SUMMARY


Pine resin is a non-wood forest product that can be processed into Gum Rosin and turpentine. The enhancement of pine resin demand in Indonesia even in the world led to find the ways to increase the productivity of the resin. One way is by administering stimulant. However, the most well known stimulant is made inorganic form sulfate acid (CAS) which can cause damage to pine trees, the environment, and influence the health of tappers and other dairy can not be used as food grade. Therefore, this study used organic and PGR stimulant that can increase the productivity of pine tapping, cannot damage the pine trees, environment, and safe for tappers and can be used as food grade.

There were five treatments in this study, according to: control, 12-40 ETRAT, CAS, PGR-12 and ETS. Control treatment was not given a stimulant, ETRAT 12-40 and ETS using organic stimulant and Plant Growth Regulator (PGR), PGR-12 is Plant Growth Regulator (PGR), and CAS is an inorganic stimulant. Plant Growth Regulator used is Ethylene, because ethylene exogenous can affect ethylene endogenous in the trees for doing secondary metabolism process.

Based on this research, the highest average percentage productivity is by PGR-12 treatment that is equal to 16.77 grams/quarre/day, while the CAS is only 8.74 grams/quarre/day. The use of PGR-12 also has the highest percentage increase in resin productivity of the control, that is equal to 202.12% and 105.28% for CAS. Moreover, in terms of cost analysis, treatment with PGR-12 produces the highest value-added of productivity of the pine resin tapping, amounting to Rp 94.37/quarre/day, while the CAS is Rp 3.92/quarre/day. Therefore, organic stimulant and PGR are better used than inorganic stimulant.

Treatment with PGR-12 have the highest values of average productivity of pine resin, the percentage increase of productivity, and value-added productivity of pine resin. However, for applications in the field, PGR-12 can not be used in Gunung Walat Forest Education, because based on Perhutani Unit III West Java who has conducted internal research, a suitable stimulant used in West Java is ETRAT 12-40. In addition, based on Duncan test, treatment with 12-40 ETRAT not significantly different from PGR-12. Use of ETRAT 12-40 are also more advisable, because of the composition, concentration ethylene (PGR) is lower than the PGR-12. Hence, application ETRAT 12-40 in Gunung Walat University Forest more efficient.

Keywords: pine resin stimulant, pine resin productivity, plant growth regulator (PGR), ethylene