Studies on Root Turion Propagation Technology of Wild Hazelnut in Daxing'anling, China

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Key words : wild hazelnut , root turion propagation , length of root turion , substrate type

Introduction Hazelnut distributed mainly in North and Northeast China . Hazelnut has an abundance of nutrition , and it is one of the famous dry fruit . Leaf can be fed to animals . Hazelnut has ecological function and city landscape function . The propagation of Hazelnut mainly depended on seeds , but propagation coefficient was low . Asexual Propagation Technique of Hazelnut are tissue culture and cutting reproduction , and propagation coefficient was also low . The objective of this paper was to improve propagation coefficient , using root turion propagation methods .

Materials and methods The root turion (0 .5～2cm) was selected , and cut into segments . Using Carbendazim (1/1000 , 50%) soaked , and immersion time was 2mins . Each 20 segments were repeated 4 times . The specific methods are as followed (Table 1) .

Table 1 *Different treat methods of wild hazelnut .*

Treat No .	substrate type		length of root turion(cm)
	Thickness of upper : 5cm	Thickness of sublayer : 10cm	
1	fine river sand	vegetable soil	3-4
2	vegetable soil	vegetable soil	3-4
3	fine river sand	fine river sand	3-4
4	fine river sand	fine river sand	1
5	fine river sand	fine river sand	2
6	fine river sand	fine river sand	3
7	fine river sand	fine river sand	4
8	fine river sand	fine river sand	5

Table 2 *The experiment result of wild hazelnut .*

Treat No .	Total No .	1	2	3	4	Rate of seedling(%) *
1	20 * 4	10	10	9	8	46 .25^{b}
2	20 * 4	2	1	3	3	11 .25^{c}
3	20 * 4	17	19	16	17	86 .25^{a}
4	20 * 4	7	8	7	8	37 .5^{c}
5	20 * 4	14	13	15	14	70 .0^{b}
6	20 * 4	17	18	16	17	85 .0^{a}
7	20 * 4	18	16	17	18	87 .5^{a}
8	20 * 4	18	16	17	18	86 .25^{a}

* Effects of periods on all variables were significant ($p<0.05$)

Results The test lasted about 20 days , and began to do measurement and The main results are showed in Table 2 . The Table 2 has shown that the rate of seedling was great impacted because of different seedbed . The rate of seedling was the highest (86. 25%) on fine river sand , and there was significant difference from other treats . The rate of seedling was higher and reached 85% , when the length root turion was above 3cm .

Conclusion The best root turion length was 4cm and the best seedbed was fine river sand , which could improve the rate of seedling reached 85% -87 .5% .

Reference

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