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# SORGHUM DEMAND ON THE RISE

Sorghum has the same nutritional value as corn and that is why it is gaining importance as livestock feed.



consists of fibrous roots that grow from the lowest nodes of the plant stem at places below and just above the ground level. Grain sorghum is one of the most common forms of crop grown mainly in Africa, Asia and USA.

Sorghum is mainly grown for grains and also as an animal feed in the form of fodder. In India, it is known as 'jowar,' while in Africa, it is known as 'kafir.' It is resistant to drought and can thus grow very well in dry and barren areas. The term 'sorghum' comes from the Italian term 'sorgo,' which, in turn, came from the Latin 'Syricum' (granum), which literally means 'grain of Syria.'

## History

Sorghum, being a tropical crop, has its history related to the hot and humid areas of the world. The cereal grain is said to have originated around the present-day Ethiopia as a wild grass as early as 8000 years ago. The place where the crop was domesticated for the first time is still a subject of controversy but it is believed that sorghum spent the first 6000 years of its existence in a phase of ignorance as at that time no one knew about the long list of uses it can offer. The cereal crop, once adopted and cultivated, spread across the African continent, especially the regions of the Egypt and Sudan.

**S**orghum is the fifth largest crop in the world after rice, maize, wheat and barley. It is an annual erect plant bearing a cereal seed that is used the world over as a food and feed and for a long list of other uses as well. It comes from the family of 'Poaceae' and grows to a height of around 1.8 metres (6 feet), though for harvesting ease, many dwarf types of the plant are also produced.

The cereal crop is perennial in nature possessing corn like leaves and bearing the grain in a compact cluster. The sorghum grain is an

important cereal grain that is said to be the staple food of the poor in many countries. The grain is similar to that of maize but has more fat and proteins. This proves beneficial for the livestock and that's the reason for the popularity of the crop as a feed. It is also known by different names, including Durra, Egyptian millet, Guinea corn, Jowar, Juwar, Milo, Shallu and Sudan grass, depending upon the geographical area.

Sorghum, more specifically known as grain sorghum, is a part of the grass family 'Poaceae' that grows at the rate of 0.5-5 metres. It is an annual crop whose root system

Table I  
**Sorghum Production in India During 2000 to 2009**

Year	Production ('000 MT)	Per cent change
2000	7,716	-12.91
2001	8,390	8.74
2002	7,060	-15.85
2003	6,680	-5.38
2004	7,240	8.38
2005	7,630	5.39
2006	7,150	-6.29
2007	7,930	10.91
2008	7,240	-8.70
2009	7,500	3.59

Source: United States Department of Agriculture

Sorghum marked its entry to the Asian continent in the first millennium when it was brought to India for the first time and then it became popular among other countries in Asia as well. The weather conditions in the continent suited well for the plantation and its cultivation started here. Slave trade in the newly discovered America helped sorghum to get introduced into the new world and from thereon it got distributed in the rest of the world. At that time, it was regarded as the food of poor and the slaves were fed on sorghum. With time and increasing popularity, a number of new varieties of the grain were found and many uses were also invented.

### Global overview

Sorghum, being extremely drought-tolerant, is found in the arid and semi-arid parts of the world. It has the same nutritional value as corn and that is why it is gaining importance as livestock feed. Sorghum is also used for production of ethanol, grain alcohol, starch, adhesives and paper other than being used as food and feed.

Numerous types of genetically

Table II  
**Sorghum Consumers and Importers**

(metric tonnes)

Consumption of sorghum		Importers of sorghum	
Top countries	Consumption	Top countries	Import
Nigeria	10,450,000	Mexico	3,000,000
Mexico	8,600,000	Japan	1,393,000
India	7,700,000	Sudan	250,000
USA	4,851,000	European Union	150,000
Sudan	4,250,000	Somalia	75,000
China	2,500,000	Chile	65,000
Argentina	2,200,000	Israel	50,000
Ethiopia	2,200,000	Niger	50,000
Brazil	1,900,000	Taiwan	50,000
Australia	1,855,000	Eritrea	25,000

tern, the world's total consumption hovers around 58 million metric tonnes, Nigeria being at the top of the list. More than 55 per cent of the total production is consumed as food for human beings and around 33 per cent as fodder.

### Uses of sorghum

#### 1. As food for human beings.

different sorghum are available. These are broadly categorised into four heads:

1. Grain sorghum (grown for grain)
2. Sorgos (grown for fodder)
3. Grass sorghum (wild sorghum)
4. Broomcorn sorghum (used in making brooms)

The popularity of the crop is clear from the fact that it is cultivated in 99 countries in the world, with major production share contributed by the African countries. The total world production of the cereal grain in 2005-06 was 58.9 million metric tonnes. USA accounted for up to 17 per cent of the world's total production. Nigeria and India ranked second and third in the list of major producer countries.

Regarding the consumption pat-

tern, As sorghum contains many nutritional additives like protein, iron and calcium, it is widely used as food for human consumption. It is used in the form of porridge, flour, malted and distilled beverage, etc.

**2. As animal feed.** Sorghum is also used in the form of animal feed for livestock in many parts of the world. It contains almost the same nutritional content as maize, and is thus an ideal source of food for the animals. Because it also contains a high amount of tannins and phenolic acids, which can be harmful for some animals like cattle, it needs to be reprocessed to enable the sorghum grains to be digested by these cattle.

**3. Commercial uses.** Sorghum also serves a lot of commercial uses. For example, stems or fibres of the sorghum plant are used in making

### World Market of Sorghum

1. The US is the largest exporter of sorghum in the world. It has been exporting more than six million metric tonnes of sorghum gains annually, generating an income of around half a billion dollars.
2. Sorghum is a major input to the Mexican feed industry representing sixty to eighty per cent of mixed feeds that are used in animal feeding.
3. International market prices for sorghum are largely determined by the supply and demand situation in the United States, and export prices are based on the reference sorghum, US Milo No. 2, yellow.
4. According to a market survey of sorghum, honey sells better than sorghum.

Table III  
**Top Ten Sorghum Producing Countries**  
(metric tonnes)

Country	Production
USA	9,847,680
Nigeria	8,028,000
India	8,000,000
Mexico	6,300,000
Sudan	4,228,000
China	2,952,800
Argentina	2,900,000
Ethiopia	1,800,000
Australia	1,748,000
Burkina Faso	1,399,302

Table IV  
**India's Yearly Sorghum Imports and Exports During 2000 to 2009**  
(‘000 metric tonnes)

Year	Sorghum imports		Sorghum exports	
	Imports	Per cent change	Exports	Per cent change
2000	0	NA	0	NA
2001	1	NA	1	NA
2002	0	-100	7	600.00
2003	0	NA	42	500.00
2004	3	NA	24	-42.86
2005	0	-100	4	-83.33
2006	0	NA	9	125.00
2007	0	NA	90	900.00
2008	0	NA	25	-72.22
2009	0	NA	25	0.00

NA = not available; Source: United States Department of Agriculture

wall boards, solvents, bio-degradable packaging materials, fences, etc. Sorghum is also used in making ethanol, adhesives and paper.

### Production in India

India is among the major producers of sorghum in the world. The country has been able to maintain its position among the top three producers of the crop. As already mentioned, sorghum is produced both

as a summer and winter crop, i.e., kharif and rabi crops, in the country. Indian production hovers around an average of 9 million metric tonnes but for the last few years a slow downfall in the production as well as in the area covered for sorghum production has been observed. In 2005-06, India produced 8 million metric tonnes of sorghum. Area-wise, India accounts for around 20 per cent of the world total area used for crop production.

Maharashtra produces the maximum sorghum in India, from districts like Solapur, Pune, Bijapur, Nanded, Akola and Maboobnagar. Sorghum is the third largest crop

to be grown in India after wheat and rice. More commonly known as jowar in the Indian sub-continent, it grows well in both summer and winter. Seventy-five per cent of the cultivated area is devoted to the production of sorghum. Other than Maharashtra, Karnataka, Andhra Pradesh and Madhya Pradesh are some of the states where sorghum is grown on a massive scale.

Table I shows sorghum production in India during 2000 to

2009.

**Major trading centres of sorghum in India.** In India, sorghum or jowar is traded at the following primary markets of Maharashtra: Akkalkot, Mohol, Barsi, Pandharpur, Kurduwadi, Mumbai and Kolhapur.

### Global consumption and imports

Table II shows the major sorghum consumers and importers in

### Market Influencing Factors

1. Change in taste and preferences
2. Farming system changes
3. Payment of labour involved in sorghum production
4. Alternative cropping strategies depending upon such factors as irrigation
5. Demand from fodder industries in the country

the world along with their consumption and import figures for the year 2005-06.

World trade in sorghum is dominated by USA—the largest producer of the crop in the world. The total exports summed up to 5,626,000 metric tonnes in the year 2005-06 with USA contributing around 88 per cent of the world's total exports. Argentina, Australia, Nigeria, China and India are the other important exporters of the cereal grain.

### Sorghum producing countries

Sorghum is produced mainly for feeding purposes. Due to nutritional value and growth pattern very similar to maize, it also serves as a substitute for it. The world production of this cereal grain in 2005-06 was 58.9 million metric tonnes, the production being stable over a long period of time.

Table III shows major global producers of sorghum with their production figures for the year 2005-06. The top spot in the list is bagged by the United States, though Nigeria is too close to its production figure and is giving a tough competition for the first place. The world acreage of area pertaining to sorghum production sums up to around 440,000 square kilometres.

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