



# SERICULTURE STATUS, PROBLEMS, ISSUES AND DEVELOPMENT STRATEGIES IN BULGARIA

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The peak of cocoon production in Bulgaria was reached in 1953, when 3019 t of fresh cocoons were produced by a national country's population of about 7 million inhabitants.



**With an average annual production of 1200-2000 t fresh cocoons during the period of 1975-1990 Bulgaria used to occupy the first place in Europe and 7th–8th place in the world. However, after the change of political and economical system the cocoon production declined sharply. The main reasons were the too low price of raw silk at the international market and the destroy of East European and national economics during the transitional period.**

# Present sericulture situation

Now there are available about 1.3 million single mulberry high/middle stem trees all over Bulgaria. These trees are enough to produce around 500 t fresh cocoons annually. There also are in Bulgaria many farmers, having experience and tradition in this activity, which are ready to take up sericulture again, the well developed science in the field of sericulture provides own production of mulberry saplings and silkworm eggs.



**In Bulgaria, relevant R & D work in sericulture is conducted by the Sericulture and Agriculture Experiment Station (SAES) in Vratsa, Plovdiv Agriculture university, Thracian university in Stara Zagora and Forestry University in Sofia.**

**During the last two years the Sericulture and Agriculture Experiment Station in Vratsa has continued and expanded its activities in conducting complex researches in sericulture, national silkworm and mulberry germplasm maintenance, production of mulberry saplings, silkworm eggs, dry cocoons, raw silk and ready silk commodities. The station appears to be the biggest mulberry sapling and silkworm egg producer in Europe presently.**

**The average annual production of mulberry saplings for the last few years in Bulgaria has been about 90000 pieces. The new mulberry saplings are planted almost entirely as plantations, having about 3000 trees per 1 ha. The productivity of mulberry leaf of these varieties is estimated at 10 - 13 tons per ha/year under rain-fed conditions while it is 20-25 tons under irrigated conditions.**



**The Bulgarian private company Svila J.S.C. in Haskovo has Keinan and Nissan fully automatic silk reeling machines with a total annual capacity of about 90 tons 20/22 denier, 2 A – 3A raw silk. Unfortunately for the last several years the company's production has been far below its maximum capacity.**

**The Bulgarian private company Bulsilkmill Ltd has a silk twisting plant with an annual capacity of about 30 t of raw silk. All the raw silk is imported, mostly from China and the ready product is exported to Italy.**

**The Bulgarian private company “Silk Cluster” (<http://hbtcs.wordpress.com/>) has ambitious plans for planting over 8000 ha mulberry plantations all over the country and starting a big cocoon and silk production. Their activities however are still restricted to organizing two round table discussions, informing the farmers about the possibilities for financing by the EU programmes and negotiations with municipalities for renting some land and buildings.**

**Due to the SAES – Vratsa efforts the sericulture has been included in the measures of the EU Programme for rural areas development 2007 – 2013.**

**Many people in Bulgaria have traditionally sufficient experience with silkworm rearing for cocoon production.**





**The farmers usually grow the larvae in their living rooms in the house during the young stage. In general, the grown larvae are reared in old living houses, penthouses, cattle sheds, attics etc., re-constructed for the silkworm rearing needs, usually at room temperature which in the end of May and first half of June is the optimal one for 4th and 5th instar larvae. The last instar larvae are commonly reared on two or three floor racks and fed by mulberry leaves, shoots or whole branches 2-4 times a day.**



**Farmers' average cocoon yield per box is comparatively low: 15 -20 kg due mainly to inappropriate management/technical practices. However, some good sericulture farmers obtain up to 35-38 kg of fresh cocoons per box of silkworm eggs. Presently approximately 10000 sericulture farmer's households still have preserved their mulberry trees, rearing houses and equipment, waiting for better economical conditions for cocoon production.**



# Major problems and issues



- ◆ Lack of sufficient government's financial supports;
- ◆ The majority of sericulture farmers in Bulgaria rely on traditional tall mulberry trees for the feed of silkworms;
- ◆ At the field level some of the silkworm rearing houses and equipment are unsuitable, the silkworm rearing technology practiced is traditional and primitive, both leading to low cocoon yield per box, low cocoon quality and too high labour expenses;

# Major problems and issues

- ◆ The cocoon producers expect to have a fresh cocoon purchasing price not less than about 6 Euros/kg, but the raw silk price at the world market is still too low to allow such a cocoon price, thus most of the farmers are not interested. If pay this price the companies restrict the amount of egg boxes distributed because the costs return may be possible if produce/sell high added value products only;
- ◆ The European Union subsidy in amount of 134 Euros/box of silkworm eggs reared has not been allowed for Bulgaria;
- ◆ The direct subsidies system presently adopted in Bulgaria does not benefit enough the cocoon producers.

# The preconditions/prospects for sericulture revival and development

Now the agricultural producers in Bulgaria receive an annual direct (EU + national) subsidy per 1 ha processed land (including mulberry) of about 130 – 140 Euros. Until 2016 this subsidy will arise to about 220 Euros/ha.

In 2012 the Bulgarian Government proposed to the European commission that during the new Common agricultural policy (2014 – 2020) period up to 15 % of the total EU direct subsidies package to be directed to important for the country sectors like animal breeding, including the sericulture, through the so called “committed support” . The “committed support” means payments for production of concrete products. Until now this proposal has been approved at the level of EU Ministries of agriculture council and it’s final approval by the three bodies: European parliament, the Irish presidency and the Ministries council will take place in this June. Simultaneously Bulgaria will have the rights to provide also some national subsidies in addition.

**Therefore at the beginning of 2014 we expect the sericulture farmers to start receiving EU and national subsidy per kg of fresh cocoons produced in amount of about 3.5 Euros/kg.**

**By this way the fresh cocoon purchasing price, payable by the cocoon processing companies may be about 3 Euros/kg only, which along with the subsidy will provide 6.5 - 7 Euros/kg – a satisfactory enough for the producers high price. In the same time the dry cocoon actual costs will be about 15 Euros/kg and the raw silk costs – around 38 Euros/kg. These costs will allow production and selling silk in bigger quantities if the World silk prices remain like now or will go up.**



**Strategy for sericulture revival and development during the period 2014-2018:** The key technical point of this strategy is the using of institutional capacities of SAES – Vratsa and the Universities for extension service and own production of mulberry saplings and silkworm eggs. The key economical point of this strategy is that it is expected the fresh cocoon purchasing price in amount of 6.5 EUR/kg to be formed by 46 % contribution of the private purchasing companies and 54 % contribution of national and EU subsidies.



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**The strategy aims to reach in 2018 in Bulgaria an annual production of about 600 t of fresh cocoons, 55 t raw silk, quality 2A – 4 A and 17 t thick denier raw silk. The possible financial sources to realize the strategy could be the following: EU Programme for rural areas development 2014 – 2020; EU Operational Program "Development of the Competitiveness of the Bulgarian Economy"; Direct EU and national subsidies for the sericulture farmers; Loans from banks which interest is partly covered by the state fund “Agriculture”; Foreign and/ or Bulgarian private investors.**





The strategy activities with the necessary investments will be:

- Creation of a country network for silkworm larvae incubation, distribution, cocoon purchasing, drying, assorting and storage and silk reeling - **1 142 000 EUR**;
- Gradual renovation of mulberry plantations - **1 030 000 EUR**;
- Improvement of the silkworm rearing facilities and technology - **19 500 000 EUR**;
- Establishment of an effective extension service system for sericulture - **922 000 EUR**;
- Establishment of comparatively bigger sericultural farms - **13 000 000 EUR**.

The total necessary investments will be **35 594 000 EUR**.



**Out of this sum, the money which should be provided by some private investors will be about 1.5 million EUR only and all the rest will be provided by the EU programmes and the farmers.**



After a successful implementation of this strategy we expect to achieve the following economical parameters in year 2018: farmer's total costs: **744 250 EUR**, farmers gross incomes: **3 900 000 EUR**.



**Payment of the farmers labor: 3 155 750 EUR,  
farmer's average labor payment per 8 h: 16.83 EUR  
while the minimal salary in Bulgaria in 2013 is 7.23  
EUR/man day, silk companies production costs:  
2 775 000 EUR and incomes: 3 170 000 EUR.**





**Thank you for your  
attention!**