

**NATIONAL FORESTRY BOARD  
REGIONAL FORESTRY BOARD  
REGIONAL DEPARTMENT – VELIKO TARNOVO**

TO: MINISTRY OF AGRICULTURE AND FORESTRY –  
REPUBLIC OF BULGARIA  
NATIONAL FORESTRY BOARD  
ATT.: MR. ING. ILIA SIMEONOV  
HEAD OF THE BOARD

**REPORT  
ON THE USAGE OF THE LIQUID ORGANIC FERTILIZER BIOHUMAX®  
FOR AFFORESTATION PURPOSES**

In June 2004 the Regional Forestry Department of Veliko Tarnovo received an offer for purchasing of BIOHUMAX® - liquid, K-humate organic fertilizer extracted from Earth worm (red Californian worm) castings. This product is produced from Project Studio Ltd. – town of Kavarna, region of Varna.

After the creation of a special methodology for testing the product for pricking off Oak trees (*Quercus*) and Pine trees (*Pinus*) at forestry conditions by Ing. Ivan Manolov, on 21<sup>st</sup> of August 2004, we purchased 96 litre of BIOHUMAX® from the authorised dealer for the region of Veliko Tarnovo (Invoice No 341/21.08.2004).

On the 2 of September 2004 the forestation action in the Municipality of Liaskovets, village Rodina, neighbourhood Arabiata took place. On area of 18 000 sq.m. were planted 4 plots indicated with indexes A1, A2, A3 and A4.

Characteristics of the plots:

1. General characteristic: type of soil - grey forest soil, last activity – clear felling, previous kind of tree – White pine tree (*Pinus*); the plot is situated at 468 m above sea level, clearance was not done.
2. A1 was planted with 3-year-old saplings of White pine tree from the forestry nursery garden in Veliko Tarnovo. The saplings were not treated before planting with BIOHUMAX® and the newly planted trees were not treated after planting also. Total area of the plot - 4 500 sq.m. At 30 November 2004 the ascertain result was that 38,4% from the saplings took root.
3. A2 was planted with 3-year-old saplings of White pine tree from the forestry nursery garden in Veliko Tarnovo. The saplings were treated before planting with BIOHUMAX® and once again after planting. Total area of the plot - 4 500 sq.m. At 30 November 2004 the ascertain result was that 71,3% from the saplings took root.
4. A3 was planted with 4-year-old saplings of Oak tree from the forestry nursery garden in Veliko Tarnovo. The saplings were not treated with BIOHUMAX® before planting and were not treated also after planting. Total area of the plot - 4 500 sq.m. At 30 November 2004 the ascertain result was that 48% from the saplings took root.

5. A4 was planted with 4-year-old saplings of Oak tree from the forestry nursery garden in Veliko Tarnovo. The saplings were treated with BIOHUMAX<sup>®</sup> before planting and were once treated with BIOHUMAX<sup>®</sup> after planting. Total area of the plot - 4 500 sq.m. At 30 November 2004 the ascertain result was that 79,5% from the saplings took root.

According to the recommendations of the producer of BIOHUMAX<sup>®</sup> Project Studio Ltd. Varna, the next treatment on the test plots should be done during April 2005. For this treatment 120 litre of BIOHUMAX<sup>®</sup> will be necessary.

**Conclusion:** The achieved growth in percentage of newly planted saplings taken roots, is high enough to account for the usage of BIOHUMAX<sup>®</sup> for the following afforesting actions from the Regional Forestry Department of Veliko Tarnovo. It shows economic effect and safes resources for further afforesting activities for planting new trees and replenishment of the plots.

The Regional Forestry Department – Veliko Tarnovo intends to continue to follow the technology for treatment with the liquid fertilizer for the purpose of tracking out the hibitus and development of the forest on the treated plots. We are on the way to create a methodology for checking the growth of the biomass of the roots and head of the trees till April 2005.

12 January, 2005-01-30

Head of Regional Forestry Department  
Veliko Tarnovo  
Ing. Stoyan Stoyanov

Translation from Bulgarian of the letter addressed to the Head of the National Forestry Board