



**NON WOOD FOREST IN BULGARIA**

**Assoc. Prof. Dr. Maria Stoyanova**  
**Forest Research Institute, BAS, Sofia**

**Prof. Dr. Nickola Stoyanov**  
**University of Forestry, Sofia**




**Bulgarian Forestry Law (2011) includes into non-wood (side) forest use of all forests and lands of forestry the following activities: production of resin, pine splinters, hay, bark, fibres, seed; collection of: mushrooms, herbs (stalks, tubers, roots, rhizomes, leaves, seeds, flowers, buds, etc.), lichens and mosses, berries, twigs (coniferous and deciduous), Christmas trees, osiers (willow, hazel, cornel, etc.), foliar fodder, other plants, animals, which are not game, grazing livestock, inert materials and similar, without the use of wood.**



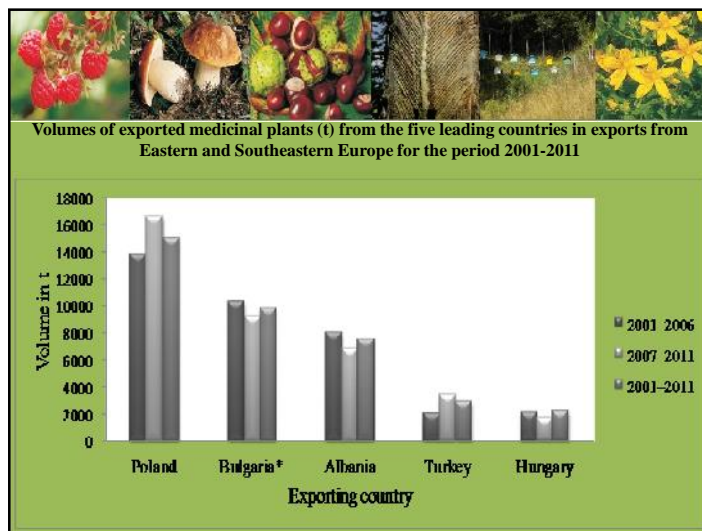
**In the research investigations and in the practice in Bulgaria, non wood forest products are grouped as follows (Stoyanova M. 2011):**

- 1. Food and medicinal products: berries, medicinal herbs and mushrooms;**
- 2. Raw materials for industrial processing: Resin, kindling, vegetable tannin materials, essential oils etc.;**
- 3. Fodder and grazing, hay, fodder from different tree species (tree branches with leaves), forest seeds etc. Beekeeping in the forest - pasture of bees and establishing plantations for beekeeping.**
- 4. Others - bast, cork, Christmas trees etc.**

Berries and herbs in the system of NFA for the period 2001-2011



Year	TONS - t					
	Nuts	Berries	Rose-hips	Lime Blossom	Herbs	Barks
2001	14,4	1452,7	500,0	809,1	3442,3	88,6
2002	10,3	1618,9	398,3	267,6	8022,9	23,7
2003	12,7	2025,8	240,3	427,4	6699,8	3,3
2004	8,8	1278,1	291,5	440,4	5168,8	2,7
2005	20,1	1849,1	303,2	471,4	4520,7	27,9
2006	22,3	2747,7	401,4	566,5	4430,3	47,5
2007	14,6	826,7	186,4	626,7	837,4	10,3
2008	2,9	208,2	149,0	569,8	736,1	16,5
2009	9,1	348,2	74,5	182,0	489,6	130,2
2010	20,0	664,6	117,1	271,6	749,8	97,4
2011	24,9	427,7	83,0	268,7	534,8	54,7




During the period 2001 -2006, Bulgaria ranks second after Poland with an average amount of 10 365 t. According to Kathe W. and others in 1991-2000, Bulgaria occupies the leading first place among all countries of Eastern and South-Eastern Europe with exports of 10 050 t, followed by Albania with 7 650 t and Poland - with 6 330 t (Kathe W. and others, 2003).

During the period 2007-2011, Bulgaria does not change its place in the rankings, but in the period 2007 - 2009, there was a decrease in exports and the increasing in the amount of herbs exported in the recent years is relatively smaller, compared with Poland, occupying the first place.


Mushrooms collected in the period 1960-2011, in tons

Year	Quantity, t	Year	Quantity, t	Year	Quantity, t	Year	Quantity, t
1960	268	1972	5080	1985	450	2002	7410
1961	198	1973	2132	*	*	2003	3825
1962	1810	1974	854	*	*	2004	5101
1963	1206	1975	2356	*	*	2005	7937
1964	1394	1976	2730	*	*	2006	4822
1965	311	1977	1500	*	*	2007	573
1966	3721	1978	3967	1996	422	2008	155
1967	2958	1980	2672	1997	1351	2009	541
1968	5200	1981	1942	1998	2342	2010	376
1969	3136	1982	2150	1999	3375	2011	185
1970	2238	1983	1700	2000	1288		
1971	2486	1984	1560	2001	2834		




Average minimum and maximum volume in t of exports of fresh mushrooms from Eastern European countries for the period 2002 - 2011 .

Exporting country	Minimum and maximum quantity in t, for period 2002–2006	Minimum and maximum quantity in t, for period 2007–2011
Romania	2 140 – 3 891	1 691 – 3 381
Serbia	1 260 – 1 813	627 – 1 190
Bulgaria	922 – 2 671	1 060 – 1 876
Turkey	333 – 1 231	401 – 1 054
Slovakia	313 – 716	1 – 14
Croatia	96 – 841	68 - 294
Bosnia and Herzegovina	46 – 732	141 - 646




Volumes of exported mushrooms from Bulgaria

Products	2001	2002	2003	2004	2005
	tons				
Mushrooms - fresh	703	1 805	*	1 653,2	2 664,0
Incl. wild growing	*	1 802	923	1 649,4	2 663,3
Frozen mushrooms	1 215	1 011	668	303,7	1 590,7
Incl. wild growing	1 215	1 011	667	275	1 557,9
Mushrooms provisionally preserved	120	321	424	404,4	672,4
Incl. wild growing	90	275	421	400,1	668
Dried mushrooms (incl. Wild growing)	205	549	315	320,3	437,3



Average quantity of imported medicinal plants and its value for the leading countries in the world for the period 2003 - 2011

Importing country	2003 -2006 .		2007 -2011 .	
	Quantity, t	Value US \$	Quantity, t	Value US \$
USA	49 184 (1)*	158 453 280 (1)	63 550 (1)	248 094 875 (1)
Germany	46 182 (2)	113 391 250 (2)	51 659 (3)	179 813 062 (2)
Hong Kong	40 887 (3)	47 439 820 (5)	51 878 (2)	71 931 411 (6)
Japan	25 921 (4)	93 686 102 (3)	27 647 (4)	142 638 363 (3)
France	19 066 (5)	56 083 102 (4)	17 554 (5)	82 499 401 (4)
Italy	11 977 (6)	44 469 395 (7)	12 060 (6)	59 718 107 (7)
UK	9 395 (7)	46 248 487 (6)	8 547 (9)	55 249 009 (9)
Canada	6 848 (8)	40 779 255 (9)	9 914 (8)	58 669 953 (8)
Singapore	6 510 (9)	41 920 040 (8)	12 052 (7)	80 177 153 (5)
<b>Bulgaria</b>	<b>463</b>	<b>1 084 751</b>	<b>767</b>	<b>1 829 544</b>



Average quantity of exported medicinal plants and its value for the leading countries in the world for the period 2003-2011

Exporting country	Quantity, t	Value, US \$	Quantity, t	Value, US \$
	2003 -2006 .		2007 – 2011 .	
China	180 977 (1)*	226 146 370 (1)	208 408(1)	484 075 552 (1)
India	44 540 (2)	50 389 855 (6)	48 438 (2)	113 491 845 (2)
Mexico	34 996 (3)	32 966 567 (9)	30 381 (3)	41 166 882 (9)
Hong Kong	17 424 (4)	56 359 747 (4)	9 777 (7)	51 363 504 (6)
Germany	17 344 (5)	82 332 250 (2)	18 566 (4)	120 694 890 (3)
Poland	14 866 (6)	38 967 465 (7)	16 506 (5)	62 060 468 (5)
USA	13 527 (7)	55 963 275 (5)	13 039 (6)	74 772 802 (4)
<b>Bulgaria</b>	<b>10 350 (8)</b>	<b>18 005 811 (10)</b>	<b>9 213 (8)</b>	<b>24 172 697 (10)</b>
France	10 108 (9)	56 388 357 (3)	6 731 (9)	48 576 585 (7)
Singapore	2 237 (10)	33 658 495 (8)	2 550 (10)	47 535 945 (8)



Exports of herbs from Bulgaria is pointed to more than 50 countries of the world prevailed by European Union countries, who buy about 88% of the herbs, exported from Bulgaria. The remaining 12% is exported to some Eastern and Southeastern European countries.



For the last ten years from forest areas were collected from 489,6 to 8 022,9 or average 3239,3 t herbs according to the statistics of EFA. From comparison with the date from the UN Comtrade become clear that about half of the exported herbs are collected from the forest areas.



Average price of exported from Bulgaria herbs (US \$ / t)

Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Average price (US \$/t)	1152	1082	1483	1701	1716	2103	3056	2822	2476	2240	2583
%	100,0	93,9	128,7	147,7	149,0	182,6	265,3	245,0	214,9	194,4	224,2



#### Raw materials for industrial processing


- **Balsamic resine**

From 5 t annual production in early production of resin in 1937 it reached up to 3 250 t in the mid-seventies, and then gradually decreased to almost completely faded now.

- **Kindlig** – no producing


- **Twigs** - no producing

- **Plant tanning materials** - for the period 2007 - 2011 - from 105 to 6 482 kg.




### Pine resine

Years	Quantity, t	Years	Quantity, t
1938	13	1965	2945
1940	100	1970	2696
1941	126	1980	1300
1942	178	1985	*
1943	187	1990	*
1944	179	1994	50
1945	*	2000	*
1946	200		
1950	220		
1956	600		
1960	1154		




The third group NWFP include: **Hay, fodder from tree species, forest seeds, honey and others.** As recovery operations of NWFP here seen **grazing of animals and beekeeping in the forest.**

**Fruits and seeds**, which are of interest as forage, are acorns of oak and beech. Quantity of seed harvested in different years varies widely from 7.1 to 155,8 t,



The latter group of NWFP in our country include **raffia (bast), cork, Christmas trees etc.**

- **Extraction of raffia (bast)**
- **Extraction of cork**
- **Other uses of the waste bark** - for heating, production of building materials such as fibrolite, fiber boards etc., for fertilization, for mulch etc.



### Production of Christmas trees and ornamental plants

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Christmas trees, number	37 641	69 330	38 892	51 403	42 992	45 913	36 613	33 413	20 611	21 617	17 789
Decorative saplings issue.	*	*	*	*	37 264	16 091	57 205	47 330	27 154	73 061	39 193



A review and analysis of the use and trade of NWFP shows that over the years different priority had different NWFP, depending on the needs of society and of individual consumers. Under the new market conditions, the interests of each owner impose rational and wise use of the forest resources to obtain maximum benefit and income.



In conclusion, we point out that the use of non wood forest products, whatever property they are - state, municipal or private, should be organized so as to not damage ecosystems and biodiversity in them and not to the detriment of the main production functions of the forest.



#### More information:

**SILVA BALCANICA -**

**12 (1), 2011**

TRENDS IN THE USE OF NON-WOOD FOREST PRODUCTS IN BULGARIA

**14 (1) 2013-**

NON-WOOD FOREST PRODUCTS IN BULGARIA

<http://silvabalcanica.wordpress.com/>



**THANK YOU!**