Maize & Corn Processing Projects - List of Profitable Manufacturing Business Ideas.

Maize, Corn By Products, Dextrose, Liquid Glucose, Sorbitol, Maize Starch Production Plant.
Introduction

Agriculture is one of the strongholds of the Indian economy and makes for about 18.5% of the nation’s gross domestic product. Maize or corn is a coarse grain and is now accepted as a staple diet in India. Its demand, as well as the supply, is increasing year after year. In terms of area, after rice and wheat, maize corn is the third most important crop or cereal crop. It is a fact that out of the total output, 49% is used as poultry feed, 12% is put into use as animal feed, 25% as food, 13% as corns starch and 1% as seed. The major maize corn producing states in India are Andhra Pradesh, Karnataka and Maharashtra. The value added products that are obtained as a result of corn starch processing are liquid glucose, corn gluten, sorbitol, dextrose monohydrate and others.
Maize is preferred in poultry feed because of its easy availability. India has grown to be the fifth largest egg producer globally and 18th-largest producer of broiler chicken. In the poultry feed industry maize constitutes about 60 per cent of the feed and therefore is a critical raw material. Maize production is growing faster than that of all other cereals, thanks to its growing demand as poultry feed, as well as for human and industrial consumption.

Maize is the third most important crop after rice and wheat in India, engaging directly more than 12 million maize growers and contributing two per cent to the total value of output from all the agricultural crops in the country. Maize is grown in a wide range of production environments, ranging from the temperate hill zones to the semi-arid desert margins and in all three seasons- Kharif, Rabi and spring. The last few years have seen dramatic changes in the production and productivity of maize, as it registered highest growth among all other food crops in the past five years.
Maize is cultivated widely throughout the world and has the highest production among all the cereals. It is considered as one of the fastest growing cash crops in the world becoming the largest component of global coarse-grain trade. Maize is preferred staple food for 900 million poor, 120-140 million poor farm families, and about one-third of all malnourished children globally. With changing global food demands and consumer choices maize is now becoming the wonder crop for many countries especially in developing countries like India.

India’s maize production in 2016-17 is forecast at 25 million tonnes, up from 21.8 million the year before. Indian maize exports are set to rise to 700,000 tonnes from 500,000. The country also is set to export 50,000 tonnes of sorghum, down from 63,000 the year before.
Total Maize Consumption in India

![Bar chart showing the total maize consumption in India from 2001 to 2016. The chart indicates an increasing trend in consumption over the years. The bars represent Feed Consumption (in Thousand Metric Tonnes) and FSI Consumption.](www.entrepreneurindia.co)
The demand for maize is spiralling in India. Historically, demand for the grain has been driven by the poultry and starch industries. But with changing food habits, the demand for food additives derived from maize is also growing. India can double its maize production to 50 million tones (MT) by 2025 to meet the rising domestic demand of the crop. About 64 per cent of the total maize production is used for poultry feed, followed by 16 per cent for human consumption.

There are many companies across the length and breadth of the country that contribute to the overall corn starch production. Along with corn starch, these companies produce several by products including liquid glucose, corn gluten, corn feed, corn germ and others which too are further refined and sold to various kinds of industries for their respective uses.
Starch and Derivatives

Corn Starch production in India is very fragmented since there are a large variety of producers or manufacturers with different production capacities. The main raw material for the same is maize but to a small extent, some other materials and used and they include rice, potato and tapioca. The key products or derivatives which are hence obtained include modified starches, syrups, sweeteners, corn germ and others. The main demand for starches arises from textile, paper and construction industries besides the pharmaceutical industry. The use of these derivatives in the food industry is growing but not at a very fast pace, however, there is a lot of potential for the corn starch processing industry that remains untapped.
The demand for starches and derivatives looks very promising in India as all the major user segments of starches and derivatives are showing near double digit growth in their production. The major users of starches and derivatives are food, textile, paper and pharma sectors. The demand for native and modified starches in the industry is forecast to grow at a promising rate of 8 percent p.a. as the pharmaceutical sector is growing at a healthy rate.
Global Corn Starch Market Share Analysis, By Product Type, 2016 & 2024

US$ 22,029.5 Mn

- Sweeteners: 56.9% in 2016, 56.9% in 2024
- Modified Starch: 24.0% in 2016, xx% in 2024
- Native Starch: 19.1% in 2016, xx% in 2024
One of the main factors which is driving the maize starch market globally is that the overall output of maize is really high and the starch content in it too is high. However it is important to remember that the rising number of alternatives or substitutes like tapioca are at the same time restraining the growth of the global corn starch market to a certain degree. On the basis of product type, corn starch is in the category that consists of native starch, sweeteners and modified starch. Out of these, the sweeteners category presently dominates and has a share of more than 50% in the global corn starch market. As far as starch segment is concerned, a heavy growth is expected and it is projected that it will grow at a rate of 5.4% over the next forecast time period. The use of fructose corn syrup has been increasing rapidly in beverages and foods and this is a factor which may keep the demand of corn starch based sweeteners high.
In the year 2015, the food and beverage segment made use of the highest amount of global corn starch market by application while some of the other segments in which it is used are pharmaceuticals, animal feed products, textiles, paper and chemical industries. The food and beverage industry is however likely to be the leader in this aspect.

Corn Glucose

Corn glucose, also referred to as glucose syrup, is a food syrup obtained by the hydrolysis of corn starch. It is mainly a concentrated source of calories with very little nutritional value. Over the past several years, corn glucose has emerged as a popular substitute for sugar. The demand of corn glucose in the food processing industry has also witnessed strong growth in the last few years.
It is principally used as a key ingredient in commercially prepared foods for enhancing flavour, improving colour, adding volume and providing a smooth texture to the food. As it helps in preventing crystallization of sugar, corn glucose is extensively used in confectionery, jams, tinned fruits, ice cream, sorbets, beverages, dairy desserts, biscuits, pastry, cereals, ketchup, sauces, vitamin tonics and cough medication. The global corn glucose market reached a volume of around 3.5 Million Tons in 2017, representing a CAGR of 1.2% during 2010-2017.
**High Fructose Corn Syrup (HFCS)**

High fructose corn syrup (HFCS) is a liquid sweetener utilizing a modified form of corn syrup which is also an alternative to sucrose used in foods and beverages industry. High fructose corn syrup is made from corn using a process called wet milling. It holds around nine percent of overall global sweeteners market. High fructose corn syrup is used in place of sucrose in the foods and beverages industry. It is derived as a liquid sweetener from corn syrup using a process called wet milling. High fructose corn syrup (HFCS) accounts for a share of 9% in the global sweeteners market.
HFCS is not much different from other fructose glucose sweeteners such as honey, sucrose, and fruit juice concentrates in terms of composition or metabolism. It is generally composed of 42% to 55% fructose. HFCS exhibits better stability and works well in acidic beverages that are available in liquid state. This ensures easy transport and handling of HFCS. Also it renders the substance better miscibility than granulated sucrose.

The global fructose market size was estimated at USD 3.80 billion in 2016. Growing demand for low sugar foods and rising awareness regarding ill effects of diabetes is driving market growth. The growing demand for products containing low-calorie sweeteners derived from natural ingredients coupled with the rising awareness among the population regarding the adverse effects of excessive sugar consumption has increased the emphasis on low glycemic index.
High-fructose corn syrup (HFCS) market share holds around 15% of the overall global food sweeteners market. The use of this syrup as an alternative to sucrose (cane sugar) is the primary factor driving the growth of the global HFCS market. It is expected that HFCS will overtake cane sugar as a sweetener in the following years, as it is cost-effective and sweeter in comparison to glucose. As a result of these qualities, the demand for HFCS is expected to intensify over the forthcoming years.
Corn Oil

Corn is one of the most popular feed, food and industrial cereal. Corn flour, corn oil, popcorn, corn syrup, corn soap are some of the most common corn products consumed worldwide. Corn oil is primarily used as a cooking medium in food industry and for manufacturing hydrogenated oil. In 2013, corn oil was the fastest growing feedstock for biodiesel production in the world. Corn is one of the most widely grown crop. Thus easy availability of raw material at lower price is supporting the market growth across the globe.

Corn oil market has been segmented on the basis of Edible and non-edible corn oil. Among both of these segment non edible segment is expected to show robust growth over the forecast period.
Global Corn Oil Market, 2015-2022 (Kilo Tons) (US$ Mn)
Niir Project Consultancy Services (NPCS) can provide Detailed Project Report on Required Project Maize & Corn Processing Projects - List of Profitable Manufacturing Business Ideas.
Maize, Corn By Products, Dextrose, Liquid Glucose, Sorbitol, Maize Starch Production Plant.
Here are few Projects for Startup:

- **MAIZE STARCH & LIQUID GLUCOSE**

Maize starch is the most commonly used carbohydrate found in plants. Industrially, starch is classified into two types viz. natural & modified starch. It has many industrial applications, varying from the pulp and paper industry to the food industry.  

Read more
➢ CORN PROCESSING PLANT (FOR GLUCOSE SYRUP & FRUCTOSE)

Glucose Syrup is a clear, colourless, viscous solution making it compatible with the physical properties desired in the end products chemically, glucose syrup has functional properties such as high fermentability, viscosity, humectancy, hygroscopicity, sweetness, colligative properties and its role in maillard’s reaction.

Read more
Fructose is a simple monosaccharide found in many foods. It is a white solid that dissolves readily in water. Honey, tree fruits, berries, melons and some root vegetables, contain significant amounts of the fructose derivative sucrose (table sugar). Sucrose is a disaccharide derived from the condensation of glucose and fructose. [Read more]
MAIZE STARCH

Starch occurs naturally in the plants and its percentage varies with the plant and also in different parts of the same plant. Corn (maize), sorghum, grain wheat, rice, potato, tapioca, arrow root and sago are among the important sources of natural starches.

Read more
LIQUID GLUCOSE FROM MAIZE

The maize also called corn or Indian corn is widely cultivated in India. Maize ranks high among the four or five principal cereal crops of the world. Maize is utilized in more diversified ways than any other cereal. Read more
STARCH AND ALLIED PRODUCTS FROM MAIZE

Starch is a group of polysaccharides, composed of glucopyranose units joined together by-glucosidric linkages. Industrially starch is divided into two types natural & modified. The cereal starches are recovered by many processes like wet milling. Read more
CORN OIL (MAIZE OIL)

Maize oil is produced as the big product from the maize. In wet milling industries starch and its product, corn syrup, dextrose, dextrin etc. Are the principal products, gluten feeds and corn oil are the main by-products. Corn products which mainly consist the endosper without separation of starch from gluten such a cornmeal, homing. Read more
MAIZE AND ITS BY-PRODUCTS

Maize is one of the most important cereal crops in the world agricultural economy and is grown in many countries in each of the continents of the world. Maize is utilized in more diversified ways than any other cereal. The grain is quite nutritious with a high percentage of easily digested carbohydrates, fats, and proteins and hardly any deleterious substances. Read more
MAIZE PROCESSING & ITS ALLIED PRODUCTS (STARCH, LIQUID GLUCOSE, DEXTROSE MONOHYDRATE, DEXTROSE ANYHDROUS, SORBITOL AND VITAMIN C)

Maize (Zea mays L) is one of the most important cereals of the world and provides more human food than any other cereal. Starch is a group of polysaccharides, composed of glucopyranose units joined together by glucosidric linkages. Read more
MAIZE PROCESSING FOR GLUCOSE

Maize is one of the cereal grains which produce throughout India and is placed 3rd position in agricultural base production though maize is not our staple basic food but our basic staple foods are wheat and rice: Maize is constitute by hull, germ, protein, starch and and moisture. Read more
MAIZE WET MILLING PROCESS

Maize is third important cereal/crop after wheat and rice and has a great potential of processing due to its high nutritive value and commercial uses. Maize (also known as corn) is common name for a cereal grass widely grown for food and livestock fodder.

Read more
CORN FLAKES

Corn flakes being one of most nutritious foods and is consumed as breakfast food not only in India but elsewhere in the world. Corn flakes have very good taste. Though several other breakfast cereals are also available in the market but they are still to gain popularity. Read more
MODIFIED STARCH

Starches are modified to enhance their performance in different applications. Starches may be modified to increase their stability against excessive heat, acid, shear, time, cooling, or freezing; to change their texture; to decrease or increase their viscosity; to lengthen or shorten gelatinization time; or to increase their viscostability. Read more
DEXTRIN FROM STARCH

Dextrin is a starch derivative. It is obtained as water-soluble carbohydrate produced by heat and acid depolymerization. It is mostly used in adhesive industry. Dextrin is used in adhesive application. These are used for envelope and labeling adhesives, adhesive for postage-stamp, gummed tape etc. [Read more]
Maize (Zea mays) is classified into dent, flint, waxy, sweet and popcorn categories. Dent corn also known as field corn, containing both hard and soft starch, becomes indented at maturity. Flint corn having hard, horny, rounded or short and flat kernels; with the soft and starchy endosperm is enclosed by hard outer layer. [Read more](http://www.entrepreneurindia.co)
DEXTROSE INJECTION

Dextrose injection basically is manufactured from the homogeneous solution of dextrose and sterilized water. As raw material, there is abundant availability of dextrose in India. Basic plant and machinery’s as well as good fabricators also are fully available in India. Read more
Dextrose anhydrous is generally manufactured from starch, basically maize starch. It is manufactured by vacuum evaporation of the dextrose solution and by crystallization. There is plenty of availability of raw materials. The market demand of the above products is appreciably high and these have good export potential also.
Dextrose (or D-Glucose) is a simple hexose mono-saccharide sugar. It is the natural form of Glucose. Dextrose is offered at a very high grade of purity. Its empirical formula is C6H12O6. Dextrose is used as a source of energy to cultivate microorganisms and for fermentation studies. Read more
GLUCOSE SALINE

Dextrose is a carbohydrate caloric agent. Glucose, also known as dextrose, is a simple sugar that can be found in nature and are chemically identical. Dextrose is simply in lay terms sugar water and is generally used in those patients who have a very low blood glucose level or are unable to eat for some reason. Read more
SORBITOL

Sorbital is in the form of white crystalline solid or 70% aqueous colourless, odourless syrup with sweet taste. In majority of applications, 70% aqueous sorbitol is used. It is used as raw material for the manufacture of vitamin C and also as basic additive material in toothpaste, creams, cosmetics, paper and numerous food products. Read more
For more Projects and further details, visit at:

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Major Queries/Questions Answered in Our Report?

1. How has the industry performed so far and how will it perform in the coming years?
2. What is the Project Feasibility of the Plant?
3. What are the requirements of Working Capital for setting up the plant?
4. What is the structure of the industry and who are the key/major players?
5. What is the total project cost for setting up the plant?
6. What are the operating costs for setting up the plant?
7. What are the machinery and equipment requirements for setting up the plant?
8. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up the plant?
9. What are the requirements of raw material for setting up the plant?
10. Who are the Suppliers and Manufacturers of Raw materials for setting up the plant?

11. What is the Manufacturing Process of the plant?

12. What is the total size of land required for setting up the plant?

13. What will be the income and expenditures for the plant?

14. What are the Projected Balance Sheets of the plant?
15. What are the requirement of utilities and overheads for setting up the plant?
16. What is the Built up Area Requirement and cost for setting up the plant?
17. What are the Personnel (Manpower) Requirements for setting up the plant?
18. What are Statistics of Import & Export for the Industry?
19. What is the time required to break-even?
20. What is the Break-Even Analysis of the plant?
21. What are the Project financials of the plant?
22. What are the Profitability Ratios of the plant?
23. What is the Sensitivity Analysis-Price/Volume of the plant?
24. What are the Projected Pay-Back Period and IRR of the plant?
25. What is the Process Flow Sheet Diagram of the plant?
26. What are the Market Opportunities for setting up the plant?
27. What is the Market Study and Assessment for setting up the plant?
28. What is the Plant Layout for setting up the plant?
Reasons for Buying Our Report:

• The report helps you to identify a profitable project for investing or diversifying into by throwing light to crucial areas like industry size, market potential of the product and reasons for investing in the product
• The report provides vital information on the product like it’s characteristics and segmentation
• The report helps you market and place the product correctly by identifying the target customer group of the product
• The report helps you understand the viability of the project by disclosing details like machinery required, project costs and snapshot of other project financials
• The report provides a glimpse of government regulations applicable on the industry
• The report provides forecasts of key parameters which helps to anticipate the industry performance and make sound business decisions
Our Approach:

- Our research reports broadly cover Indian markets, present analysis, outlook and forecast for a period of five years.
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Our Team has simplified the process for you by providing a "Free Instant Online Project Identification & Selection" search facility to identify projects based on multiple search parameters related to project costs namely: Plant & Machinery Cost, Total Capital Investment, Cost of the project, Rate of Return% (ROR) and Break Even Point % (BEP). You can sort the projects on the basis of mentioned pointers and identify a suitable project matching your investment requisites......Read more
Detailed Project Reports

NPCS is manned by engineers, planners, specialists, financial experts, economic analysts and design specialists with extensive experience in the related industries.

Our Market Survey cum Detailed Techno Economic Feasibility Report provides an insight of market in India. The report assesses the market sizing and growth of the Industry. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line.
And before diversifying/venturing into any product, they wish to study the following aspects of the identified product:

- Good Present/Future Demand
- Export-Import Market Potential
- Raw Material & Manpower Availability
- Project Costs and Payback Period

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Working Capital Requirement, uses and applications, Plant Layout, Project Financials, Process Flow Sheet, Cost of Project, Projected Balance Sheets, Profitability Ratios, Break Even Analysis. The DPR (Detailed Project Report) is formulated by highly accomplished and experienced consultants and the market research and analysis are supported by a panel of experts and digitalized data bank.

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- Economic feasibility study of the Project
- Market potential survey/research
- Report Compilation
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