	1
Dehulling capacity (Kg/hour)	500 (fruit)
Deseeding capacity (Kg/hour)	45-50 (pulp)



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#### 16. Tamarind Deseeder

- Used to remove the seeds from dehulled tamarind pods and extract the raw pulp (rind) for commercial use.
- Suitable for small, marginal and large farmers, commercial tamarind pulp production units, Self-Help Groups and Custom Hiring Centres

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	155 × 95 x 190
Weight (Kg)	150 - 200 approx.
Man Power (Number)	1
Capacity (Kg/hour)	100
Efficiency (%)	≈ 90
Source of Power	3 HP electric motor (3 phase)



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### 17. High Capacity Tamarind Dehuller

- Used for separation of hulls from well dried tamarind pods
- Double stage equipment which is operated with the help of an electric motor (5 hp, 3 phase), low operating cost (Rs. 110 per tonne of pods)
- Suitable for mainly to large farmers, agro-processing units and custom hiring centres

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	154 x 90 x 184
Weight (Kg)	180 -200 approx.
Source of Power	5 HP electric motor (3 phase)
Man Power (Number)	2
Capacity (Kg/hour)	800-1000



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# 18. Coconut Dehusker (Pedal Operated)

- Used for dehusking coconuts with minimal effort
- Can be conveniently operated both by men and women
- Suitable for domestic use as well as small & marginal farm holdings

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	45 x 15 x 85
Weight (Kg)	6
Man Power (Number)	1
Capacity (Nuts/h)	50 - 60



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### 19. Mango Harvester

- · Used to pluck mango fruits from trees without fruit damage
- It is attached to a pole of suitable length while harvesting mangoes
- Suitable for domestic use as well as for small & marginal farm holdings

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	37 x 24 x 3
Weight (Kg)	0.450
Man Power (Number	1
Capacity (Fruits/h)	750



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### 20. Sapota Harvester

- Used to pluck sapota fruits from trees without fruit damage
- It is attached to a pole of suitable length while harvesting sapota fruits
- Suitable for domestic use as well as for small & marginal farm holdings

# **Specifications**

Overall Dimension 'L×W×H' (cm)	35 x 17 x 3
Weight (Kg)	0.350
Man Power (Number)	1
Capacity (Kg/hour)	15-20



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# 21. Arecanut Dehusker (Semi-Mechanical: Pedal Operated)

- Used for dehusking freshly harvested mature, non-fibrous green arecanut
- Operated manually with hand and foot by one to four persons
- Suitable for small & marginal farmers

# **Specifications**

Overall Dimensions 'L×W×H' (cm)	68 x 68 x 137
Weight (Kg)	40
Man Power (Number)	1 to 4
Capacity (Kg/h/person)	20



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### 22. Pongamia Decorticator

- Used to remove the hard outer shells from pongamia nuts and extract the kernels
- Semi-automatic machine
- Low operating cost
- Suitable for small, marginal and large farmers, bio-fuel extraction units, small scale processors and custom hiring centres

# **Specifications**

Overall Dimensions (cms)	149 x 90 x 177
Weight (Kg)	140 – 160 approx.
Source of Power	3 HP electric motor (Single or three phase)
Man Power (Number)	1
Capacity (Kg/hour)	200-250



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# 23. Artificial domiciliation for native bee pollinators: Bee Nivas

- It is an effective strategy conservation of pollinators through creating artificial nests.
- Artificial nesting sites will be helpful to increase the diversity of pollinators and benefits the ecosystem.

Targeted bee species	Nesting Materials
Megachile	Ipomea Reed stem, Bamboo straws and Wooden
	nest box
Carpenter bees	Bamboo stems
Nomia	Red soil+ FYM
Amegilla	Mud Bricks



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