

Nut crop agribusiness: Profits and Challenges in Almond, Walnut and Pistachio Production

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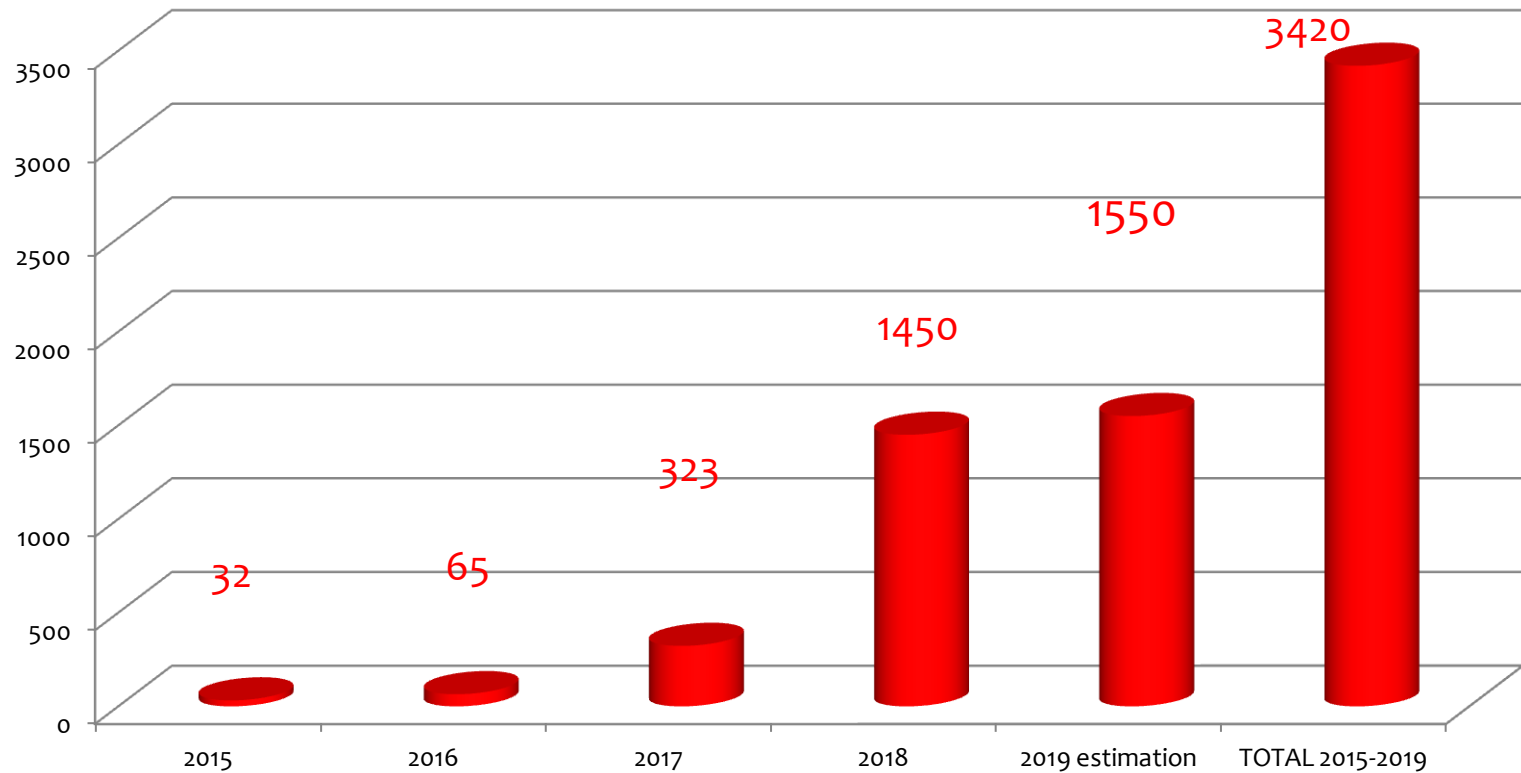
Almond Possibilities

- * **Demand for the almond world market is steadily high**
- * **Climatic and soil resources is appropriate**
- * **Adding value - by producing processed products**
- * **New intensive production technologies**
- * **The breeding of high productive new varieties are increasing**

Almond production in Georgia

- Increased interest over the last 5 years
- Significant increase in area
- Leading varieties: Supernova, Guar, Soleta, Ferrane

Dynamics of New orchard planting in Georgia, ha



Financial indicators of almond production

- * **Average yield - 4 - 5 ton / ha (in-shell) - 1,3 - 1,7 ton /kernel based ha**
- * **Period of full bearing - 4 - 6 years**
- * **Average Wholesale Price at Local Market - GEL 6,0- 7,0 for in shell**
- * **Average world sale price (kernel) - 5.8 - 6.5 Euro / kg**

Investment Indicators for Almond orchard Planting

- * **Orchard Establishment cost according to local terms - 7000 – 8000 GEL (without irrigation system)**
- * **Estimated annual maintenance costs - GEL 4800 - 5200 - without fixed costs**
- * **Harvesting, cleaning and grading - 0,40-0,50 / 1 kg**
- * **Estimated income EBITDA 1 ha = 20000 - 22 000 GEL / ha**

Agronomic Risks and Challenges of Almond Production

- * Has specific climatic and soil requirements - high pH, less humidity**
- * Higher risk of tree loss due to activity of various pathogens (verticillia, phytophthora, nematodes)**
- * Late spring frosts**
- * The period of operation of the garden is limited to compared other nuts - 25 - 30 years**

General challenges and risks of almond production

- * **Global climate change - the need to change and adapted technology components**
- * **High competition in the world markets**
- * **The shift of the types and forms of product consumption trends in the world market**
- * **Needs to Increase productivity with Stabilize production costs**
- * **Increasing product quality and safety requirements**

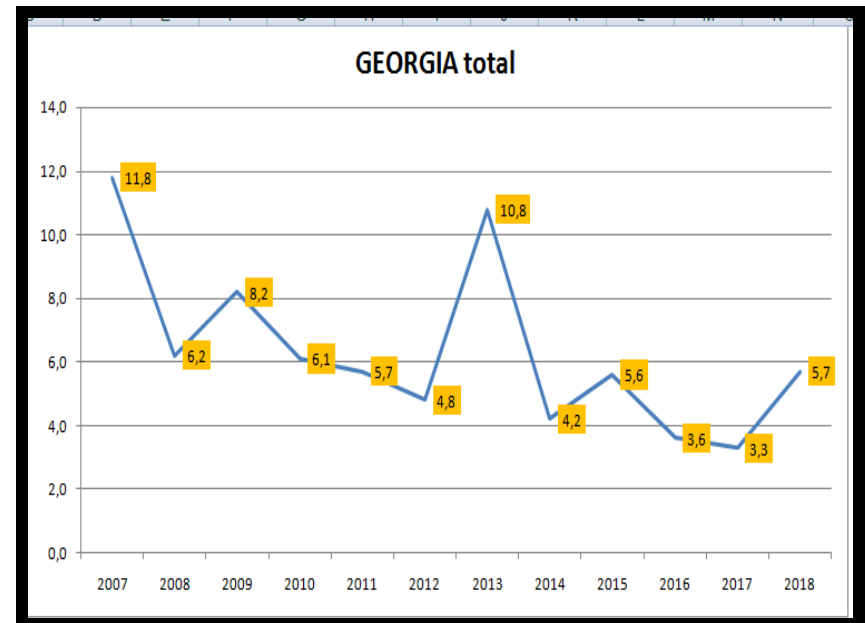
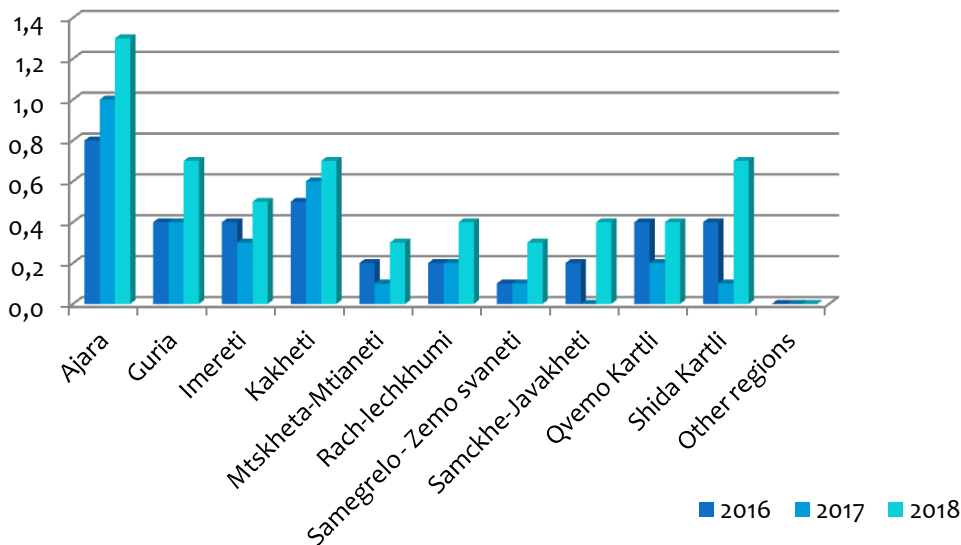
Opportunities

- * **Early starting of commercial full production**
- * **Already Selected varieties, Adapted production technologies and existing experience**
- * **Short time to obtain commercial harvest after replanting of old orchards**

Walnut production patterns in Georgia



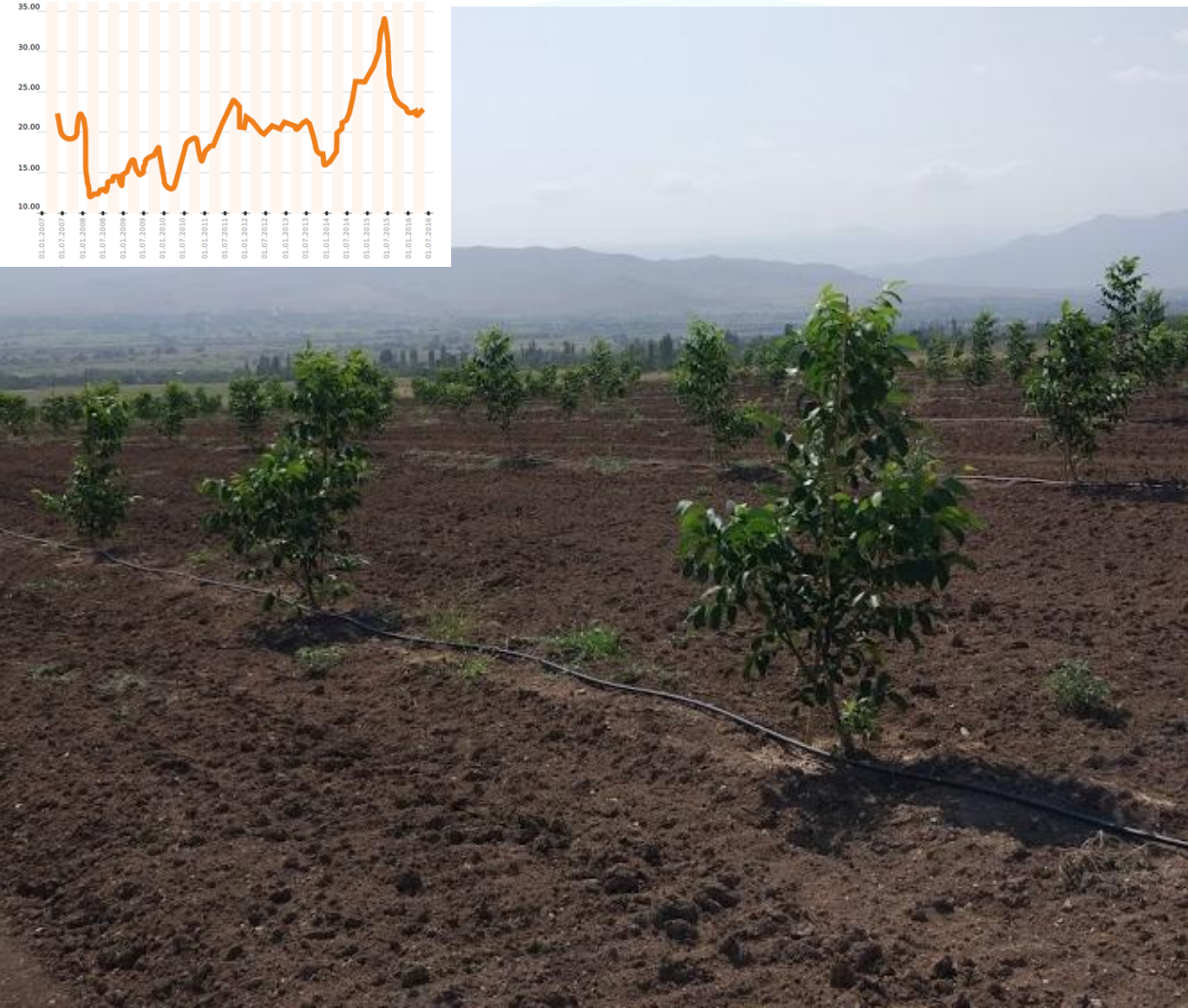
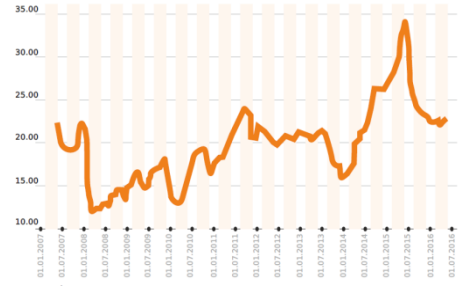
- * Walnut production 5 200 - 6 200 T per annum
- * Peculiarity of production - scattered, backyard and roadside trees – no commercial bearing orchards still
- * *Juglans regia* and *Juglans Ziboldiana*



New Walnut orchards in Georgia



Walnut kernel price on local market, Gel



Walnut Possibilities



- * **Demand for walnuts on the world market is steadily high**
- * **Demand for the local market is stable**
- * **Opportunity to add new markets - India, Gulf countries and more**
- * **The main selling markets are geographically close - Germany, Turkey and more**
- * **There are suitable climatical and soil conditions**

Some Financial Indicators for Walnut orchards



- * **Average yield - 4.2 - 5.0 tonnes / ha (in-shell)
- 1.6 - 2.0 (kernel base) tonnes walnuts / ha**
- * **Period to full bearing - 7 - 9 years**
- * **Average Wholesale Price on Local Market -
GEL 5,0- 6,0 in -shell**
- * **Average selling price (kernel -walnuts) - 5,2 -
5,8 EUR / kg**

Orchard establishment Investment Indicators for the Walnuts



- * **Orchard Planting costs according to local terms - 6500 - 7500 GEL (without irrigation system)**
- * **Estimated annual maintenance costs - 4200 - 4700 GEL - without fixed costs**
- * **Harvesting, cleaning and grading - 0,40-0,50 Gel / 1 kg**
- * **Estimated income EBITDA 1 ha = 20000 - 24 000 GEL / ha**

Agronomic risks and challenges of walnut production



- * it needs to Adapted of Agro Technologies according of each particular pattern of variety (Variety – Chandler and others)
- * The optimal production regions should be specified
- * Improved integrated Pest Management system should be established.
- * Proper planting and pruning system should be elaborated

Opportunities



- * **The period of operation of the orchard is quite long - 35 - 45 years**
- * **Once the garden is fully mature, it is rare for trees to have problems**
- * **Increase productivity by improving existing technologies from 6 to 6.5 t / ha**
- * **Does not require honey-bees for polination**
- * **After uprooting is possible to sell walnut timber at 400 - 500 usd / m³, which almost covers the investment costs of establishment.**

Possibilities

- * Demand is steadily high in the world market
- * Demand is increasing in the local market
- * The number of world producers is limited
- * In some of the major producing countries, there has been a decline in crop yields due to climate change
- * It is possible to diversify the processing products - confectionery products and more



Pistachio world production

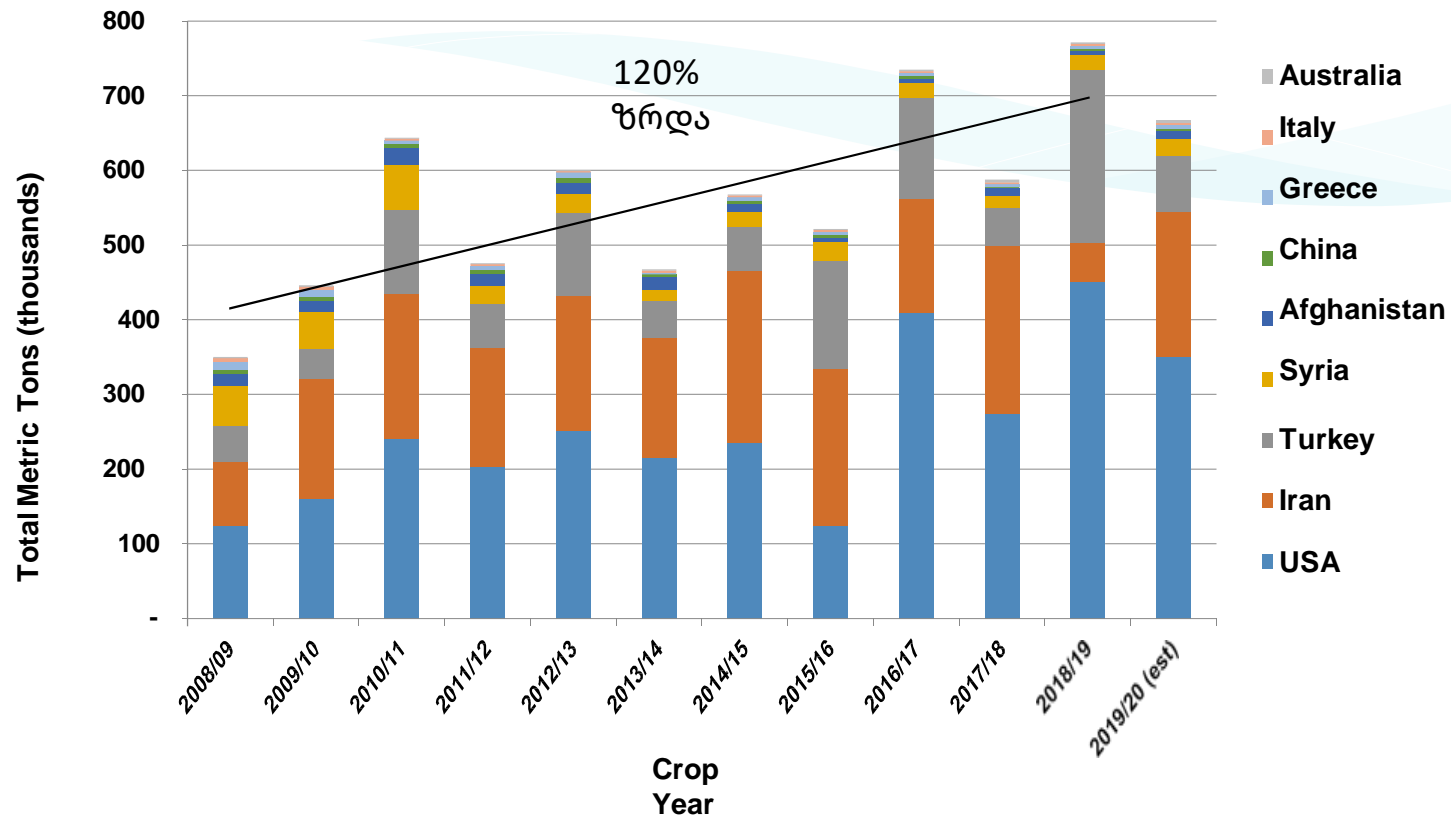


Figure - Pistachio world production
 (Source: Louse Ferguson presentation, Tbilisi, Oct, 2019)

Wholesale prices in world , USD/kg

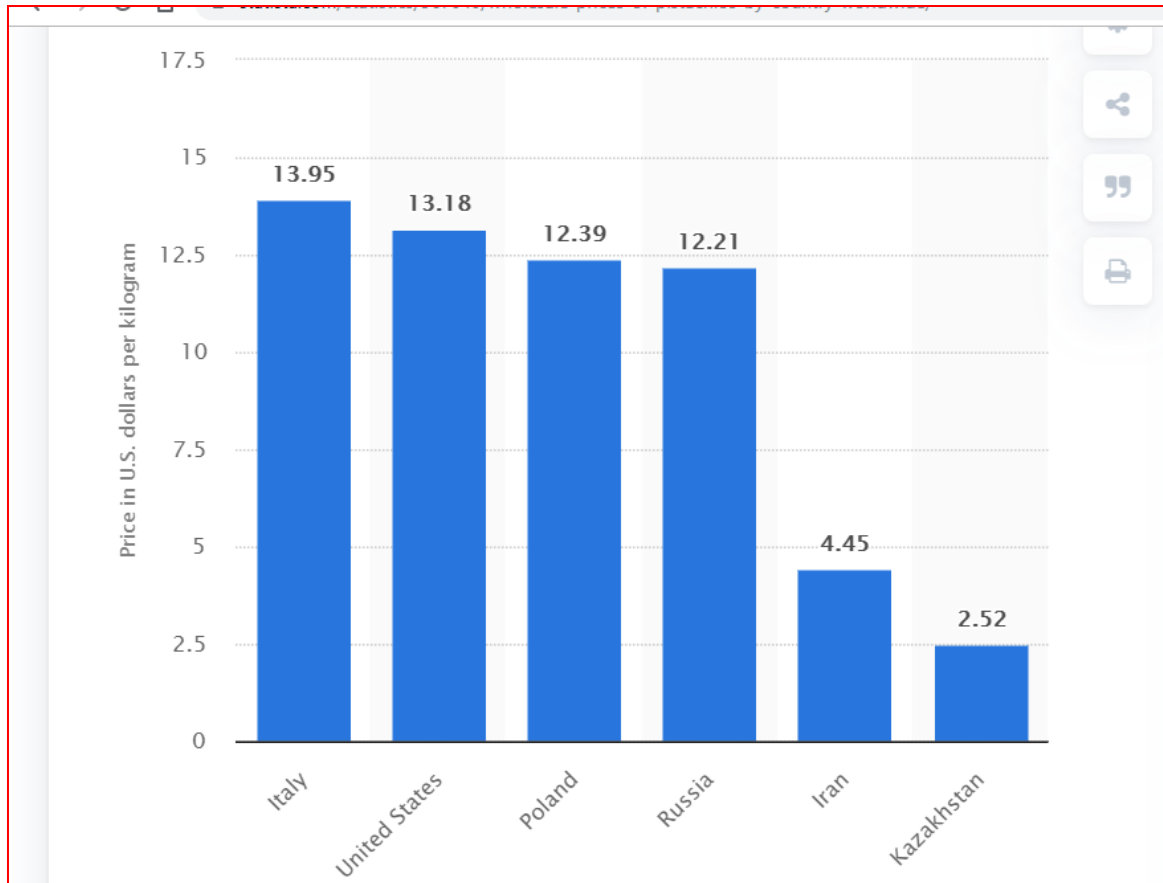


Figure - Overall price of pistachio 2018

(Source: <https://www.statista.com/statistics/967040/wholesale-prices-of-pistachios-by-country-worldwide/>)

Some Financial Indicators for pistachio orchards

- * **Average yield - 1.8 - 2.5 tonnes / ha (in-shell)
marketable yield 1.5 - 2.0 tonnes/ha**
- * **Period of full bearing - 8 - 12 years**
- * **Average world market price - 8.0 - 9.0 EUR / kg**

Orchard establishment Investment Indicators for the pistachios

- * **Orchard establishment according to local terms - GEL 8500 - 9000 with grafted plants imported (without irrigation system)**
- * **Estimated annual maintenance costs - GEL 4300 - 4800 - without fixed costs**
- * **Harvesting, cleaning and grading - 0,40-0,50 GEL / 1 kg**
- * **Estimated Earnings EBITDA 1 ha = 25000 - 30 000 GEL / ha**

Agronomic risks and challenges of Pistachio production

- * The selection of the optimal varieties and rootstocks Should be done**
- * There is no pistachio orchard in bearing phase in Georgia**
- * Production technologies requires adaptation**
- * Potential regions for spreading this nut crop needs investigation**
- * Improved integrated Pest management system should be established**

Opportunities

- **The period of operation of the garden is long
- 60 - 80 years**
- **Less water can be used for irrigation**
- **It is possible to cultivate on saline soils**
- **Demand is growing in the world market**

Pistachio graftings in Georgia



And the question is, which one ???



VS

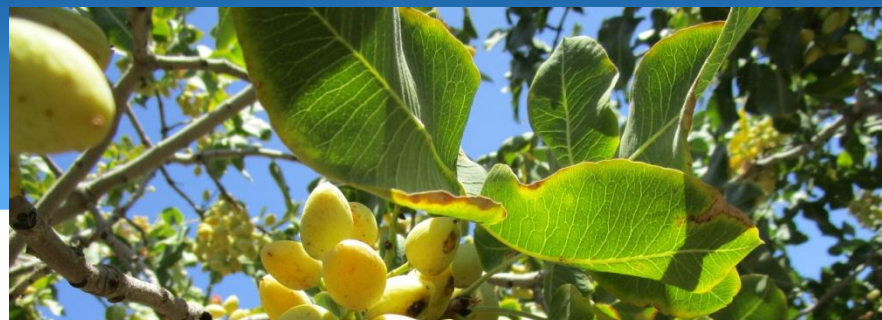


VS



Practical activity of the Agricultural Scientific-Research Center for the development of the nut sector

- * **permanent Seminars-trainings for farmers**
- * **Scientific-practical support of the state program “planting of the Future”**
- * **Studying and testing new varieties of almonds and walnuts**
- * **Adaptation of almond and walnut varieties to the conditions of Georgia**
- * **Arrangement of a new collection orchard for Pistachios**



Questions ????

Thank you for your attention !!!

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