



PERSPECTIVES AND POSSIBILITIES FOR DEVELOPMENT OF TOBACCO PRODUCTION IN THE REPUBLIC OF NORTH MACEDONIA

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Abstract

Tobacco production, with its socio-economic significance, is a source of subsistence, engagement and income for a large part of the population, as well as income from the export of the state. Over the past decade, the World Health Organization has made efforts to reduce tobacco areas through the FCTC (Framework Convention on Tobacco Control), but it succeeds only in developed EU member states, while in other parts of the world is not so. That production is maintained at a stable level.

The Republic of North Macedonia does not envisage measures to reduce tobacco production because of the sensitivity and socio-economic aspect, this issue has been left on after Macedonia's EU entry in the EU when tobacco production plans align with the EU rules.

Tobacco production in Macedonia in the last few years is around 25000 tons per year, whose real increase requires more human resources, which in the next period is not certain (there will be an aging of the population and the emigration of young people in the cities and abroad). Threats always exist, which are different developments on the external market, competition from neighboring countries producing oriental tobacco (Turkey, Greece and Bulgaria), as well as from some far-eastern countries. The spread of some new tobacco products that are not very dependent on tobacco production in the field, such as so-called electronic cigarettes and similar products, are also a real threat.

Keywords: *strategy, subsidies, price policy, production trends, sustainable development*

INTRODUCTION

What is the meaning of tobacco for Macedonia?

The production with its socio-economic significance is a source of existence, engagement and income of a large part of the population, as well as income from the export of the state.

Over the past decade, the World Health Organization has made efforts to reduce tobacco areas through the FCTC (Framework Convention on Tobacco Control), but it succeeds only in developed EU member states, while in other parts of the world is not so. That production is maintained at a stable level.

This Framework Convention is aimed at addressing some of the world's important issues such as: illegal tobacco and tobacco products trade, control of harmful ingredients in cigarettes and tobacco smoke, retail, wholesale and international trade.

The Republic of North Macedonia does not envisage measures to reduce tobacco production because of the sensitivity and socio-economic aspect, this issue has been left on after Macedonia's EU entry in the EU when tobacco production plans align with the EU rules. Tobacco production in Macedonia in the last few years is around 25000 tons per year, whose real increase requires more human resources, which in the next period is not certain (there will be an aging of the population and the emigration of young people in the cities and abroad).

Threats always exist, which are different developments on the external market, competition from neighboring countries producing oriental tobacco (Turkey, Greece and Bulgaria), as well as from some far-eastern countries. The spread of some new tobacco products that are not very dependent on

tobacco production in the field, such as so-called electronic cigarettes and similar products, are also a real threat.

In this context of facts about the meaning of tobacco for our country, it is interesting to mention the history and origin of tobacco in the Republic of North Macedonia.

Namely many examples, theories, facts, objects, devices and products indicate that tobacco has been part of life not only in these areas, but also much wider. Tobacco in Macedonia has been reached during the presence of the Ottoman Empire and since then it has been deeply embedded in the life of the Macedonian who shaped it according to its needs.

Wider in the world, tobacco has been discovered since Columbus, but his focus was more on gold, while he was not yet aware of the financial implications of other yellow gold. In Europe, the first cigarette was burnt in 1506 when unfortunate Fragonard Panee wanted to demonstrate to the citizens of Seville what the Indians looked like while smoked tobacco. While he smoked, the Inquisition arrested him and tortured him to admit that he had a pact with the devil, after which he was sentenced to seven years in prison. After he left the prison, he was amazed when he saw that everyone was smoking through the streets, and the tobacco

was called by Spanish craziness.

The value of tobacco is confirmed by another argument, in the homeland of tobacco in the US, in the states of Virginia and Maryland, even for centuries tobacco is used as a means of payment. The first law in free America was the Tobacco Law, and not the Constitution, the first standard was the tobacco standard and not the gold, making tobacco a very important and respected culture; it was luxury, prestige and power. The first scientific book on tobacco is Tobacco by Johannes Neander of 1626, when tobacco is still seen as a medicinal herb and when almost all diseases were treated with tobacco.

If the Indians were a symbol of peace, in our country through centuries up to now, tobacco is an opportunity for existence.

In Macedonia, tobacco arrives later from the rest of the world, in 1873, and became the center of spiritual life. Not so much as a crop that yields per unit area, because tobacco is considered a labor intensive culture, but because still tobacco cultivation carried large financial returns and was paid off. Even the local, folklore architecture was defined according to the needs for drying tobacco strings. The picturesque verandas were adapted for natural storage and drying of tobacco.

MATERIAL AND METHODS

During the preparation of this paper, statistical information from the World Bank, the State Statistical Office of the Republic of Macedonia, the Ministry of Agriculture, Forestry and Water Economy of the Republic of Macedonia were used. Macedonia, data published by magazines: Tobacco journal, International Year Book, Statistics-addresses-

brands, Tobacco, World Markets and Trade and wider literature

The data processing was used: analytical, mathematical-statistical and comparative method, as well as tabular and graphical representation.

We used the linear trend method for analyzing and predicting the results.

RESULTS AND DISCUSSION

Tobacco production is gaining more strategic importance for the state economy and is a significant item in filling the state budget. On the positive balance sheets after the purchase of last year's harvest, the upward trends in the value of the exported tobacco are added.

The Republic of North Macedonia is on the 30th place in terms of the quantity of tobacco produced in the world, as well as on the 15th place according to the value of the realized tobacco export worldwide. The largest

importers of tobacco from Macedonia are the USA and Germany, that is, they are multinational companies that have factories in the countries mentioned above.

Thus, tobacco annually provides around 100 million euro foreign exchange inflow. The growing interest in tobacco production, as well as the growing planted areas, is motivating the state to provide increased subsidies, and since the last year's harvest, the subsidy model has been introduced at three levels, for the first

class 80, for the second 70 and 60 denars per kilogram for a third, fourth and for additional classes.

The production is of economic importance and our country is a well-known producer of high-quality oriental type tobacco. The economic and social significance of tobacco production are supported by the number

of about 40 thousand families for which it is the main source of existence. The entry of large cigarette companies like Philip Morris and Imperial mean a lot to Macedonia. These companies did not come here by chance, they believe that Macedonia has perspectives for production of quality tobacco, especially Oriental.

Table 1. Production, surfaces and average yield (kg/ha) of tobacco in the Republic of North Macedonia

	Year	Tobacco production in kg	Index-base (1953)	Average yield per ha (kg/ha)	Index base (1953)	Planted hectares	Index base (1953)	Number of signed contracts of tobacco growers	Planting hectares according to the manufacturer
1	1970	23.643.000	1,72	820	1,04	28.833	1,66	69.586	0,41
2	1971	21.589.000	1,57	800	1,01	26.986	1,55	65.392	0,41
3	1972	28.983.000	2,11	1.000	1,27	28.983	1,67	69.770	0,42
4	1973	32.437.000	2,37	1.120	1,42	28.962	1,67	71.886	0,40
5	1974	27.978.000	2,04	930	1,18	30.084	1,73	69.913	0,43
6	1975	34.126.000	2,49	1.030	1,30	33.132	1,91	78.776	0,42
7	1976	33.721.000	2,46	1.030	1,30	32.739	1,89	79.408	0,41
8	1977	32.296.000	2,35	1.030	1,30	31.355	1,81	74.313	0,42
9	1978	31.154.000	2,27	1.070	1,35	29.116	1,68	67.536	0,43
10	1979	29.447.000	2,15	1.090	1,38	27.016	1,56	59.677	0,45
11	1980	23.587.000	1,72	890	1,13	26.502	1,53	55.355	0,48
12	1981	31.294.000	2,28	1.230	1,56	25.442	1,47	50.831	0,50
13	1982	34.000.000	2,48	1.260	1,59	26.984	1,55	60.259	0,45
14	1983	22.490.000	1,64	830	1,05	27.096	1,56	58.757	0,46
15	1984	30.719.000	2,24	1.185	1,50	25.923	1,49	53.692	0,48
16	1985	30.728.000	2,24	1.078	1,36	28.505	1,64	71.033	0,40
17	1986	35.020.000	2,55	1.159	1,47	30.216	1,74	80.256	0,38
18	1987	28.648.000	2,09	1.125	1,42	25.465	1,47	57.826	0,44
19	1988	22.259.000	1,62	1.201	1,52	18.534	1,07	54.440	0,34
20	1989	27.537.000	2,01	1.126	1,43	24.456	1,41	49.135	0,50
21	1990	16.452.000	1,20	790	1,00	20.825	1,20	38.809	0,54
22	1991	25.195.000	1,84	1.375	1,74	18.324	1,06	40.750	0,45
23	1992	26.502.000	1,93	1.178	1,49	22.497	1,30	49.348	0,46
24	1993	24.002.000	1,75	1.123	1,42	21.373	1,23	53.809	0,40
25	1994	18.862.000	1,38	1.269	1,61	14.864	0,86	35.416	0,42
26	1995	15.683.000	1,14	1.440	1,82	10.891	0,63	24.752	0,44
27	1996	15.412.000	1,12	1.313	1,66	11.738	0,68	27.110	0,43
28	1997	25.308.000	1,85	1.312	1,66	19.290	1,11	33.050	0,58
29	1998	32.746.000	2,39	1.309	1,66	25.016	1,44	54.661	0,46
30	1999	29.368.000	2,14	1.189	1,51	24.700	1,42	44.822	0,55
31	2000	22.175.000	1,62	973	1,23	22.790	1,31	37.617	0,61
32	2001	23.217.000	1,69	1.157	1,46	20.067	1,16	33.906	0,59
33	2002	22.911.000	1,67	1.116	1,41	20.530	1,18	26.971	0,76
34	2003	23.986.000	1,75	1.332	1,69	18.008	1,04	32.000	0,56
35	2004	21.630.000	1,58	1.221	1,55	17.715	1,02	27.343	0,65
36	2005	27.691.000	2,02	1.498	1,90	18.485	1,06	38.000	0,49
37	2006	25.036.000	1,83	1.436	1,82	17.507	1,06	29.230	0,60
38	2007	22.056.000	1,61	1.287	1,63	17.183	1,06	29.771	0,58
39	2008	17.087.000	1,25	1.001	1,27	17.064	1,06	30.519	0,56
40	2009	24.122.000	1,76	1.355	1,72	17.809	1,06	38.710	0,46
41	2010	30.280.000	2,21	1.492	1,89	20.300	1,06	40.743	0,50
42	2011	26.537.000	1,93	1.348	1,71	19.693	1,06	33.234	0,59
43	2012	27.333.000	1,99	1.392	1,76	19.656	1,06	29.090	0,68
44	2013	27.859.000	2,03	1.453	1,84	19.178	1,06	42.367	0,45
45	2014	27.578.000	2,01	1.553	1,97	17.758	1,06	34.445	0,52
46	2015	24.237.000	1,77	1.503	1,90	16.126	1,06	28.454	0,57
47	2016	25.443.000	1,86	1.554	1,97	16.373	1,06	27.380	0,60
48	2017	23.559.000	1,72	1.643	2,08	14.342	1,06	29.132	0,49

Based on these data, using the linear trend method, we determined the following absolute and estimated values by 2022 .

Table 2. Tobacco production (absolute/estimated values) by 2022 in the Republic of North Macedonia.

	Year	Tobacco production - absolute values	Tobacco production - estimated values	Years	Tobacco production - absolute values	Tobacco production - estimated values	
1	1970	23.643.000	24.295.090,37	28	1997	25.308.000	25.393.366,44
2	1971	21.589.000	24.335.767,27	29	1998	32.746.000	25.434.043,33
3	1972	28.983.000	24.376.444,16	30	1999	29.368.000	25.474.720,22
4	1973	32.437.000	24.417.121,05	31	2000	22.175.000	25.515.397,11
5	1974	27.978.000	24.457.797,94	32	2001	23.217.000	25.556.074,00
6	1975	34.126.000	24.498.474,83	33	2002	22.911.000	25.596.750,90
7	1976	33.721.000	24.539.151,72	34	2003	23.986.000	25.637.427,79
8	1977	32.296.000	24.579.828,61	35	2004	21.630.000	25.678.104,68
9	1978	31.154.000	24.620.505,50	36	2005	27.691.000	25.718.781,57
10	1979	29.447.000	24.661.182,40	37	2006	25.036.000	25.759.458,46
11	1980	23.587.000	24.701.859,29	38	2007	22.056.000	25.800.135,35
12	1981	31.294.000	24.742.536,18	39	2008	17.087.000	25.840.812,24
13	1982	34.000.000	24.783.213,07	40	2009	24.122.000	25.881.489,14
14	1983	22.490.000	24.823.889,96	41	2010	30.280.000	25.922.166,03
15	1984	30.719.000	24.864.566,85	42	2011	26.537.000	25.962.842,92
16	1985	30.728.000	24.905.243,74	43	2012	27.333.000	26.003.519,81
17	1986	35.020.000	24.945.920,63	44	2013	27.859.000	26.044.196,70
18	1987	28.648.000	24.986.597,53	45	2014	27.578.000	26.084.873,59
19	1988	22.259.000	25.027.274,42	46	2015	24.237.000	26.125.550,48
20	1989	27.537.000	25.067.951,31	47	2016	25.443.000	26.166.227,37
21	1990	16.452.000	25.108.628,20	48	2017	23.559.000	26.206.904,27
22	1991	25.195.000	25.149.305,09	49	2018		26.247.581,16
23	1992	26.502.000	25.189.981,98	50	2019		26.288.258,05
24	1993	24.002.000	25.230.658,87	51	2020		26.328.934,94
25	1994	18.862.000	25.271.335,77	52	2021		26.369.611,83
26	1995	15.683.000	25.312.012,66	53	2022		26.410.288,72
27	1996	15.412.000	25.352.689,55				

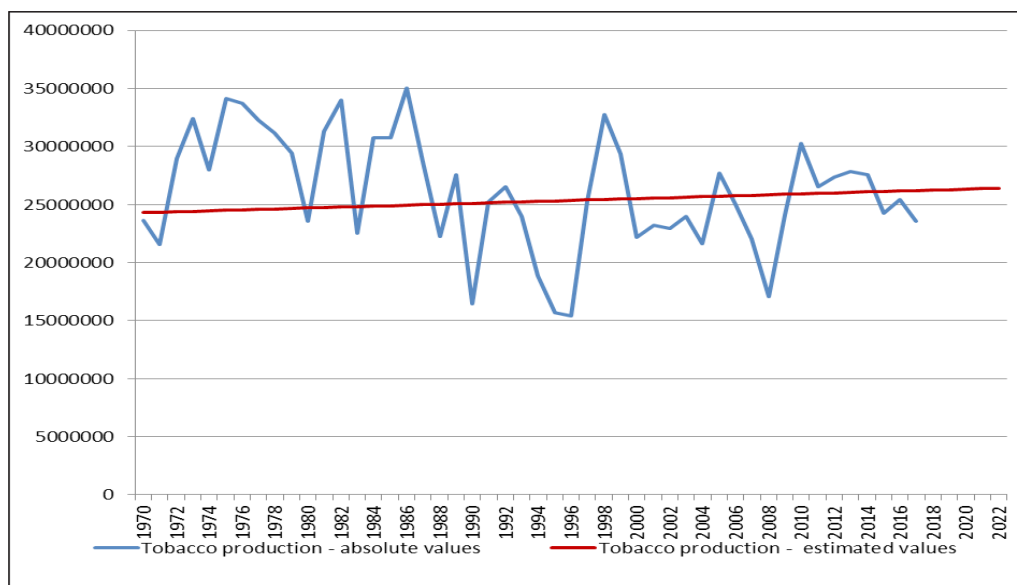


Figure 1. Tobacco production (absolute/estimated values) by 2022.

Table 3. Concluded contracts (absolute/estimated values) by 2022 in the Republic of North Macedonia.

Years	concluded contracts		Planted hectares of tobacco		years	concluded contracts		Planted hectares of tobacco	
	absolute values	estimated values	absolute values	estimated values		absolute values	estimated values	absolute values	estimated values
1970	69.586	73.912,63	28.833	26.435,41	1997	33.050	44.591,23	19.290	21.159,65
1971	65.392	72.826,65	26.986	26.240,01	1998	54.661	43.505,25	25.016	20.964,25
1972	69.770	71.740,67	28.983	26.044,61	1999	44.822	42.419,27	24.700	20.768,85
1973	71.886	70.654,69	28.962	25.849,22	2000	37.617	41.333,30	22.790	20.573,45
1974	69.913	69.568,72	30.084	25.653,82	2001	33.906	40.247,32	20.067	20.378,05
1975	78.776	68.482,74	33.132	25.458,42	2002	26.971	39.161,34	20.530	20.182,65
1976	79.408	67.396,76	32.739	25.263,02	2003	32.000	38.075,36	18.008	19.987,25
1977	74.313	66.310,78	31.355	25.067,62	2004	27.343	36.989,39	17.715	19.791,85
1978	67.536	65.224,81	29.116	24.872,22	2005	38.000	35.903,41	18.485	19.596,46
1979	59.677	64.138,83	27.016	24.676,82	2006	29.230	34.817,43	17.507	19.401,06
1980	55.355	63.052,85	26.502	24.481,42	2007	29.771	33.731,45	17.183	19.205,66
1981	50.831	61.966,87	25.442	24.286,03	2008	30.519	32.645,48	17.064	19.010,26
1982	60.259	60.880,89	26.984	24.090,63	2009	38.710	31.559,50	17.809	18.814,86
1983	58.757	59.794,92	27.096	23.895,23	2010	40.743	30.473,52	20.300	18.619,46
1984	53.692	58.708,94	25.923	23.699,83	2011	33.234	29.387,54	19.693	18.424,06
1985	71.033	57.622,96	28.505	23.504,43	2012	29.090	28.301,56	19.656	18.228,66
1986	80.256	56.536,98	30.216	23.309,03	2013	42.367	27.215,59	19.178	18.033,27
1987	57.826	55.451,01	25.465	23.113,63	2014	34.445	26.129,61	17.758	17.837,87
1988	54.440	54.365,03	18.534	22.918,23	2015	28.454	25.043,63	16.126	17.642,47
1989	49.135	53.279,05	24.456	22.722,84	2016	27.380	23.957,65	16.373	17.447,07
1990	38.809	52.193,07	20.825	22.527,44	2017	29.132	22.871,68	14.342	17.251,67
1991	40.750	51.107,10	18.324	22.332,04	2018		21.785,70		17.056,27
1992	49.348	50.021,12	22.497	22.136,64	2019		20.699,72		16.860,87
1993	53.809	48.935,14	21.373	21.941,24	2020		19.613,74		16.665,47
1994	35.416	47.849,16	14.864	21.745,84	2021		18.527,77		16.470,08
1995	24.752	46.763,19	10.891	21.550,44	2022		17.441,79		16.274,68
1996	27.110	45.677,21	11.738	21.355,04					

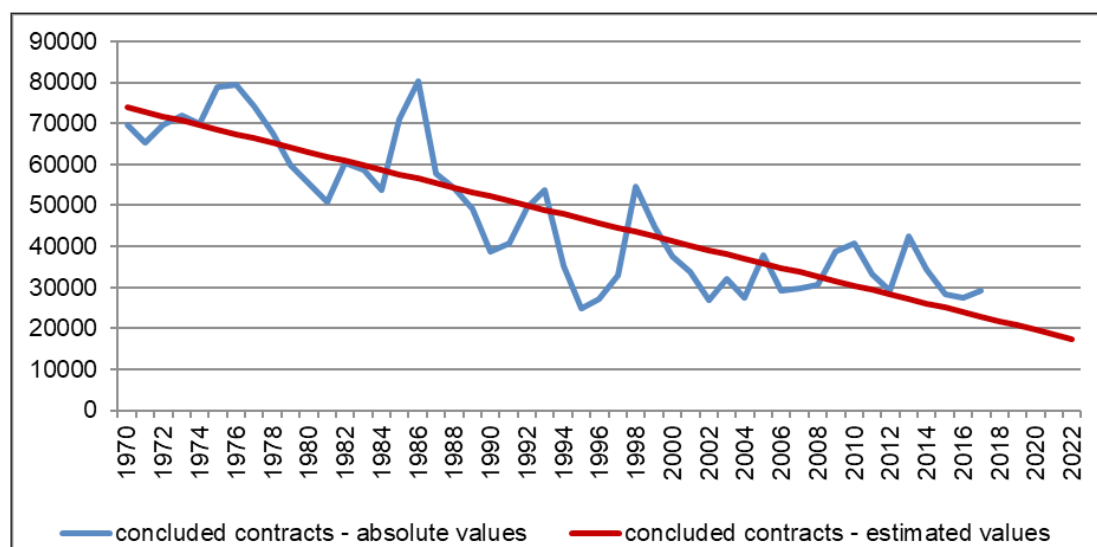


Figure 2. Concluded contracts (absolute/estimated values) by 2022 in the Republic of North Macedonia.

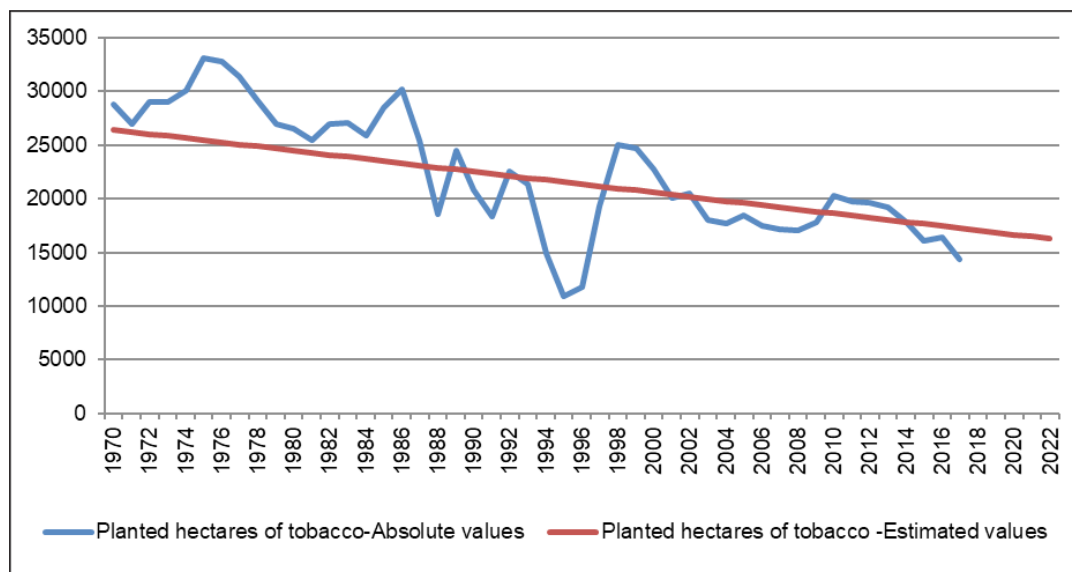


Figure 3. Planted hectares of tobacco(absolute/estimated values) by 2022 in the Republic of North Macedonia.

Which direction will take the tobacco production in Republic of North Macedonia?

Starting from the requirements of the world market, the scientific and technological achievements of the world and the available natural, production and human (labor) potentials, it can be freely stated that today, and even more in the future, the need will be expressed:

- Raising the quality of tobacco production at a much higher level, taking into account the requirements of buyers.
- Efficient and effective production, where the emerging and potential problems will be identified in an easier way and in an efficient way organism, an entity will be able to handle them.
- Raising the motivation and satisfaction in the work of the employed (engaged) people, and in particular better use of the technical and technological benefits, greater use of resources and mechanization that greatly replace the physically invested labor and reduce the time production operations and processes; and Fig.
- Continuous development of research,

educational and advisory activities for raising the proper implementation of Good Agricultural Practices (GAP).

- Raising awareness of the quality of the overall performance of all engaged individuals in the firm or farm.
- Guaranteeing the quality of tobacco and tobacco products production and secure placement;
- integrating economic and environmental goals, on the one hand increasing income, and on the other hand preserving the environment for healthy plants and favorable livelihoods of all living beings.
- Developing opportunities for creating alternative (combined) revenues through the expansion of tobacco production and other additional products or services.
- Taking care of environmental protection through a publicly declared policy about it.
- Establishing ways to monitor tobacco production (developing monitoring) for protection.

CONCLUDING REMARKS

In order to contribute to the clarification of the views towards determining the strategy for development of tobacco production in the Republic of Macedonia in the following period, the activities in the field of tobacco production

should be directed towards:

- Soil management and irrigation (conditions with arable and non-cultivated areas, water potential, proper soil and water management, etc.);

- Preserving the purity of tobacco purity (tobacco selection);
- Yield management;
- Integrated pest management;
- Agrochemical Management;
- Properly manipulating and storing tobacco;
- Development of farm tobacco production, family business, small enterprises with basic activity for tobacco production;
- Farmers' training;
- Socio-economic issues (problems);
- Developing sustainable tobacco production by unifying the knowledge of the utilization of free surfaces, applying the correct management activities and the preference of the good agricultural practices;
- Promoting tobacco production and raising public awareness for the preservation of the environment, as well as other areas that are in the interest of clarifying the aspects of promotion of tobacco production in the Republic of Macedonia in accordance with the relevant development policy in the European Union and the positive global (world) policy.

Tobacco producers often face the question of why they most often decide to produce tobacco, and no other crops. Below are some of the strongest arguments in favor of tobacco:

- Tobacco is a legally traded agricultural crop, for which global demand remains a major demand.
 - Tobacco grows on low fertility soil and some tobacco, such as Oriental type, is best grown in dry environments. Such conditions are always inadequate for the successful production of other crops.
 - In many areas where tobacco is grown, crops are grown after tobacco cultivation, benefiting from residual fertilizers in the soil.
 - As it is less perishable than most other alternative alternative cultures, tobacco can be easily stored.
 - Tobacco is characterized by relative price stability.
 - As a rule, sales are guaranteed, the price is agreed and it is most often respected.
- Alternative cultures an extremely difficult task, because tobacco is an alternative to tobacco.

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ПЕРСПЕКТИВИ И МОЖНОСТИ ЗА РАЗВОЈ НА ТУТУНОПРОИЗВОДСТВОТО ВО РЕПУБЛИКА СЕВЕРНА МАКЕДОНИЈА

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Резиме

Тутунопроизводството со своето социоекономско значење претставува извор на егзистенција, ангажираност и приход на голем дел од населението, како и приход од извоз на државата. Во последнава декада Светската здравствена организација прави напори да се намалат површините под тутун, преку Рамковната конвенција за контрола на тутунот (FCTC – Framework Convention on Tobacco Control), но тоа успева само во развиените земји членки на ЕУ, додека во останатите делови во светот тоа не е така. Таму производството се одржува на стабилно ниво.

Република Северна Македонија не предвидува мерки за намалување на производството на тутун бидејќи, поради осетливоста и социоекономскиот аспект, тоа прашање е оставено за понатаму, по евентуалниот влез на Македонија во ЕУ кога плановите за производството на тутун се усогласуваат со правилата на ЕУ.

Производството на тутун во Македонија во последните неколку години се движи околу 25.000 тони годишно за чие реално зголемување се потребни поголеми човечки ресурси, што во наредниот период не е извесно дека ќе ги има (старење на популацијата и иселувањето на младите луѓе во градовите и во странство). Закани секогаш постојат, а тоа се различни случувања на надворешниот пазар, конкуренцијата од соседните земји производители на ориенталски тутуни (Турција, Грција и Бугарија), како и од некои далекуисточни држави. Ширењето на некои нови тутунски производи кои не се многу зависни од производството на тутун на нива, како на пример таканаречените електронски цигари и слични производи, исто така се реална закана.

Клучни зборови: стратегија, субвенции, политика на цени, производствени трендови, одржлив напредок.