

THE BLUBERRY FARM IN CENTRAL EUROPE – PRESENTATION



INFORMATION BROCHURE
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The offer for the investor/ bank.



1. Investment value - **EURO 59 900 000** to set up the plantation of 1,000 hectares of blueberries:
 - EURO 23 900 000 for 200 hectares x 5 units: plants + infrastructure
(1,000 hectares of agricultural land will be purchased and paid by the owner, EURO 9 000 000)
 - EURO 36 000 000 for additional equipment:
 - * 4MW green energy and heat production unit: EURO 16 000 000
 - * 5 hectares of greenhouse unit: EURO 5 000 000
 - * cold store unit for soft fruits: EURO 15 000 000
2. The investor/ bank is required to finance 1,000 hectares (5 units) of professional blueberry plantation and additional equipment.
3. The investor will be secured on the properties in the new project.
4. **WACC** of the investment is: 11%, **IRR** for the years 2018-2028 is: 10,81%
5. The owner is ready to proclaim his existing blueberry plantations (**value: around EURO 7 600 000**) as his contribution to the new project as well as he is ready to purchase and pay for the 1,000 hectares of agricultural land – **EURO 9 000 000**
6. Credit/ loan duration: up to 15 years in the pessimistic scenario
7. As a result of the investment 18 000 MT of blueberries a year will be produced by the premise (1st crops in 2021)

THE ADVANCED EXCEL FILES WILL BE PROVIDED TO ANALYZE ALL DETAILS OF THE INVESTMENT.

Blueberry – introduction



Poland is the largest producer of blueberry in the European Union, with a 23% share of the crop. Data from the International Blueberry Organization report - IBO indicate that the production of blueberry fruit in the world is growing constantly and in 2016 amounted to 650,000 tons, almost 100,000 tons more than two years earlier. With forecast predictions for 2021, the global production of blueberries could reach 900,000 tons. Poland in terms of production in 2019 was 7th with a volume of 12,000 tons. The high position of domestic blueberry production results from the growth of the harvest growth area during 2004-2013 from 1 000 ha to 7 000 ha. At the same time the harvest of these fruits increased from 4,000 tons to 12,000 tons, with almost all the produce being dessert fruit.

Consumption of blueberries in Poland is at an upward trend; however the price difference in Poland and Western Europe is still significant, therefore most of its native production goes to foreign markets. The main markets for Polish blueberry are the United Kingdom, Ireland, the Scandinavian countries as well as Germany, where Polish plantations send about 80-90% of all berries in the country. The blueberry season continues in Poland for almost 4 months a year, from the end of June to the end of September. Production areas in Poland are heavily dispersed. Large blueberry plantations are located in Pomorze and Podlasie province as well as the Lubleskie region. According to the data of the Polish Institute of Agricultural Economics and Food Economy, in the last 5 years the area of blueberry cultivation has doubled in size - currently there are 7 thousand hectares.

Plantation – Facts

We are currently producing high quality soft fruits, mainly strawberry, raspberry, blackberry, blueberry and honeyberry. Strawberry fruits are grown in an area of 40 hectares including 6 hectares under cover, raspberries occupy an area of 50 hectares including 4 hectares under cover, and blueberry is an area of 60 hectares (data from 2021).

Blueberry

In the last 10 years the average annual price of blueberry was about 30% higher than currently, mainly due to blueberry very exclusive and almost exotic fruit distinction, now it is still a PREMIUM fruit, but at a price level acceptable to most consumers. As a result of this, consumption is constantly growing, an additional 18 000 tons will find its way to the market as a result of this investment in hope of satisfying the growing demand and current fruit deficit in Europe.



At the moment, this deficit is being met through imports from the US and Chile, which are available year round. Berries imported to Europe from these countries are expensive due to transportation costs and advanced logistics. Furthermore, due to the distance covered by blueberries enclosed in containers, a large number of chemical compounds is added in order to delay maturation and inhibit the effect of time, air and sea salt for safety measure. As a result, the fruits are not sweet and tasty, and their health aptitudes are no longer as effective.

Polish production exemplifies extremely efficient competition, offering fruits with excellent natural taste, cheap labor compared to the cost of harvesting e.g. in Spain as well as inexpensive transport within the European Union, compared to fruit from the USA or Chile.

Plantation – Facts

Subsequently once the investment is completed, production would reach **18,000 tons** out of 1,000 ha in 2023. We would be the first producers of blueberry in Europe. At present, there are two industry leading plantation growers in Poland: I (350 ha owned by an English investor) and II (300 ha owned by a Polish businessman). This would be the biggest one.

Current horticulture status – Part I



Legal status:

The owner is the physical operator of the plantation as well as the business entity.

Date of commencement of activities: Year 2000. In the process of preparing for the investment, the company will be transformed into a commercial law abiding enterprise, accommodating the prerequisites and expectations of the investor.

Type and subject of business activity:

Horticulture produces soft dessert quality fruit: raspberries, strawberries, blackberries, bilberries. In 2014, the plantation has expanded its business to include fruit and vegetable wholesale. The current scale of operations is: 70% domestic market, 30% export. The main activity is: "Cultivation of trees and fruit shrubs, pome and stone fruits."

The main products currently offered are: fresh strawberries, fresh raspberries, fresh blackberries, and fresh blueberries. Seasonal production of the plantation reflects the natural climate of the country. Quality products are offered and certified according to international standards: Global GAP, Fild to Fork Marks & Spencer. Business expansion strategy is development with a strong emphasis on the quality of the products offered and the care of the employees.

Plantation – Facts

Fixed-term employment on the plantation is only 12 employees, highly skilled and experienced, with very low turnover. Seasonal workers are 300 employees. Owner: Graduated from the Agricultural University of Cracow 1996, 20 years' experience in the industry, shareholder and manager of numerous other companies and plantations.

Current horticulture status – Part II

Main suppliers:

Mineral fertilizers: Sobianek, Centrochem. Base: Ceres. Seedlings: Horticultural Care Waganowice, VandenElzen, Agronomic, Horticultural Horticulture Kisibab Wyka. Both plantations are well known for their top quality and numerous years of experience. Tunnels: Haygrove



Price:

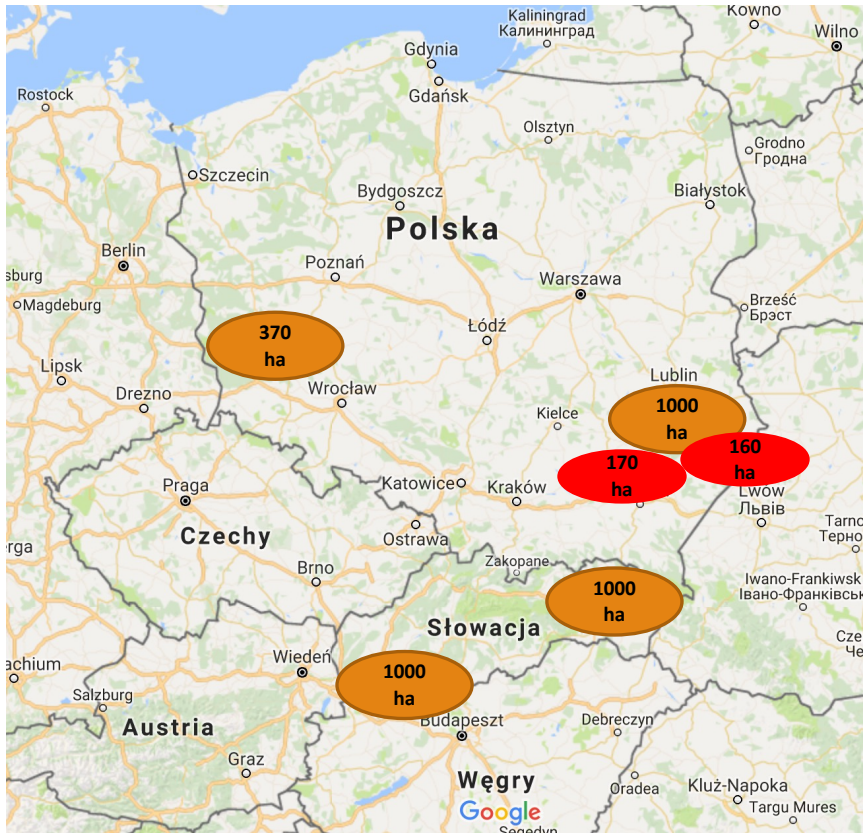
The market price during the trade season, July to mid-October, changes practically every week, extensive market knowledge and plantation experience permit a sale of greater portion of the product when the price is at the highest level. Approximately 10% of the collection is placed in climate control coolers; refrigerated fruit is sold to companies producing frozen foods.

Market position:

In its market segment the plantation has little competition, few companies are able to offer large, recurrent batches of high quality goods. The main competitors are: [Wilczewscy](#), [Polish Berries](#), [Fruvitaland](#). Incidentally, it is not direct competition; these companies are rather operating in the same market and are exporters of good quality fruit. The threat to the market is small plantations offering low quality fruits at low prices, but their situation is very unbalanced and the offer is often one-off.

Plantation – Facts

The market dealings of the plantation is based in particular on regular contact with traders of distribution platforms, participation in national and international trade fairs (e.g. permanent participation in the most significant trade fair Fruit Logistika Berlin).



Investment territory

Possible location of future plantation, taking into consideration appropriate climate and political conditions suitable for planting blueberries, pending on the quality of the soil.



Existing blueberry plantations, owned or co-owned by the originator of the investment

Plantation – Facts

The aspect of investment is influenced by aspects such as: climate - which affects the excellent taste of fruit and reduces the need for artificial fertilization; the possibility of harvesting fruit from the end of June to the end of September - the so-called Long Season - which is only possible at the geographical altitudes of Poland, Slovakia and the Czech Republic; Low labor costs, the liberal law to purchase land.

Investment Plan – Part I



The plan implements the establishment of a horticultural plantation with high acreage of about 1,000 ha, at three or four locations, in order to diversify climate and unforeseen risks, e.g. plague, frost, flood etc. Plantations will be built on the basis of farm experience "Plantation on Tanzania" Created in Olchowiec, whose main mastermind and founder was Our Consortium. The goal of the project is to establish a blueberry plantation with a large area capable of handling and self-sustaining substantial customers.

The planned project foresees purchases: blueberry seedlings, irrigation systems, organic underlying, underlying cloth, and machine lot with fence enclosure, 4MW CHP green energy and heat production plant, 5 hectares of greenhouse, cold store unit. The land 1,000 hectares will be fund by the owner – Mr. Janusz Żak (EURO 9 000 000) – no finance involvement by the investor/ bank is required.

Details of the investment are described in the Excel presentation. The plantation will be based on the latest trends in high-cyber farming using a fertigation equipment systems that will reduce the fertilizer used. Plantation will be established on land corresponding to the requirements of high blueberry production, due to their appropriate acidity and nutrient content. The irrigation structure will be supported by the use of advanced installations and the ability to replenish organic matter. Production will be carried out by methods of care for the environment. Within the rows of plants mulching fabric will be used, protecting against weeds and the dehydration of the soil.

Plantation – Facts

The total cost of investment in Europe's largest blueberry plantation is about PLN 255,000,000 (EURO 60,000,000) on a 1,000 hectare plantation.

The investment of 1,000 ha will be divided into 5 units of 200 ha each, located in different locations in Poland and / or Slovakia. The additional greenhouse, CHP of 4MW and the cold store will be located in Poland.

Investment plan – Part II



Plantation will deal with the cultivation of the following blueberry species:

- **Early Blue** (10% of the planted area of the whole investment, the harvest begins at the end of June and lasts until July)
- **Sierra** (10% plantings of the whole investment area, the harvest lasts from the end of July to mid-August)
- **Blue Gold** (20% plantings of the entire investment area, harvest begins in the first quarter of August and lasts until the end of August)
- **Elizabeth** (30% planted the entire investment area, harvest begins in the second quarter of August and lasts until mid-September)
- **Elliot** (20% planted the entire investment area, harvest starts in the second quarter of August and lasts until the end of September)
- **Nelson** (10% of the site, harvest starts in early August and lasts until the end of September)

The above mentioned varieties and the appropriate cultivation technology will allow the collection of blueberry at levels of 15-30 metric tons (MT) from an hectare of cultivation. The attached financial model assumed an optimal level, i.e. 18-20 MT of ha. All varieties are evaluated in terms of climatic conditions, resulting in the best selection of varieties and the reduction of weather risk.

All varieties of blueberries are sold on a regular basis; however a portion of the harvest is always stored in gas chambers, waiting for the best price in the season, which always occurs when supply is at the minimum. Some varieties allow cold storage of fruits up to 6 weeks (8 weeks for Blue Gold).

Plantation – Facts

Thanks to the mix of appropriately selected and proven varieties, the harvesting season lasts from the end of June to the end of September and is further extended by the possibility of 6-8 weeks of cooling. The cultivars have been carefully selected for climatic conditions, soil conditions, excellent fruit quality and long season.

Investment plan – Part III, customer characteristics

At present, the plantation focuses on 4 large customers. At the moment of expanding the plantation to 1 000 ha, the grower plans to build on the same clients who are at present capable of signing long-term contracts for the purchase of 18 000 tons of blueberries annually. At the moment the farmer is opting out in anticipation of higher market prices, driven by the reason that high demand and current deficit is rapidly increasing. Up to 20% higher price in spot trading conditions. The future business model foresees a mix of product sales at fixed price and long-term contracts, and in part on spot prices, offering better returns.

Characteristics of current customers:

Client 1 - serves 40% of current and future transactions, this being a platform operating in Central and Eastern Europe, cooperates with large discount chains in Central Europe (Lidl, Biedronka). The plantation has been cooperating with this customer for over 4 years.

Client 2 - now supports 20% of production, it is a Swiss customer who regularly increases his orders for over a year

Client 3 - currently supports 20% of the production, the customer comes from Sweden, cooperating with the plantation for more than 7 years.

Client 4 - currently supports 20% of the production, a customer from England, working with Mr. Janusz Żak's plantation for over 12 years.

In the case of the implementation of the investment of 1 000 ha of crops, the cooperation with Customers No. 2 and 3 will fall to few %, while the cooperation will increase considerably with customers 1 and 4. The plantation also has the possibility to sell all future production for export to the UK (Total Worldfresh and Winterwood Farm - these entities have already confirmed the possibility of receiving fruit from the future investment).



Farma – fakty

All 4 clients are distributors, so cooperation is respectable. Distributors, due to the nature of their work, pay well and regularly, merchant loans do not exceed 14 days and are secured by sales limits (next car leaves, only if previously paid), depending on the history of cooperation with the customer.

Investment plan – Part IV, packing specification

Packaging in which most commonly blueberry are weighing and sold: 100g, 120g, 125g, 175g, 200g, 210g, 225g, 250g to 500g, depending on the month, calendar week of sale in a given year and the final market (other preferences for packaging and weights are e.g. markets: Swedish, German, English). As a rule transparent plastic molds are 80% of shipments, paper stamped containers are the remaining 20% of shipments (especially to the German and Polish market)

Most common packaging:

- 250g - 50% of sales
- 125g - 30% of sales
- remaining 20% - broken up to the weight shown above



Investment innovation, cooperation with universities and research centers.

The farm regularly cooperates with the University of Life Sciences in Lublin and the University of Agriculture in Cracow on the following issues:

Optimizing plant fertilization - Minimal doses of mineral fertilizers for organic purposes, selection of varieties for climatic conditions.

Optimization of chemical protection - monitoring the development of pathogens for preventive protection against infection, reducing doses of active substances while maintaining the greatest protection. At the moment when the infection of the seedling is already present as a symptom - then the minimum anti-disease preventative unit is given, without attacking the plant with antibiotics - as is the case of Dutch crops. Monitoring of seedlings is based on mathematical algorithms that take into account the symptoms and weather issues, based on which special mathematical tables allow the grower to calculate what dose of the drug will be preventive and least possible.

Optimizing plant irrigation - by applying droplet irrigation, monitoring of on-line soil hydration and hydrogel applications. Monitoring the soil allows the grower to not lose water and do not give it in excess, which does not "stress" the plant - the application is fully electronic, controlled from the manager phone.



Plantation – facts

As a result of cooperation with universities the farm limits mineral fertilizers (synthetic), which are normally used in the production of blueberries and plan to replace them with natural fertilizers entirely. The work is already 3 years in progress, in the next 5 years 100% synthetic fertilizer will be replaced by natural, the plant growth will become ecological!

Why this investment is attractive?

- Blueberry consumption in Europe is still growing and its delicatessen and medicinal properties are increasingly appreciated
- Poland and Slovakia have the best climate and soil for growing blueberries in Europe
- Increased production of blueberries in Poland will reduce imports from Chile and lower labor costs to compete successfully with production from France or Spain
- The author of the investment (Mr Janusz Żak) has already identified 800 – 1,000 hectares of plantings in both Poland and Slovakia.
- Prerequisite to invest EURO 60,000,000 can be divided into phases (5 units / separate plantations of 200ha each, diversification of the territory for the crop will also reduce the risks of unexpected weather changes (frosts, floods) and unexpected (Infection of seedlings, parts of crops, fruits)
- Most of the risks are insurable (except for diseases), but this risk is reduced by cooperating with universities and preventively using natural fertilizers and minimal doses of drugs, monitoring farms with special information systems and algorithms, adapting fertilizer mixtures to the needs of the plant.
- The author of the investment (Mr. Janusz Żak) has 20 years of experience in growing blueberries and intends to run a blueberry growing company as an owner / co-owner, manager and advisor for the next 20 years, actively participating in the process of product sales and seasonal workers management.



Plantation – Facts

THE INVESTOR is currently the owner of 2 blueberry plantations with an estimated value of about 35 000 000 PLN (EURO 7 800 000) and is able to declare own plantation as own contribution to the new investment. With 1,000 hectares of production, the annual yield is 18,000 tons of blueberries; this opens the opportunity for a market leadership in Europe.



Why investment is attractive? Part II

- The supply of additional 18 000 tons of blueberries on the European market will be easily transferable to the current market clients demands (Poland, Central Europe, England, Sweden, Switzerland) on long-term contracts and spot trading, based on secure contracts guaranteeing receipt of payment for goods
- Europe is consuming 200,00 tons of blueberries annually, the market is growing year by year with the prospect of growth for another 10 years
- The life of seedlings/ blueberries farm is 50-80 years!

Possible crop risks:

- Hail storms; counter action- insurance and vortex cannon- both solutions are applied simultaneously, the premium cost is paid on the value of the crop, in the case of hail insurance covers 90% of the value of any loss
- Freezes; counter action- foil tunnels: 30% of planned production will be placed under the foil (% is due to risk and experience calculation), frost insurance is applied, premium is paid on the yield, insurance covers 90%

Plantation – Facts

The risk of drought can also be insured; nonetheless the scheduled 100% of investment will be irrigated so there is no need. On the other hand, today there is no effective insurance against bacteria, viruses and diseases attacking seedlings, however many years of cooperation with universities and the use part of modern technologies limit this risk significantly.



Links to interesting articles about the medicinal properties of blueberries:

- <http://www.agr.gc.ca/resources/prod/Internet-Internet/MISB-DGSIM/ATS-SEA/PDF/6719-eng.pdf>
- http://www.nooninternational.com/PastFoodReports/IntelligentFoodReport_Aug01_2016.html
- http://nbwildblue.ca/wp-content/uploads/2015/06/ConferenceNB2015april_Remy_Lambert_en.pdf
- <http://www.freshfruitportal.com/news/2013/04/01/blueberry-production-could-rise-50-by-2018-but-will-that-be-enough/>
- http://www.blueberrieschile.cl/wp-content/uploads/2015/07/pdf_000069.pdf
- http://www.berrycongress.com/resources/documents/1458226222GBC2016_Cort_Brazelton.pdf





A film depicting the surface of a farm in Poland

Blueberry seedlings in harvest season.



Highlights:



Blueberry farm from the bird's eye view.



Part of an existing farm in the spring.



Highlights:



Harvester for harvesting blueberries.

Blueberry – facts about the fruits and business



- Blueberries are known as a “superfruit” because they possess certain characteristics that make them superior to other types of fruits such as strawberries and raspberries. These characteristics include a long shelf life, convenient, durable because they are not “squish prone” like strawberries and raspberries, along with only needing minimal preparation—only washed—prior to consumption.
- In terms of the EU, experts are predicting that demand and consumption of blueberries will see a significant increase over the coming years as consumers begin to see the health benefits and improvements in the quality and taste of blueberries (EUROFRUIT, 2014). The appeal of blueberries to health-conscious consumers is tied to their extremely rich antioxidants properties, low calorie intake, high in fibre and nutrient content, and that blueberries may contribute to heart health since they appear to act as an anti-inflammatory and may also reduce blood cholesterol levels (AAFC, 2011).
- Euromonitor is predicting that fresh blueberry consumption in Western Europe is going to increase by a further 25% between 2017 and 2020, resulting in an increasing demand (Euromonitor International, 2014).
- Currently Europe produces about the same volume of blueberries as the US State of Oregon, but with 750 million people; demand will certainly dwarf availability if current trends in consumption continue. China has approximately the same acreage of cultivated blueberries as Europe, yet with 1.34 billion people.

More facts

Locally in Mainland Europe; Poland had the most planted acreage at 8,645 in 2012, and more of the crop is consumed by the domestic middle classes year after year, and consumption is increasing across the rest of Europe too, especially German-speaking Europe, Scandinavia, Russia, UK and Italy, with German consumers no longer considering blueberries to be a seasonal crop and demanding year-round availability.

Blueberry – facts about the fruits and business – Part II



- According to the Food and Agriculture Organization of the United Nations (FAOSTAT), in 2013 the European Union's (EU) production quantity for blueberries was 52,276 tones, while they imported over 263,000 tones of blueberries and exporting 85,460 tones in 2013 (Global Trade Atlas, 2015). This means that, in 2013, the EU consumed roughly 229,830 tones of blueberries. The top five EU blueberry producing countries in 2013 were Poland with 12,731 tones, followed by Germany (10,277 tones), France (9,011 tones), the Netherlands (5,498 tones), and Spain (5,000 tones). These five countries combined accounted for over 81% of the EU's blueberry production (FAOSTAT, 2015). However, for today (December 2016) these countries are not producing enough blueberries to fully meet the demands of EU consumers, resulting in an increasing demand for imports from external EU countries.
- The European Union (EU) is the second-largest importer, after the United States(U.S), of fresh blueberries in the world. Their imports of fresh blueberries have seen steady growth over the last five years reaching a value of US\$282.3 million in 2014. EU imports of fresh blueberries increased by a compound annual growth rate (CAGR) of 21.5% from 2010-14. In 2014, EU imports of fresh blueberries came from only 30 countries signifying a very concentrated pool of suppliers.

More facts

1. Blueberries are Low in Calories, But High in Nutrients
2. Blueberries are the King of Antioxidant Foods
3. Blueberries Reduce DNA Damage, Which May Help Protect Against Ageing and Cancer
4. Blueberries Protect Cholesterol in The Blood From Becoming Damaged
5. Blueberries May Lower Blood Pressure and May Help Prevent Heart Disease
6. Blueberries Can Help Maintain Brain Function and Improve Memory
7. Anthocyanins in Blueberries Can Have Anti-Diabetic Effects
8. Substances in Them May Help Fight Urinary Tract Infections and Help Reduce Muscle Damage After Strenuous Exercise



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