In the name of God

Pre-feasibility study form

Plan Name: Production of human and animal probiotics

Employer: Chaharmahal and Bakhtiari Industrial Estates Co.

Consulting Company: Kavosh Consultants Co.

Project Address: Shahrekord Industrial Estate

Date: ۲۰۲۲

Update: ۲۰۲٤

SUMMARY OF THE FEASIBILITY STUDY

general information
Project title: Feasibility studies for the production of human and animal probiotics
Project capacity: ٥٠ tons per year
Employment rate: ٤٢ people
Working days: ٢٨٨ days
Product uses: food industry
Market
Global price of the product: about ٣٣ Euro
Domestic demand: about ١٦٠٠ tons in the next five years
Domestic production: about ١٤٠٠ tons
Import: ٨ tons
Export:-
Technical study
Land area: ٥٠٠٠
Building area: ٢٢٠٠
Main raw materials: microorganisms and...
How to supply raw materials: internal-external
Required electricity: ١/١٠٠/٠٠٠ kWh
Required water: ٨٠،٠٠٠ cubic meters
Required fuel: ١/٣٠٠/٠٠٠ cubic meters
Financial and economic study
Fixed investment amount: ٨٧٩٥١٢ million rials- ١،٦٠٢،٠٢٦ euro
Working capital: ٩١٣٧٩ million rials- ١٦٦،٤٤٦ euro
Total investment: ٩٧٠٨٩١ million rials- ١،٧٦٨،٤٧٢ euro
Annual profit: ٢٠٠،٠٠٠ million rials - ٣٦٤،٢٩٩ euro
Net Present Value (NPV): ٨٠٩٠٧٦ million Rials- ١،٤٧٣،٧٢٧ euro
Break-even Point (BEP): ٨٣٧٠٠٠ million rials- ١،٥٢٤،٥٩٠ euro
Internal rate of return (IRR): ٢١٪
Payback period: ٥ years
Investment Sources Ratio Equity: ٣٠٪ Financing: ٧٠٪

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Introduction

Feasibility studies are expert studies that are carried out prior to the implementation of economic investment plans. In these studies, from the market, technical, financial and economic point of view, the plan is analyzed and its results used as a basis for investor decision making.

The present report is a feasibility study of Production of human and animal probiotics. These studies have been prepared in the framework of feasibility studies methodology and according to the above methodology, the economic capacities and volume of investments required to execute the project will be estimated and presented so that investors and interested stakeholders can obtain all the information needed. Earn money and start investing in open-ended, open-minded economic investment. It is hoped that these auxiliary studies, however small, will contribute to the development of our country.

۱ -Product Introduction

Probiotic is a collection of bacteria from the Lactobacillus and Bifidobacterium families, which are non-pathogenic. These bacteria are also present in some products such as yogurt, and humans will have stronger physical health by eating it. These non-pathogenic bacteria remain in the intestine and by establishing the balance of microbes in the intestine, it is considered a normal flora.

Probiotics have the ability to inhibit dangerous pathogens and are widely used in the treatment or prevention of many diseases such as diarrhea. In this article, we want to talk about the rationale of probiotic products.

Probiotic as a beneficial bacteria has a protective role in our body. This bacteria prevents the growth of dangerous bacteria. In fact, probiotics are called good bacteria. In simpler words, probiotic products balance the good and bad bacteria in the gut.

There are even more probiotic bacteria in the human body than the weight of the brain. Probiotic bacteria are living bacteria. Probiotics are also widely used as animal feed. Animal probiotics are usually available in the form of tablets, granules, powders, and pastes. Probiotics are a beneficial food supplement made from live microbes.

When livestock and poultry consume probiotics, the microbial balance is established in their bodies. Probiotics can have beneficial effects in livestock and poultry. Probiotics are intestinal bacteria, but

this bacteria works productively in the human body. In fact, probiotics are highly compatible in the body and its side effects are not noticeable at all. In this article, we intend to inform you about probiotic products.

Types of probiotics

Two types of bacteria and one type of single-celled fungus produce probiotics. The first type of probiotic is lactobacillus, which is commonly found in yogurt and other fermented foods. Those who suffer from diarrhea or indigestion by consuming lactose-containing products, do not face this problem anymore by eating probiotic dairy products.

Bifidobacterium is another type of bacteria that is also found in dairy products such as yogurt and kimchi. This type of bacteria is used to treat intestinal syndrome.

Saccharomyces bulari is a single-celled fungus that balances the bacteria in the human body, including the digestive and vaginal mucosa.

Consumption of probiotic products

The consumption of probiotic products is important and should not be consumed excessively. The unit of probiotic measurement is the clone. Probiotics are different, some need ۱ to ۲ billion per day, while others need at least ۲۰ billion units.

According to the conducted research, excessive consumption causes damage to the human body. The price of probiotics is not cheap and consuming more of them will not bring more benefits. Currently, they are still researching and searching about probiotics.

۱-۱-Product Name and Code (ISIC ۳)

According to the information obtained from the Ministry of Industry, Mining and Trade, the ISIC code of the products mentioned in this plan is ۱۵۴۹۴۱۲۵۳۵.

۱-۲-Customs Tariff Number

According to the book of export and import regulations of ۲۰۲٤ and the service and information portal of industry, mining and trade, the product of this project is in the category of customs tariff code ۳۰۰۲۹۰۲۰.

۱-۳- IMPORT AND EXPORT CONDITIONS

Basic rights include customs duties, taxes, the right to register goods, various duties and other funds received from imported goods. The sum of these receipts and commercial profit, which is determined by the Cabinet of Ministers according to the relevant laws, is referred to as input rights. The import duty for the products of this plan is ٥٪.

١-٤- REVIEW AND PRESENTATION OF STANDARDS (NATIONAL OR INTERNATIONAL)

There is no direct standard for Electric converters (inverters) and controllers. The standards are similar to this plan as follows:

Standard Name	Standard Number	Description
National standard	١٩۴٥٩	Probiotic microorganisms - characteristics and test methods (in vitro)
National standard	٢٢٠١٥	Evaluation of probiotic microorganisms in food - guide

Source: http://www.isiri.org/

١-٥- REVIEWING AND PROVIDING NECESSARY INFORMATION ON DOMESTIC AND GLOBAL PRODUCTION PRICES AS WELL AS GLOBAL PRODUCT PRICES

The global price of probiotics is around ٣٣ euro per kilogram. Its Rial equivalent is about ١،٨٠٠،٠٠٠ Tomans.

١-٦- EXPLAIN THE USES OF THE PRODUCT

In the distant past, microbes were always used in the fermentation of all kinds of food and alcohol, but today probiotics are used as a preventive and curative agent in various products.

Reducing lactose resistance. Because LAB converts lactose into lactic acid.

Prevent colon, small intestine, liver and breast cancer.

Reducing blood cholesterol and its absorption from the intestine (by breaking down bile in the intestine)

Lower blood pressure.

Improving and strengthening the immune system and preventing infections.

Treatment and prevention of acute diarrhea.

Reducing intestinal inflammation.

Reducing food allergies or eczema in children.

Improving the absorption of minerals and vitamins.

Improving the symptoms of irritable bowel syndrome and colitis (inflammation of the colon mucosa)

Preventing the growth and proliferation of harmful bacteria.

Treatment and prevention of vaginal yeast infections, diarrhea associated with the use of antibiotics, mouth sores, tooth decay, vaginal inflammation (vaginitis), athlete's foot, fungal infections, thrush (oral candidiasis).

Improving digestion and food absorption.

Helping to make B and K vitamins.

۱-۷-EXAMINE ALTERNATIVE PRODUCTS AND ANALYZE THEIR EFFECTS ON PRODUCT CONSUMPTION

Antibiotics are one of the alternatives of probiotics, but unlike antibiotics, probiotics improve the growth and vitality of the microbial population of the digestive tract. Probiotics are live microorganisms that may be able to prevent and treat certain diseases if administered in sufficient amounts. You can get probiotics from supplements or herbal extracts, as well as foods that are prepared from bacterial fermentation. The most common groups of probiotics are lactobacilli and bifidobacteria. Due to the antimicrobial properties that exist in the extracts and essential oils of some plants, these products can be used as a natural alternative to antibiotics. He also used them to protect pharmaceuticals and food against microbial spoilage.

Due to the resistance of microorganisms to antibiotics, researchers are searching for new antimicrobial substances. Among them, medicinal plants play an important role. Following the ban on the use of growth-promoting antibiotics in livestock and poultry feed due to concerns about the transmission and proliferation of resistant bacteria in the human food chain, finding a suitable alternative to antibiotics has always been the focus of research centers and livestock and poultry producers around the world.

۱-۸-STRATEGIC IMPORTANCE OF GOODS IN IRAN AND COUNTRIES OF THE REGION

Probiotics have gained strategic importance in Iran and the world today. Although research is still ongoing to determine the exact benefits of probiotics, available evidence suggests that probiotics have these health benefits:
Improve digestion, food absorption
Preventing the growth and proliferation of harmful bacteria in the intestines and body
Prevent small bowel cancer
Prevent liver cancer
Prevent colon cancer
Prevent breast cancer
Reducing lactose resistance
Lowering blood pressure (very useful for patients with high blood pressure)
Strengthen the immune system
Prevent infections and diseases
Reduce intestinal inflammation
Better absorption of vitamins and minerals
Improvement of irritable bowel disease (Gastrocolitis)
Treatment and prevention of many diseases such as: tooth decay - mouth ulcers, diarrhea caused by the use of antibiotics - vaginitis - fungal infections - vaginal yeast infections, thrush and...
Helping in the production of K and B vitamins
Reduce food allergies
Treatment and prevention of acute diarrhea
Reduces blood cholesterol
Based on the research, the absence of beneficial bacteria in the intestine will greatly harm the health and immunity of the body. Therefore, by consuming probiotic substances or products, we will play a fundamental role in the health of our body. The use of these types of consumables is also unavoidable and every family will inevitably use these materials in their lives. Probiotics are one of the important and very positive achievements that scientists have used in recent years. Probiotics are very useful food supplements that have many effects to increase the power and efficiency of the defense through the function of improving and balancing the intestinal microbes. They will fulfill the body. Today, most of the dairy factories will make many uses of these products, and in some chicken farms, they will use probiotic products to improve egg production, daily consumption of chickens, chicken weight, and egg size. did Note that the effectiveness and usefulness of probiotics is as long as they are consumed.
And they are used in various foods, which include:
yogurt
kefir drink, also known as kefir buttermilk (the product of milk fermentation by a starter containing yeast, bacteria and milk protein)

Salted cabbage (shredded cabbage left in concentrated salt water for several days and lactic acid fermentation was done in it)
Lots of pickles
Miso (a Japanese seasoning obtained by fermenting soybeans with a fungus called Aspergillus oryzae and salt)
Kimchi (a Korean side dish containing fermented vegetables)

۱-۹-MAJOR MANUFACTURING AND CONSUMER COUNTRIES

The largest producing country:

Rank	Country name
۱	France
۲	Japan
۳	America
۴	Sweden
۵	Switzerland

The largest consuming regions of probiotic products in the world:

Rank	Name of the region
۱	North America
۲	Europe
۳	Asia

The largest manufacturing companies: Danone, Yakult Honsha Co.Ltd, ADM, Probi, Nestle

۲- SUPPLY AND DEMAND SITUATION IN IRAN AND COUNTRIES IN THE REGION

۲-۱-AN EXAMINATION OF EXPLOITATION CAPACITY AND PRODUCTION PROCESS FROM THE BEGINNING OF THE THIRD DEVELPOMENT PLAN TO NOW

The following figure and table show the specifications and capacity of units active in the field of Production of human and animal probiotics based on the statistics of the Ministry of Industry, Mines and Trade:

Province/City/Region	Number of units	capacity (tons)
Tehran	۴	۱,۲۵۱
Alborz	۱	۱۵۰
Central	۲	۶
Fars	۱	۱
Total	۸	۱,۴۰۸

Source: Ministry of Industry, Mining and Commerce - Statistics and Information Center

۲-۲-CHECK THE STATUS OF NEW PROJECTS AND ONGOING DEVELOPMENT PLANS

By referring to the industrial database of the Ministry of Industry, Mines and Trade, the status and specifications of new projects creating Production of human and animal probiotics have been collected and entered in the following table:

Province/City/Region	Number of units	capacity (tons)
Qom	۱	۲,۰۰۰
Semnan	۱	۱۰۰
Qazvin	۱	۴۴
Alborz	۱	۱۵
Central	۱	۱۰
Guilan	۱	۵
Mazandaran	۱	۱
Total	۷	۲,۱۷۵

۲-۳-REVIEWING THE PROCESS OF PRODUCT IMPORTATION

According to the Chamber of Commerce, Industries, Mines and Agriculture, the import statistics for the last five years are as follows:

Year	Weight (kg)	Rial value	Dollar value
۲۰۱۷	۴۵۵۸۱	۴۶۰۵۵۵۷۶۲۷۵۰	۱۳۴۹۲۹۰۱
۲۰۱۸	۲۹۵۳۹	۱۴۶۷۱۴۵۵۱۰۹۴	۳۴۹۸۴۷۷
۲۰۱۹	۰	۰	۰

۲۰۲۰	۱۱۲۵۱	۱۰۷۳۲۵۲۸۲۶	۲۵۵۵۴
۲۰۲۱	۸۰۲۷	۲۰۸۶۴۸۱۴۴۹۶	۴۹۶۷۸۱

Source: Tehran Chamber of Commerce, Industries, Mines and Agriculture

۲-٤-MONTORING CONSUMPTION TRENDS

According to the latest statistics available in ۲۰۲۱, the amount of import was about ۸ tons and there was no export, and we produced about ۱٤۰۰ tons. The consumption of this product has been increasing in recent years due to the industrial development of the country and it is expected to reach ۱٦۰۰ tons per year in the near future.

۲-٥-INVESTIGATE THE EXPORT PROCESS OF THE PRODUCT AND THE POSSIBILITY OF ITS DEVELOPMENT

According to the announcement of the Chamber of Commerce, Industries, Mines and Agriculture, there have been no exports in the last five years.

۲-٦- PRODUCT REQUIREMENT CHECK WITH EXPORT PRIORITY

Many countries that have been able to travel the path of progress and development in the contemporary period, especially in the past few decades, have implemented certain economic, social and political programs in a precise manner, and after going through programs in the medium or long term, Progress and development have been achieved.

The first proposed development plan after the Islamic revolution was prepared for the years ۱۳٦٦-۱۳٦۲. The latest development plan (sixth development plan) was approved by the Islamic Council in March ۲۰۱٥.

In many advanced countries, export is the main axis of development and is very important in the presence of that country in the world markets. Domestic production and its arena in the global competition market or in other words export is one of the factors that can make countries independent. The importance and necessity of the presence of a country's products in the world market and the international economic environment is one of the most important development factors. The role of export is so important that many experts consider export to be the only successful path to the economic development of a country in the world market.

The most important issue for any country like Iran is to achieve economic development and have a productive and export-oriented economic system. To achieve this, first of all, it is necessary to meet the domestic needs of the country and to develop the export of goods and services in excess of domestic consumption. In order to reach a society where there is no poverty, unemployment and backwardness, efforts should be made for its economic growth. Along with economic growth, justice and empowering the people of the society to manage their lives should also be done.

Export plays an important role in production and employment, so it requires a lot of attention to expand and actively participate in global markets. Exporters in the economic field should also be encouraged. Currently, we can witness a very good export of human and animal probiotics. Because there is a lot of demand in different countries and each of them is trying to communicate with the first-hand producers. This issue can greatly help Iran's non-oil exports and boost production in the country.

۳-OVERVIEW OF TECHNOLOGY AND METHODS OF PRODUCTION AND SUPPLY IN THE COUNTRY AND COMPARISON WITH OTHER COUNTRIES

General stages of production of probiotic products

۱. Arrangement and composition of raw materials

۲. pasteurize

۳. homogenization

٤. to cool

٥. Adding starter culture and probiotic bacteria

٦. to cool

۷. Add flavorings

۸. packing

٤-DETERMINING THE STRENGTHS AND WEAKNESSES OF CONVENTIONAL TECHNOLOGIES IN THE PRODUCT MANUFACTURING PROCESS

Efficiency, high quality and ease of production are among the most important advantages of the mentioned methods. The production of this product requires a strict quality management process, which is mentioned below.

The growth and development of the world's industries is largely due to the competition between industrial units. In this regard, every industrial unit tries to gain a greater share of the market by increasing the quality of its products, and this trend over time has improved the quality of products and, as a result, the growth of industrial societies. Quality control is performed to determine the correctness of the production process, according to the technical specifications determined for the

product. This operation causes to prevent the production of defective products, the wastage of capital is prevented and the finished price of the product is reduced.

In general, the objectives of quality control can be summarized as follows:

• Maintaining the established standards
• Diagnosing and improving deviations in the production process
• Diagnosing and improving non-standard products
• Evaluating the efficiency of the people of the units

In other words, it can be said that quality control means ensuring the supply and production of goods and services according to the standards.

It is determined and inspection is performed as one of the inseparable components of quality control in order to identify defects and provide the information needed for the quality control system in all industrial units.

The general inspection steps according to the status of each industry are as follows:

١) In the phase of handing over raw materials
٢) In the stage of starting production
٣) Before the start of operations
٤) Before starting irreversible operations
٥) Before the start of the operation that causes defects to be covered
٦) In the final stage of the work

Each of these inspection steps may be done at the operation site or laboratory.

In this unit, according to the characteristics of this industry, each of the necessary stages of quality control and the location of these tests are determined.

will be. According to what was said, quality control should be applied in three stages.

١) Quality control of raw materials
٢) control during production
٣) Final control
٤) Quality control of raw materials

۵- INVESTIGATE AND DETERMINE THE MINIMUM ECONOMIC CAPACITY, INCLUDING ESTIMATING THE VOLUME OF FIXED INVESTMENT IN RIAL AND FOREIGN CURRENCY

Explanation: Euro exchange rate based on the national exchange – Dated: september ۲۰۲٤ - amount: ٥٤٩۰۰۰ rials

Project Investment Schedule:

Description	Cost (Million Rials)	Cost (Euro)
Land	۷۵۰۰۰	۱۳۶,۶۱۲
Landscaping	۵۰۵۶۰	۹۲,۰۹۵
Construction	۲۱۰۰۰۰	۳۸۲,۵۱۴
Production line machinery and equipment	۴۴۰۰۰۰	۸۰۱,۴۵۷
laboratory equipment	۵۰۰۰	۹,۱۰۷
Utilities	۱۴۲۰۰	۲۵,۸۶۵
transportation	۳۴۰۰۰	۶۱,۹۳۱
Office equipment	۸۸۷۰	۱۶,۱۵۷
Miscellaneous and unforeseen	۴۱۸۸۲	۷۶,۲۸۸
Total	۸۷۹۵۱۲	۱,۶۰۲,۰۲۶

The ground specification of the project implementation is as follows:

Description	Area (m ۲)	Unit Price (Rials)	Total (Million Rials)	Total (Euro)

Land	٦٠٠٠	١٥/٠٠٠/٠٠٠	٧٥٠٠٠	١٣۶,۶١٢

The cost of landscaping is as follows:

Description	Area	Unit Price (Rials)	Total (Million Rials)	Total (Euro)
Digging and leveling	۶٠٠٠	٩٠٠٠٠٠٠	۴۵,٠٠٠	٨١,٩۶٧
Fencing	٣٢٠	٨٠٠٠٠٠٠	٢,۴٠٠	۴,٣٧٢
Asphalt and pavement paving	٣٣٠	۶۵٠٠٠٠٠	١,٩۵٠	٣,۵۵٢
Green space and lighting	٢۵٠	۵۵٠٠٠٠٠	١,٢١٠	٢,٢٠۴
Total			۵٠,۵۶٠	٩٢,٠٩۵

Building Information:

Description	Building type	Area	Unit Price (Rials)	Total (Million Rials)	Total (Euro)
Production	Niches	١٣٠٠	٩٠٠٠٠٠٠٠	١١٧,٠٠٠	٢١٣,١١۵
Raw materials and supplies	Niches	۶۵٠	٩٠٠٠٠٠٠٠	۵٨,۵٠٠	١٠۶,۵۵٧
Office building and services	Official	١٧٠	١۵٠٠٠٠٠٠٠	٢۵,۵٠٠	۴۶,۴۴٨
Utilities	Niches	۵٠	١٢٠٠٠٠٠٠٠	۶,٠٠٠	١٠,٩٢٩
Guard		٣٠	١٠٠٠٠٠٠٠٠	٣,٠٠٠	۵,۴۶۴
Total		٢٢٠٠		٢١٠,٠٠٠	٣٨٢,۵١۴

Utilities:

Description	Cost (Million Rials)	Cost (Euro)
Power Supply	۴٠٠٠	٧,٢٨۶
Water and Wastewater	١۵٠٠	٢,٧٣٢

Fuel	۱۵۰۰	۲,۷۳۲
Heating and cooling equipment	۳۰۰۰	۵,۴۶۴
Protective equipment and security system	۱۲۰۰	۲,۱۸۶
Compressed air supply	۳۰۰۰	۵,۴۶۴
Total	۱۴۲۰۰	۲۵,۸۶۵

Transportation:

Description	Technical Specifications	Cost (Million Rials)	Cost (Euro)
Forklifts	۵ ton	۲۲۰۰۰	40,073
Pickup	Nissan	۶۰۰۰	10,929
Riding	Samand	۶۰۰۰	10,929
Total		۳۴۰۰۰	61,931

Equipment and Machinery:

Production machinery is considered the most important part of industrial investments. The machines of each production complex determine the quality and variety of products, production technology, raw materials and many methods and production costs and even the final price of the product. The selection of machines is a serious and influential issue in the macroeconomic indicators of the project. The cost of production line machinery and equipment is estimated based on inquiries made from important manufacturing companies or reputable agencies. Also, the side costs of providing machines, including transportation costs, installation and commissioning, customs duties, etc. are also calculated. Hopeland Chem Tech Co., Ltd.. hansen is one of the world's most reliable companies producing the main production process equipment. , Fuzhou FUL Fluid Equipment., Ltd. and...

The prices of all companies are almost in the same range and finally with a difference of ۱۰٪. The price of machines for this process is shown in the following table:

Number	Name	Required amount	Currency (Euro)	cost (million rials)	Rial sum (million rials	supply (domestic foreign)
۱	Machines for adjusting and combining raw materials	۲	۶۳,۷۵۲	۳۵۰۰۰	۷۰۰۰۰	Local-Foreign
۲	Pasteurization machines	۲	۶۳,۷۵۲	۳۵۰۰۰	۷۰۰۰۰	

٣	Homogenization machines	٢	٨١,٩٦٧	٤٥٠٠٠	٩٠٠٠٠	
٤	Cooling machines	٣	٣٦,٤٣٠	٢٠٠٠٠	٦٠٠٠٠	
٥	Starter culture machines and probiotic bacteria	٢	٥٤,٦٤٥	٣٠٠٠٠	٦٠٠٠٠	
٦	Packaging machines	٢	٥٤,٦٤٥	٣٠٠٠٠	٦٠٠٠٠	
٧	other	١	٥٤,٦٤٥	٣٠٠٠٠	٣٠٠٠٠	
Total (million rials)				٤٤٠٠٠٠		
Total (Euro)				٨٠١،٤٥٧		

laboratory equipment:

Number	Name	Currency (Euro)	Rial Cost (Million Rials)	Rial sum million) (rials
١	laboratory equipment	٩،١٠٧	٥٠٠٠	٥٠٠٠
٢				
Total		٥٠٠٠		

Office equipment:

Number	Name	The required amount	Currency (Euro)	Rial cost per unit	Rial Cost (Million Rials
١	All kinds of tables and chairs	٤٠	١٠,٩٢٩	١٥٠	٦٠٠٠
٢	All kinds of computers, printers and scanners	١٠	٢,٧٣٢	١٥٠	١٥٠٠
٣	Phone and fax	٧	٦٣٨	٥٠	٣٥٠
٤	Fingerprint attendance device	١	٢١٩	١٢٠	١٢٠
٥	Wireless network and internet equipment	١	١٢٨	٧٠	٧٠
٦	Office stationery	٤	١٤٦	٢٠	٨٠
٧	Central control system	١	٤٥٥	٢٥٠	٢٥٠
٨	other	_	٩١١	٥٠٠	٥٠٠
Total (Million Rials)		٨٨٧٠			
Total (Euro)		١٦،١٥٧			

Working Capital Costs:

Name	Description	Cost (Million Rials)	Cost (Euro)
Raw materials and packaging	٦٠ Days	٧٥٠٠٠	١٣۶,۶١٢
salary	٣٠ Days	٩۶٩٠	١٧,۶٥٠
Energy costs	٣٠ Days	١٢٢٩	٢,٢٣٩
revolving fund	١٥ Days	٥۴۶٠	٩,٩۴٥
Total		٩١٣٧٩	١۶۶,۴۴۶

Production costs:

Description	Cost (Million Rials)	Cost (Euro)
Cost of raw materials and packaging	۴٥٠٠٠٠	٨١٩,۶٧٢
Salary Cost	١١۶٢٧۶	٢١١,٧٩۶
Energy costs	١۴٧۴٧	٢۶,٨۶٢
Cost of maintenance	۶٢٠٢٥	١١٢,٩٧٨
Unforeseen cost of production	٨٣١٠	١٥,١٣٧
Administrative and sales costs	۶٥١۴	١١,٨۶٥
Costs of financial facilities	۶٥٧٩	١١,٩٨۴
Insurance costs	٨٥٩٧	١٥,۶٥٩
Depreciation cost	٥٠٠	٩١١
Depreciation expense before operation	۶٢٠٢	١١,٢٩٧
Total	۶٧٩,٧٥٠	١,٢٣٨,١۶٠

٦-THE AMOUNT OF RAW MATERIAL NEEDED ANNUALLY AND WHERE IT IS SUPPLIED

Number	Description	Consumption per unit product	Unit of consumption	Amount of Consumption Required for Total Capacity	Currency prices (Euro)	Rial equivalent (per unit)	Place of supply	Cost (Million Rials)
۱	microorganisms	۱	Ton	۵۰	۱۲۷,۵۰۵	۷۰/۰۰۰/۰۰۰/۰۰۰	Local	۳۵۰۰۰۰
۲	Other required additives	۰,۲	Ton	۱۰	۱۸,۲۱۵	۱۰/۰۰۰/۰۰۰/۰۰۰	Import	۱۰۰۰۰۰
Total (Million Rials)								۴۵۰۰۰۰
Total (Euro)								۸۱۹,۶۷۲

۷-RISK ANALYSIS OF PROJECT IMPLEMENTATION

Studies show that in the next year the market will be in short supply and there will be a greater need for imports. So it can be said that the implementation of new projects in this field is not very risky because in addition to the domestic market there is easily good potential to export this product to neighboring countries and if for any reason the applicant intends to undertake this plan, it is necessary to act with caution and superiority over other industrial units and by examining further the weaknesses and strengths as internal factors as well as opportunities and opportunities. Threats as external factors minimize project risk.

۸- HUMAN RESOURCES AND NUMBER OF JOBS

One important aspect of any industrial unit is its job creation, which is thoroughly examined in the market segment. Due to the nature of the industry and the need for ۲ shifts to work, it has been attempted to select the number of personnel in a manner that addresses the production needs of the two shifts. It has also been tried to use related specialties in different parts of production.
To calculate the amount of annual salaries and benefits, three shifts and other benefits have been added to the annual salary. For this purpose, the annual salary is set at ۱۶,٤ months per year

.

Description	Gender	Number	Monthly salary per person (Million Rials)	Monthly salary (Million Rials)	Annual salaries (Million rials)	Annual salaries (Euro)
Managing Director	Man	۱	۴۰۰	۴۰۰	۶۵۶۰	۱۱,۹۴۹
financial manager	Man	۱	۲۲۰	۲۲۰	۳۶۰۸	۶,۵۷۲
Marketing Manager	Man	۱	۲۲۰	۲۲۰	۳۶۰۸	۶,۵۷۲
Financial, sales and administrative personnel	Female	۲	۱۶۰	۳۲۰	۵۲۴۸	۹,۵۵۹
warehouse keeper	Man	۲	۱۵۰	۳۰۰	۴۹۲۰	۸,۹۶۲
Line Administrator	Man	۲	۱۵۰	۳۰۰	۴۹۲۰	۸,۹۶۲
skilled worker	Man	۵	۱۳۰	۶۵۰	۱۰۶۶۰	۱۹,۴۱۷
Semi-skilled worker	Man	۸	۱۲۰	۹۶۰	۱۵۷۴۴	۲۸,۶۷۸
worker	Man	۱۲	۱۰۰	۱۲۰۰	۱۹۶۸۰	۳۵,۸۴۷
Service	Female	۲	۹۰	۱۸۰	۲۹۵۲	۵,۳۷۷
Guard	Man	۲	۱۰۰	۲۰۰	۳۲۸۰	۵,۹۷۴
Driver	Man	۲	۱۲۰	۲۴۰	۳۹۳۶	۷,۱۶۹
Secretary	Female	۲	۹۵	۱۹۰۰	۳۱۱۶۰	۵۶,۷۵۸
Total		۴۲			۱۱۶۲۷۶	۲۱۱,۷۹۶

۹- CHECK AND DETERMINE THE AMOUNT OF WATER, ELECTRICITY, FUEL AND ...

Description	Unit	annual consumption	Cost per unit in Rials	Total Cost (Million Rials)	Total Cost (Euro)
Power Consumption	KWh	۱/۱۰۰/۰۰۰	۵۰۵۲	۵۵۵۷	۱۰,۱۲۲
Water Consumption	Cubic meters	۸۰/۰۰۰	۳۳۶۲۲	۲۶۹۰	۴,۹۰۰
Gas	Cubic meters	۱/۳۰۰/۰۰۰	۵۰۰۰	۶۵۰۰	۱۱,۸۴۰

Total	١٤٧٤٧	٢٦,٨٦٢

١٠- CONDITIONS OF ECONOMIC AND COMMERCIAL SUPPORT

١٠-١- CUSTOMS TARIFF SUPPORT (PRODUCTS AND MACHINES) WITH GLOBAL TARIFFS

The customs tariff support includes two parts of the import tariff for machinery and materials required by the export customs rights plan for the products of the production unit, which should be selected and applied for the growth of the industry. The import duty of foreign machines required by the project is about ١٠٪, like most industrial machines, which is a suitable tariff and does not impose a high cost on investors. On the other hand, in recent years, the government has provided incentives for products that have the ability to compete in international markets and can be exported abroad, and gives export awards to these units, this has caused the volume of non-oil exports to increase. The country has enjoyed good growth in recent years despite the problems and obstacles. Therefore, in the case with good quality and reasonable price, you can benefit from government incentives.

١٠-٢- FINANCIAL SUPPORT (EXISTING UNITS AND PLANS) OF BANKS - INVESTOR COMPANIES

Financial support for production units includes the granting of bank facilities and how to repay them, as well as tax exemptions, which, if appropriate, facilitate the implementation of the plan and provide conditions for the investment of entrepreneurial people. Some of these conditions are discussed below.

-One of the important banking facilities for production units is the payment of bank loans up to ٧٠٪ of fixed investment by the country's state banks. This amount can be increased for deprived areas.

-The interest rate of riyal facilities in the industrial sector is ١٢٪, and for some cooperative companies and units built in deprived areas, a part of the facility interest is paid by the government to the banks as a subsidy.

-The repayment period of long-term bank facilities, according to the nature of the production plan, the type of technology and the possibility of exporting the product, is up to ٨ years.

-Another important banking facility is short-term bank loans (٦ to ١٢ months) to be used as working capital needed to carry out production processes, which the banking network provides up to ٧٠٪ of. Obtaining short-term facilities up to this amount depends on winning the trust of the operating banks and having a favorable record in repaying the previously received facilities.

-In addition to the bank facilities that exist for the construction of new production units, to encourage investors and guide them to build factories, the following tax exemptions have been considered:

- Tax exemption for up to ١٠ years for project implementation in deprived areas
- Tax exemptions for up to ٤ years for project implementation in industrial towns
- The tax for normal areas is defined as ٢٥٪ of gross profit.

١١-ANALYZING AND PRESENTING FINAL CONCLUSIONS AND PROPOSALS FOR THE CONSTRUCTION OF NEW UNITS

According to the details of the studies, it can be concluded that the creation of new units for the production of this product is justified, the causes of which can be stated as follows:

- The market situation in the future is evaluated as a lack of supply.
- Every year, a part of the country's needs is met through imports.
- In the past years, exports have enjoyed a good increasing trend, and therefore it is expected that the amount of exports can continue to increase in the coming years due to the existence of a relative advantage in our country compared to some countries in the region.

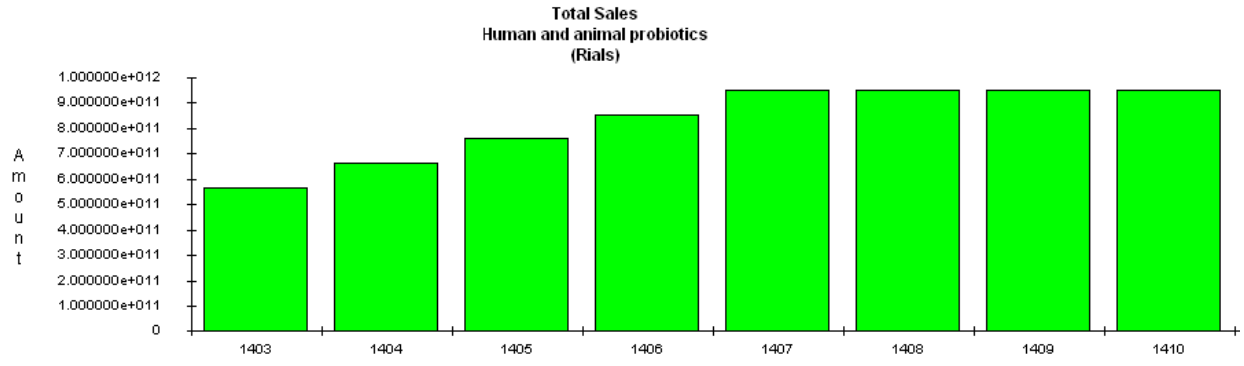
- The plan is to start operating at ٦٠ percent capacity in the first year and increase below capacity in the following years, respectively.

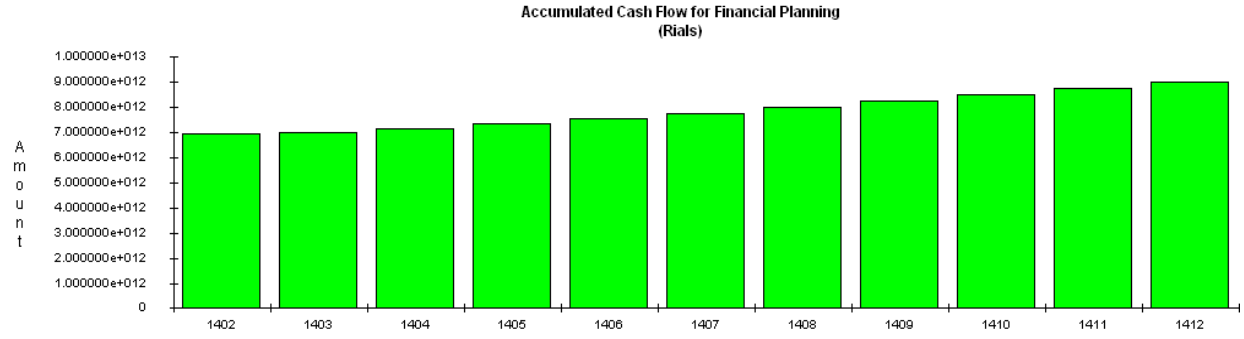
Year	First Year	Second Year	third year	forth year	Fifth year
Capacity(%)	٦٠ %	٧٠ %	٨٠ %	٩٠ %	١٠٠ %
Production capacity (ton)	٣٠	٣٥	٤٠	٤٥	٥٠

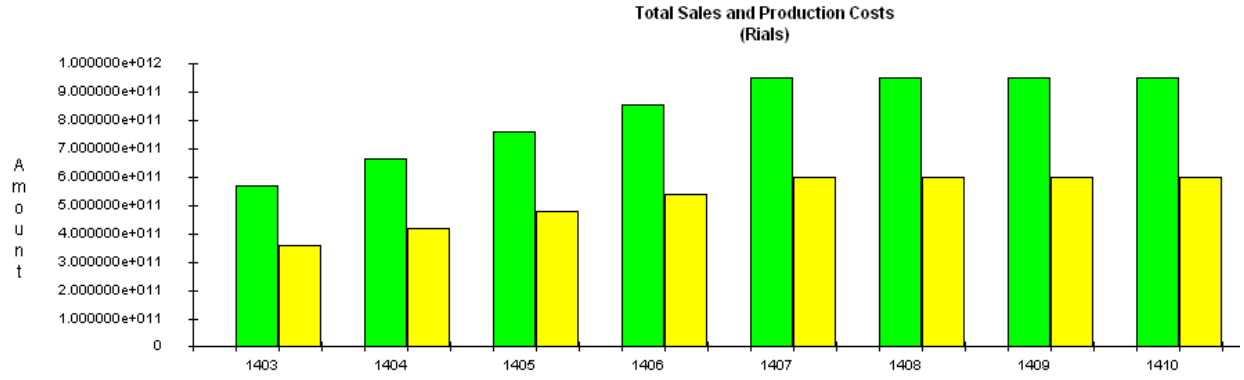
prime cost	١٤ million rials/Per kg–٢٦ Euro
Selling prices of products	١٨ million rials/Per kg – ٣٣ Euro
Total Sales (Million Rials)	٩٠٠,٠٠٠ million rials - ١,٦٣٩,٣٤٤ euro
Percentage of sales at the point head to head	٩٣

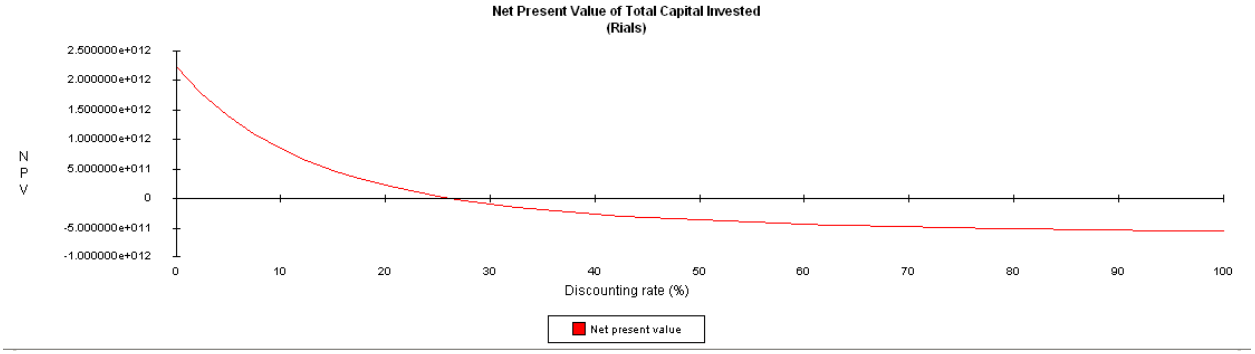
Profit (Million Rials)	۲۰۰,۰۰۰ million rials - ۳۶۴,۲۹۹ euro
Gross Value Added (Million Rials)	۷۰۸۹۱ million rials - ۴۲۷,۶۳۴ euro
Net Value Added (Million Rials)	۶۴۶۸۹ million rials - ۱۱۷,۸۳۱ euro
Ratio of gross value added to total sales	۰/۰۸
Ratio of net added value to total sales	۰/۰۷
Ratio of gross value added to investment	۰/۰۷
Return of capital	۵

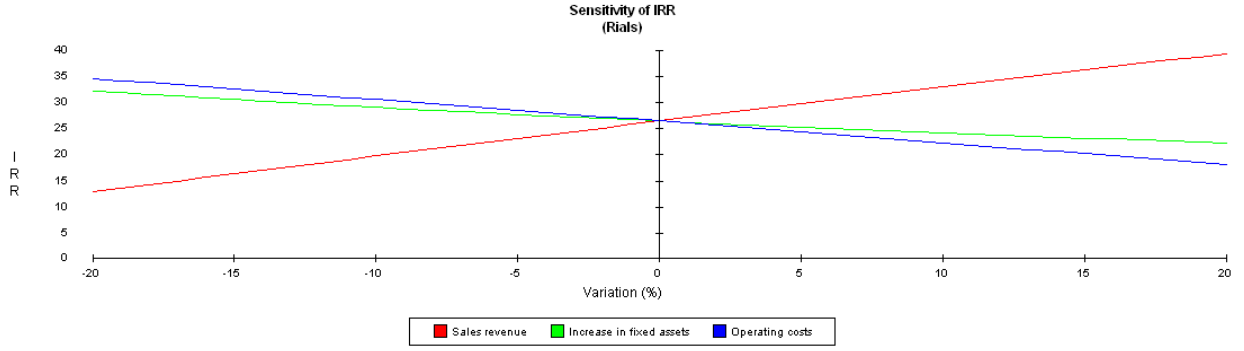
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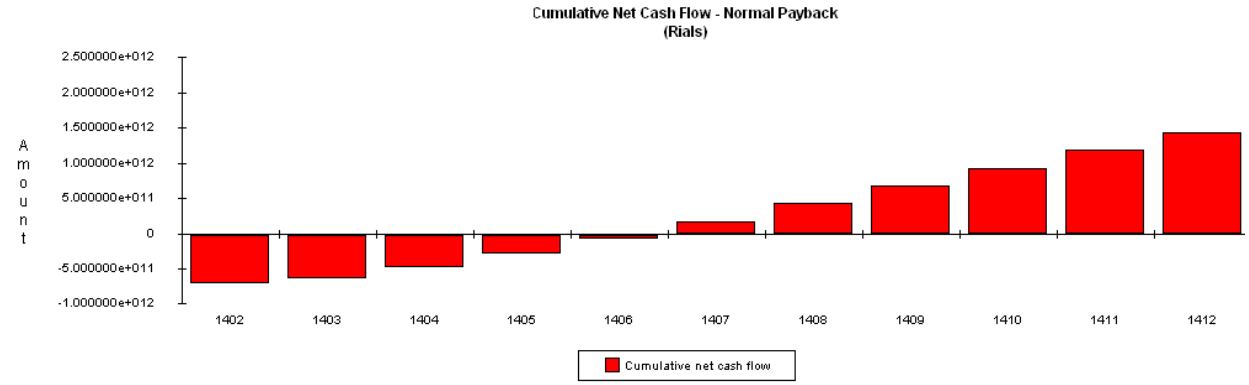


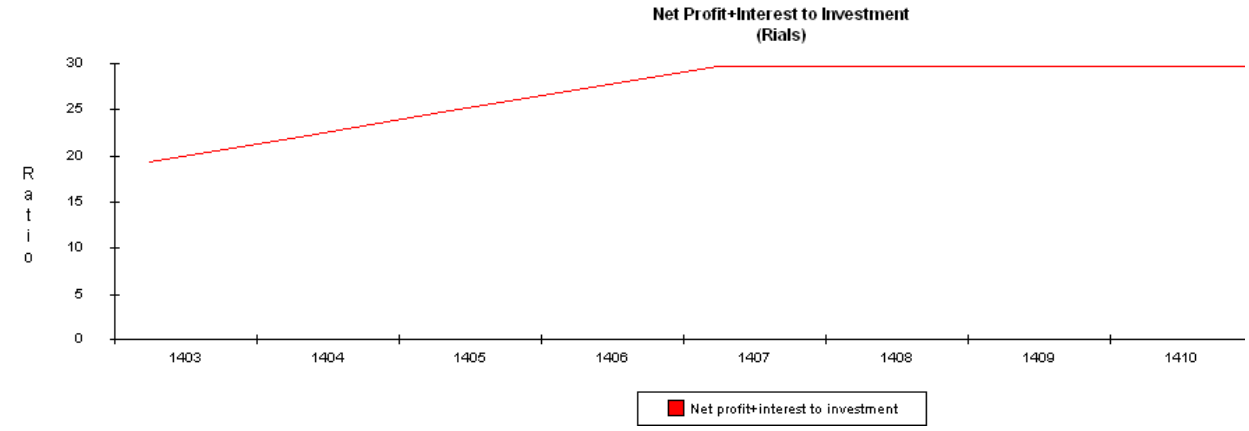

Accumulated Cash Flow for Financial Planning
(Rials)
Amount
1.000000e+013
9.000000e+012
8.000000e+012
7.000000e+012
6.000000e+012
5.000000e+012
4.000000e+012
3.000000e+012
2.000000e+012
1.000000e+012
0
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412

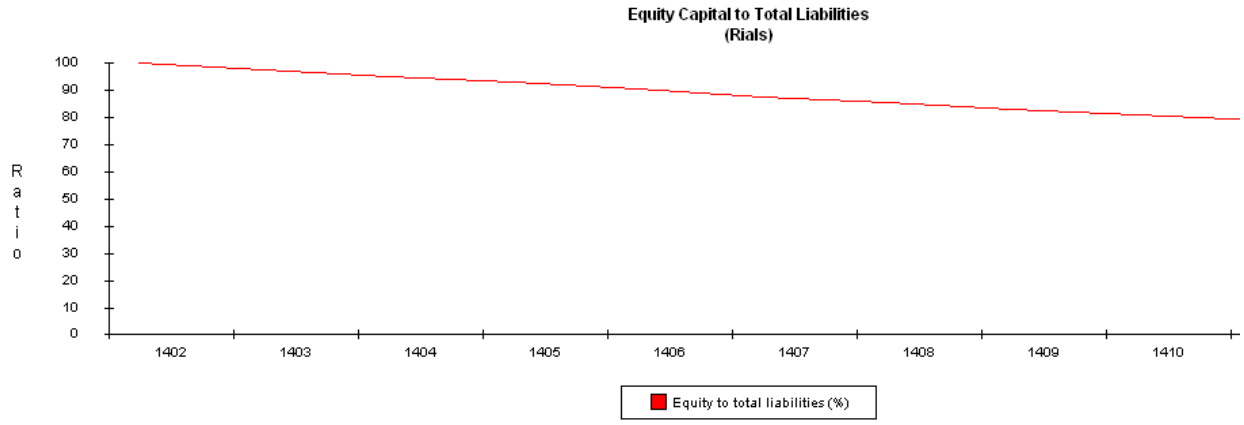

Total Sales and Production Costs
(Rials)
Amount
1.000000e+012
9.000000e+011
8.000000e+011
7.000000e+011
6.000000e+011
5.000000e+011
4.000000e+011
3.000000e+011
2.000000e+011
1.000000e+011
0
1403
1404
1405
1406
1407
1408
1409
1410


Net Present Value of Total Capital Invested
(Rials)
NPV
2.500000e+012
2.000000e+012
1.500000e+012
1.000000e+012
5.000000e+011
0
-5.000000e+011
-1.000000e+012
0
10
20
30
40
50
60
70
80
90
100
Discounting rate (%)
Net present value


Sensitivity of IRR
(Rials)
IRR
40
35
30
25
20
15
10
5
0
-20
-15
-10
-5
0
5
10
15
20
Variation (%)
Sales revenue
Increase in fixed assets
Operating costs


Cumulative Net Cash Flow - Normal Payback
(Rials)
Amount
2.500000e+012
2.000000e+012
1.500000e+012
1.000000e+012
5.000000e+011
0
-5.000000e+011
-1.000000e+012
1402
1403
1404
1405
1406
1407
1408
1409
1410
1411
1412
Cumulative net cash flow


Net Profit+Interest to Investment
(Rials)
Ratio
30
25
20
15
10
5
0
1403
1404
1405
1406
1407
1408
1409
1410
Net profit+interest to investment



	Production 1403	Production 1404	Production 1405	Production 1406	Production 1407	Production 1408
Sales to total capital investment	0.75	0.85	0.96	1.06	1.15	1.15
Investment to personnel cost	22.16	19.50	17.37	15.73	14.41	14.43
Inventory to sales	0.20	0.19	0.19	0.19	0.19	0.18
Net cash flow to total sales	0.12	0.23	0.25	0.25	0.25	0.26