UDC 630*232

EFFECT OF DEFORMATION KROONS PER GROWTH OF PINE SEEDLINGS IN CULTURE SUBURBAN ZONE KIEV

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The effect of deformation krone on their growth of pine seedlings in young cultures suburban forest green zone. Shows the dynamics of growth in the first years after deformation kroons.

Forest crops, pine, deformation of the krone, municipal forests and green area.

One of the problems each year decide to foresters in the New Year celebration is the fight against unauthorized cutting seedlings of pine and spruce for Christmas trees from young stands of different ages and cultures . Protection of plants of the crop species by the forest protection are not always effective. Use whitewash mortar crowns , processing plants waste fuel and lubricants, also provide them with complete safety. Solving this problem contributes to the deformation of the crown of seedlings by removing lateral buds and trimming branches. The study on the effects of removing buds and trim the branches of deciduous plants that grow in cultures at different times doing PG Krotkevych [2] VP Timofeev [3] P. Izyumsky [1] and other researchers , foresters .

In suburban forests, the main objective of the deformation of the crown of pine seedlings is to shape it unsuitable for Christmas trees , especially the plants that grow near roads and settlements. Because pruning improves access rainfall to soil increases its lighting and heating , enhanced activity of soil mikrobiotsenoziv and improves the quality receiver timber.

Materials and methods research. The object of the investigation served seedlings of Scots pine (Pinus sylvestris L.) are grown in suburban forests green zone of Kyiv. Scots pine , established in terms of fresh pine forests with accommodation planting beds 2,5 × 0,7 m Examine the impact of removing buds and trim the

branches on the growth of plants carried out in 2005-2007. Research carried out by the method PG Krotkevycha [2].

Crop removal of branches and buds held in spring 2005. In the following years conducted measurements dendrometryc indicators and surveillance seedlings. The experiment consisted of four versions : the first (control) - no action on the deformation of the crown was not carried out , the second - was carried plucking lateral buds of the upper whorls in the third - the second branch carved whorls , the fourth - the removal of lateral buds was combined with pruning branches. The measurements were carried out in autumn dendrometryc indicators 2005-2007. The height of the plants and the current increase in height measured tape up to 1 cm

Results. The study points to the positive impact of the removal of the kidneys and cut branches from the trunk to the further growth of pine seedlings . The table data show that seedlings selected for the experiment had a height within 54,5-58,4 cm and individual variations were not significant differences , as calculated Student test did not exceed the tabulated (tp = 1.42). During the first growing season, due to changes that occurred in the habit euros, growth of seedlings in height compared to the control increased by 3,5-9,0 %, in the second year of accelerated and surpassed control values at 7,5-16,0 %. It should be noted that during the first growing season was the most effective option of branches by cutting on the trunk, where the height of pine seedlings at the end of the growing season by 9% dominant height of seedlings under control and made up 93,2 ± 3,06 cm and the smallest height (88,5 ± 2,26 cm) was observed in the form of removal of kidneys. However, even these seedlings had a height of 3.5 % greater than the control. At the end of the second growing season the difference between the height of seedlings on the control and experimental variants was increased and 7,5-16,0 %. In this case, the maximum value of height (137.2 cm) was recorded in variants with kidney removal on the barrel and the minimum (127.2 cm) - were observed in plants with combined influence when simultaneously deleted buds and branches were cut , which in our opinion associated with excessive decrease assimilation system of plants.

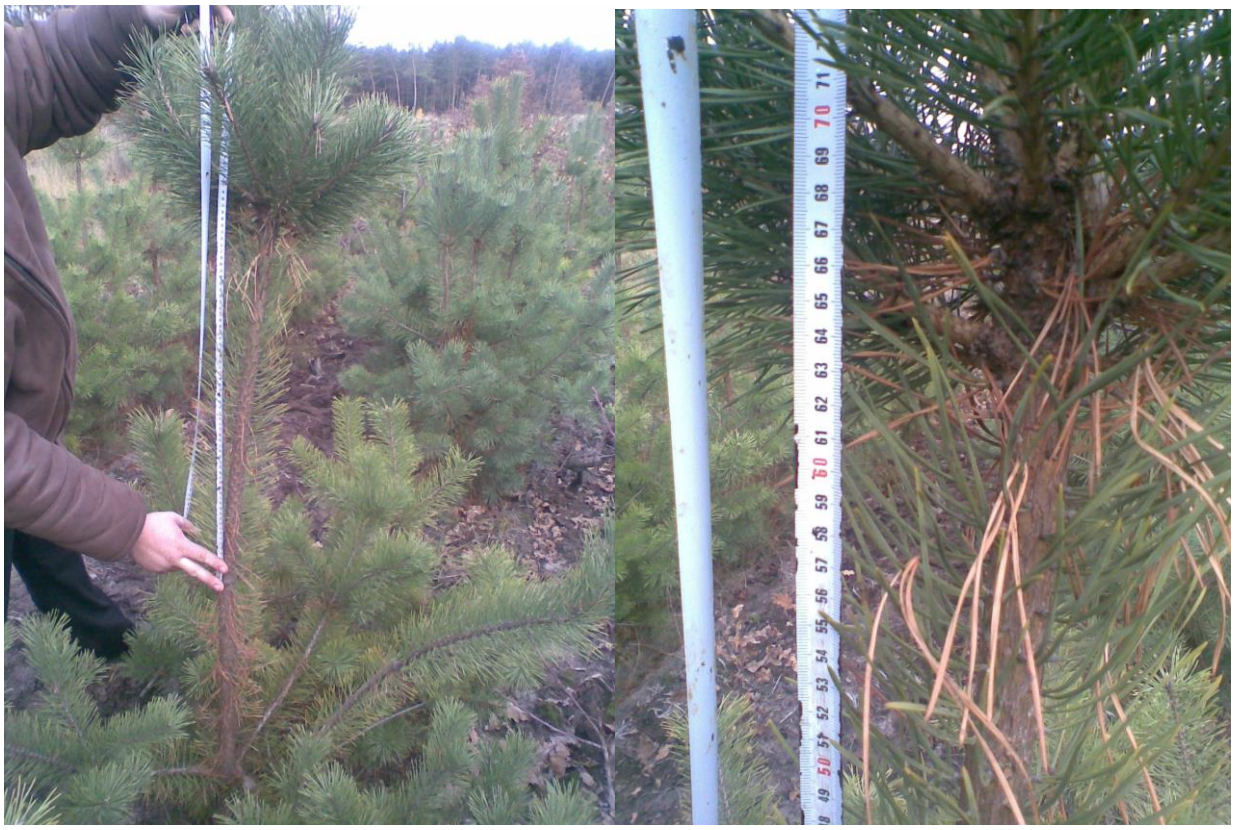

Fig. 1. Pine seedlings removed from lateral buds.

(Maximum increase of about 70 cm).

The growth of Scots pine in cultures with different variants of deformation of the crown

Variant experiment	The height of the plants at the autumn (M ± m) cm			Annual growth in height, cm		
	2005 p.	2006 p.	2007 p.	2006 p.	2007 p.	total for 2 years
Control	58,4±1,80	85,5±2,48	118,3±3,68	27,1	32,8	59,9
Removal of buds	58,4±1,70	88,5±2,26	137,2±4,43	30,1	48,7	78,8
Cut branches	54,5±2,16	93,2±3,06	130,9±3,09	38,7	37,7	76,4
Removal of buds and branches cut	58,4±2,16	89,6±2,45	127,2±3,44	31,2	37,6	68,8

The analysis of annual growth in height (Table) can be argued that the most effective measure of influence on the crown of pine seedlings are deleted in their kidneys , because it is in this embodiment of experience annual growth of seedlings in height by 32% prevailed control.

Past observation damaged seedlings that emerged during pruning and plucking buds showed that when plucking kidney damage overrun in the first year , while

pruning the best and fastest heal the damage done at the surface of stems - thickening of the ring (Fig. 2) .

Fig. 2. Pine seedlings with removed shoots and lateral buds.

The measures of the deformation of the crown does not prejudice the growth and development of Scots pine, but rather enhance the growth, value and quality of the bottom of the barrel and prevent unauthorized cutting of plants, because the period of their studies found no cutting of vegetation, indicating the effectiveness of interventions.

Conclusions

1. Reducing the number of shoots in the crown promotes the growth of seedlings in height , so the tested methods deformation crowns may be recommended to protect crops against unauthorized pine forest clearing in the New Year holidays.

2. Deformation crown of pine seedlings better to start 2-4 annual crops that grow near roads and settlements, especially in the outer rows. Removal of lateral buds (50%) in the apical trunk brunch should start from the age of two years saplings and branches from 3 to 4 years . Moreover, crowns removed aboveground mass must not exceed its third. Removal of buds and branches should be cut during the relative calm of woody plants starting in December.