Application of N fertilizer in young and mature coniferous stands

Pētījums veikts a/s "Latvijas valsts meži" un LVMI Silava
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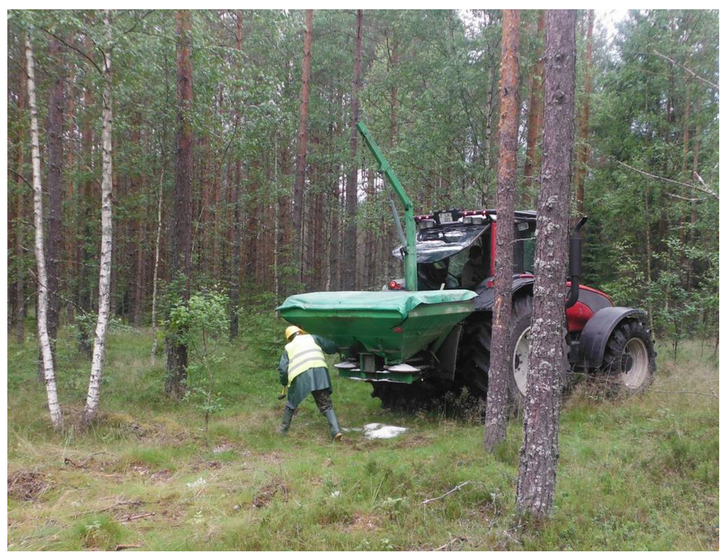
"Par sadarbību zinātniskajā izpētē" ietvaros

Results of fertilization trials in 1967-1973

Species	Age class	Forest stand type	Mineral fertilizers			Additional increment		Duration of impact in years
			N	P	K	$m^3\ ha^{-1}\ yr$	%	
Scots pine	**V**	**Vacciniosa**	**200**			**5,0**	**103**	**5**
Scots pine	**V**	**Vacciniosa**	**150**			**3,5**	**72**	**5**
Norway spruce	IV	Hylocomiosa	80	80	120	3,0	43	10
Norway spruce	**IV**	**Hylocomiosa**	**120**			**3,0**	**30**	**5**
Birch	VIII	Oxalidosa	150	100	80	2,5	94	-
Scots pine	IV	Vacciniosa	85			2,5	32	-
Norway spruce	**V**	**Oxalidosa**	**150**			**2,2**	**44**	**-**
Birch	**VIII**	**Oxalidosa**	**150**			**2,1**	**80**	**5**
Norway spruce	V	Hylocomiosa	120	80		1,9	21	-
Birch	VII	Hylocomiosa	100	120		1,5	76	5
Scots pine	V	Cladinoso-callunosa	80	80	120	1,2	33	10
Scots pine	III	Myrtillosa	75			1,1	12	10
Scots pine	IV	Vacciniosa	80	80	120	1,1	34	10
Scots pine	V	Vacciniosa	85			1,1	22	10
Birch	VI	Oxalidosa	100	120		0,5	17	5

- Experimental plots were established in 2016 and 2017 in forest stands potentially suitable for application of N fertilizer – coniferous stands on nutrient poor and moderate fertility mineral soils with normal moisture regime and periodically suffering from exceeding moisture.
- Fertilizer dosage 100-150 kg N ha^{-1}, application 10-15 years before final felling or thinning.
- Cost of spreading -155 € ha^{-1} including fertilizer.
- Proposed additional increment – 10-15 $m^3\ ha^{-1}$ (fertilization – 15 € m^{-3}). The effect heavily depends on quality of stand selection and organization of work.
- Cost can be reduced by application of smaller dosages (amount applied in the project demonstrates impact of large doses on ground vegetation and water quality).



Total area of coniferous forest stands benefiting from N application is 267 thousands ha, including 124 thousands ha of mature stands