UKRAINE

AGROFORESTRY AND NWFPS

NATALIA VYSOTSKA

UKRAINIAN RESEARCH INSTITUTE OF FORESTRY AND FOREST MELIORATION NAMED AFTER G. M. VYSOTSKY, DEPUTY DIRECTOR FOR SCIENCE
GCP/UKR/004/GFF: INTEGRATED NATURAL RESOURCES MANAGEMENT IN DEGRADED LANDSCAPES IN THE FOREST-STEPPE AND STEPPE ZONES OF UKRAINE

- Recommendations for the national users about the parameters of selection and adaptation of international agroforestry practices in terms of sustainability of local environmental systems
- The Guideline on plant species selection for shelterbelts reconstruction in Ukraine
- The recommendations for the developing the incentive mechanisms (such as a PES) to stimulate the agroforestry practices dissemination
- The consultations with key stakeholders on effective shelterbelt management
- 5 theoretical and 4 practical trainings
- 1152 beneficiaries participated in the webinars and over 100 beneficiaries were engaged in practical work

- Rules for maintenance and preservation of shelterbelts located on agricultural lands (approved by the Cabinet of Ministers of Ukraine)
- Procedure for the use of funds provided in the state budget to support agricultural producers who maintain and preserve shelterbelts located on agricultural lands (At present, this draft legislation is subject to a process of approval with all interested ministries and voluntary associations).
## SHELTERBELT DESIGN

<table>
<thead>
<tr>
<th>Shelterbelt design</th>
<th>Additional crop production (%)</th>
<th>Cost ($USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dense</strong> (Without gaps throughout the body of the shelterbelt)</td>
<td>20 – 23</td>
<td>+ $130</td>
</tr>
<tr>
<td><strong>Open</strong> (Moderate number of gaps throughout the body of shelterbelt)</td>
<td>23 – 36</td>
<td>+ $200</td>
</tr>
<tr>
<td><strong>Thinline planted</strong> (A lot of gaps between trunks and no gaps in the canopy)</td>
<td>22 – 33</td>
<td>+ $180</td>
</tr>
</tbody>
</table>
TREES AND SHRUBS RECOMMENDED FOR PLANTING IN FIELD SHELTERBELTS IN DIFFERENT AGROCLIMATIC ZONES IN UKRAINE

Quercus robur, Betula pendula, Gleditsia triacanthos, Juglans nigra, Juglaus regia, Larix decidua, Pinus pallasiana, Pinus sylvestris, Populus balsamifera, Populus deltoides, Populus simonii, Ulmus parvifolia

Acer campestre, Acer platanoides, Acer pseudoplatanus, Armeniaca vulgaris, Sorbus torminalis, Carpinus betulus, Cerasus avium, Malus domestica, Morus alba, Pirus communis, Sorbus aucuparia, Tilia cordata

Acer tataricum, Amelanchier ovalis, Chaenomeles speciose, Corylus avellana, Cotoneaster integerrimus, Cotoneaster luciela, Cotinus coggygria, Crataegus laevigata, Evonymus verrucosa,
# TREES AND SHRUBS FOR ADDITIONAL PRODUCTS

<table>
<thead>
<tr>
<th>Products</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood</td>
<td>Oak, beech</td>
</tr>
<tr>
<td>Valuable wood</td>
<td>sycamore maple, black walnut, pecan tree, european bird cherry</td>
</tr>
<tr>
<td>Biomass</td>
<td>hybrid willow or poplar</td>
</tr>
<tr>
<td>Fruits</td>
<td>apple-tree, pear, cherry, apricot, quince, mulberry, serviceberry, dogwood, currant, chokeberry, sea buckthorn, elder, cornel</td>
</tr>
<tr>
<td>Nuts</td>
<td>Walnut, hazel</td>
</tr>
<tr>
<td>Honey plants</td>
<td>linden, amur corktree, maple, willow, raspberry, currant, peach, pear, apple-tree, cherry, bird cherry, quince, sea buckthorn, cinnamon rose, whitebeam, cotoneaster</td>
</tr>
<tr>
<td>Tree sap</td>
<td>Birch, maple</td>
</tr>
</tbody>
</table>
growing fruit trees and shrubs

- Apricot, sweet cherry
- Apple, pear
- Sea buckthorn, elderberry, cornel
- Currants, viburnum, chokeberry

cultivation of nut crops

- Walnut
- Cobnut
- Pecan
- Almond

walnut growing valuable wood species

- Sycamore
- Black walnut $5000$
- Pecan $3000$
- Sweet cherry $400$
MODEL OF ESTABLISHMENT AND EXPLOITING A POPLAR AND WALNUT FIELD SHELTERBELT

Age: 1 year

Age: 5 years

Age: 10 years
GROWING HONEY PLANTS
**TREE SPECIES THAT CAN FORM MYCORRHIZA WITH FUNGI**

<table>
<thead>
<tr>
<th>Fungus</th>
<th>Forms mycorrhiza with plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>King bolete (Boletus edulis)</td>
<td>Pine, birch, oak, cobnut</td>
</tr>
<tr>
<td>Annulated boletus (Suillus luteus)</td>
<td>Pine, larch</td>
</tr>
<tr>
<td>Brown birch bolete (Leccinum scabrum)</td>
<td>Poplar, birch</td>
</tr>
<tr>
<td>Truffle (Tuber magnatum)</td>
<td>Oak, walnut, birch, poplar, linden, cobnut</td>
</tr>
<tr>
<td>Wild Shiitake Mushroom (Lentinula edodes)</td>
<td>Oak, beech, maple, linden</td>
</tr>
<tr>
<td>Hiratake (Pleurotus ostreatus)</td>
<td>Poplar, aspen, walnut, apple-tree, bird cherry, oak</td>
</tr>
</tbody>
</table>
CULTIVATION OF MEDICINAL PLANTS IN SPACE BETWEEN ROWS
CULTIVATION OF SPICE PLANTS IN SPACE BETWEEN ROWS
INVASIVE SPECIES

- Robinia pseudoacacia, Quercus rubra
- Acer negundo
- Ailanthus altissima, Elaeagnus angustifolia
• How is agroforestry used in your country as an integration tool for the forestry and agriculture sectors?

• Non-wood forest products are an integral part of the society in your country. How are these products valued in the overall agri-food system?
CONTACTS:

Ukrainian Research Institute of Forestry and Forest Melioration named after G. M. Vysotsky

86 Pushkinska Str.
Kharkiv
61024
Ukraine

www.uriffm.org.ua

E-mail: uriffm@uriffm.org.ua

Phone: +380-57-7078001