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Bio-ecology and Importance of some Weeds for Agriculture

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Abstract: *During the events developed in the last 20- 25 years, Georgian subtropic agriculture turned out to be in extreme conditions. Less attention and less agro-technical activities towards sub-tropic culture especially tea culture, caused strong weeding, wooding and wilding of plantations. In abandoned tea plantations, in natural wild conditions there is an inner species and species competition, where the number of weak biological and a year old plants was decreased and dominant position was taken by competitive, old, bushy strong rooted weeds.*

1. INTRODUCTION

Weeds are called itself growing grass plants that are grown in plantings of different cultures and cause decrease their harvest and quality. They take water, food substance and solar energy. Many weeds contain poisoning substances and causes poison of people and animals, it gives bad odor to animal products: mil, cheese and butter. In case of massive reproduction some weeds totally take the place of plants good for feeding cattle. Many weeds assist spreading of diseases and wreckers. Weeds also cause troubles to technical works while harvesting. The damage caused by weeds is great in the whole world. Weeds have cultivated the number of biological peculiarities, and that is why it is impossible to annihilate them easily. These peculiarities are: Developing seeds in large quantities, for example, Gholo - develops up to 6 thousand seeds, Boloka - up to 12 thousand, Jijlaka -up to 19 thousand, Ghija - up to 500 thousand, Danduri - up to 200 thousand and others (Basics of Agriculture part II, 2008).

Weeds are characterized by developing underground buds and vegetational organs in large numbers: for example, under white ground on a square metre it easily develops 526 vegetational buds, Ghija–1609, Viristerpa–2596 and others. Seeds of some weeds are equipped by flying set and in the windy weather it is easily moved to the far distance, weeds also develop hooks, by which they attach fur of the animal, people, machine-tool and spread areas. Seeds of some weeds are equipped by the self seeding ability. Most of weeds seeds are ripe earlier and fall, than the seeds of cultural plant seeds. Besides, the seeds of weeds long maintain living ability. For example, the seed of Shvriuka - lives and is alive up to 7 years, Zhunzhruko–up to 4 years, Shalga–up to 10 years, Jijlaki, Danduri , and Gholo–up to 25 years (I. Peradze and others, 1977). According to the existing statistical data, in the regions of Georgia in 2008-2010 years from agricultural soils 202 thousand hectares are processed, but earlier 268 thousand were processed. It means 66 hectares nowadays are not used and are abandoned. Nowadays these numbers are more increased. This includes areas given for rent to the population, the most part of which are not used because of ecological problems, lack of afford and poverty. According to this, large number of agricultural soils are not used, that affects social and economic and ecological state of the country (Kanchaveli and others 1975).

Picture 1: Weeding of the tea plantation in sub-tropical zone of Georgia

2. THE AIM OF THE RESEARCH

The problem of weeding, wooding and wilding of tea plantations in recent years. In abandoned wild tea plantations, in naturally wild conditions and the number of weak biological and a year old plants was decreased and dominant position was taken by massive reproduction of weed plants, after which the basis for crating secondary wood took place. Namely, we meet the following weed tree-plants: Alder fir tree, Acacia, Cherry laurel and others. According to the abovementioned the situation in the sub-tropical region of Georgia is rather critical. Abandoned tea plantations are totally covered by weeds and where wild animals, insects and mosquitos are in great

number. Such high level of weeding in western Georgia caused the decline and destruction of subtropical plants and especially tea culture, accordingly the soil became poorer from feeding elements, bio-potential of plants declined and as a result harvest level has much fallen. The area of weed plants is increasing every year.

3. THE OBJECT OF THE STUDY

were the following weed plants: Spirea japonika L., Poligonium hudropiper-L., Bideus trapartita-L., Capsella busa-pastoris-L., Centaurea cyanus-L., Urtika erenus-L., Sambukus ebulus-L., Artemizia vulgaris L., Taraxakum ifficinale Wigg.,

Spirea japonika L.–is a 1-2 metre, reddish-brown bush with straight standing trunk of roselike (Rosaceae) perennial deciduous family. Leaves are simple, oval, 2,5-7,7 centimeters long, with jagged edges, are placed in order on the trunk. Flowering created by rosy flowers is placed at the end of the trunk. The seed is 2,5 mm long and is placed in the brilliant capsule. Spirea japonica L is only used in decorative gardening as live fences.

Poligonium hudropiper-L, belongs to Polygonaceae family. It is one year 70 cm herbaceous plant, with thin roots and branched hollow, green, kneed trunks. Leaves are placed on chronological order, long lancet like, 3-10 cm long, with gross edges, flowers are thin, greenish, on the upper side it is often rosy. Flower cover has golden dots which points to the existence of resins in it. The flowers are gathered in a thin ears like flowering, it blooms from the end of June to September. The fruit ripens in October-November.

Bideus trapartita-L, 1 m long straight standing one year herbaciuos plant from Asteraceae family, has much branched system of main axis roots. 15 cm long leaves are ordered in the opposite position is dark green with short eyelets. The edges of leaves are jagged. Yellow flowers are gathered as 1, 5 diameter buckets and are placed at the ends of trunks and branches. Flowers are like pipe. The fruit is with two rough teeth. With these rough edges the seed is attached to animal fur, human clothes and is easily spread. It blooms from June to September. It blooms in August-September. The fruit is ripe in September-October.

Capsella busa-pastoris-L, one year herbaceous plant from Cruciferae family, with 20-30 cm length, with thin finger like root. The trunk is straight standing, weakly branched, with branch like fur at the bottom. At the bottom side of the trunk leaves are with eyelets, with wing features, 5-10 cm long, pointed, triangle or jagged, leaves on the trunk are positioned in order, longish lancet like, with gross edges. Upper leaves are almost lined with arrow like bottom. Flowers are thin, white, gathered in cluster like flowering. The fruit is triangle with the length of 5-8 mm. It starts to bloom in April-May and blooms during Summer. The fruit ripens during all vegetation period.

Centaurea cyanus-L. Is a one year herbaceous plant from Compositae family, with 30-80 cm length, thin branched root and with straight trunks, which are covered by greyish white fur. Leaves are in order, greyish green, with lower three parts or branched like wings, with eyelet, upper lined, gross. Flowers are gathered as bucket flowering, which are positioned on the top of the branch and on its branching. Edge flowers are like pipes or funnel, of blue color, inner–violet. The fruit is grey or greyish-yellow, longish, smooth seed. Centaurea blooms in June-July, seeds ripen in August.

Urtika dioica-L, is 50-80 cm long perennial, crawling root, two house, herbaceous plant from Urticaceae family. Straight standing trunk, two surface areas, with rough fur and covered with tingling gland villus. Leaves are egg like, with tingling villus. Thin, greenish, one-sex flowers are gathered like ears in leaf armpits. The fruit is yellowish-greyish nut. It blooms from May to October. It ripens in July-October.

Sambukus ebulus is 1,5 m long perennial root, herbaceous plant from Caprifoliaceae family. The trunk is hollowed and gullied, straight standing. Leaves positioned in the opposite side and their edges are toothed. White flowers are gathered like umbrella flowers. The fruit is black berries. It blooms in May-July. The fruit ripens in July-August.

Artemizia vulgaris L. Is branch-rooted perennial herbaceous plant from Asteraceae family. The length of a straight standing trunk reaches 100- 150 cm. Leaves are positioned in order. Seated, covered with silvef light fur on the lower side. Thin cherry-colored flowers are gathered as buckets. The fruit is seedy. It blooms from June to September, fruits ripen in October-November.

Taraxakum ifficinale Wigg is a plant from Asteraceae perennial herbaceous family, with 5-50 cm long thick trunk, with long eyelet, lancet like, toothed edged leaves of 10-25 cm width. They are gathered at the root neck. Yellow flowers are gathered as 3-5 cm diameter bucket flowers. The fruit is grey seed of 3-4 mm length. It blooms in May-August. The fruit ripens in June-September (Varshanidze, 2013).

4. CONCLUSION

Thus, for further development of subtropical agriculture of Georgia, it is necessary to pay special attention to define species of weeds spread in abandoned tea plantations and work out some resisting activities against the weed plants. This will assist to use agricultural soils rationally and provide ecological safety, to use agricultural soil effectively and will increase availability of land usage for the population.

5. LITERATURE:

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Summary

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During the events developed in the last 20- 25 years, Georgian subtropic agriculture turned out to be in extreme conditions. Less attention and less agro-technical activities towards subtropic culture especially tea culture, caused strong weeding, wooding and wilding of plantations. In abandoned tea plantations, in natural wild conditions there is an inner species and species competition, where the number of weak biological and a year old plants was decreased and dominant position was taken by competitive, old, bushy strong rooted weeds.

We have studied bio-ecological peculiarities of some weeds massively met in declined tea plantations. It is necessary to pay special attention to the weeds reproduced in natural conditions in abandoned tea plantations, define their species diversity and work out effective ways, plans and activities to struggle against them.