

**ANTIVIRAL EFFECTIVITY EXTRACT OF POMEGRANATE RIND  
(*Punica granatum L.*) AGAINST NEWCASTLE DISEASE VIRUS  
IN EMBRYONATED CHICKEN EGG**

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**ABSTRACT**

*Newcastle Disease* (ND) is a highly contagious viral disease caused by a virus of the genus paramyxovirus and subjugate the respiratory, digestive and neurological disorders. Pomegranate (*Punica granatum L.*) rind contain polyphenols which consists of ellagic acid, caffeic acid, luteolin, and punicalagin, tannin, gallic acid and ethyl brevifolincarboxylate, flavonoids, alkaloids which have antiviral effect. This study aims to know the antiviral properties of the rind extract of pomegranate against ND virus in embryonated chicken egg. This research used pomegranate rind extract with each dose of 10 µg/ml, 16 µg/ml, 25 µg/ml 40 µg/ml injected alantois each treatment. Each test awaited for 5 minutes before inoculated Velogenik ND virus was inoculated 0.1 ml ( $10^7$ EID<sub>50</sub>) on the embryonated chicken egg. After that the embryonated chicken egg were incubated for 7 days in incubator at 37°C. HA test then performed to determine the presence or absence of ND virus growth in embryonated chicken egg. Data obtained by conducting tests to determine the titer HA (Hemagglutination). The results of the test analysis Oneway Anova (Analysis of Variance) and obtain the results of  $p < 0.05$ . The positive control group (P0) with P1, P2, P3, P4 showed significantly different. Ortogonal polinomial test showed there is a linear relationship between increasing doses of pomegranate rind extracts on the inhibition of virus replication in the embryonated chicken eggs. Results of the research increasing doses of rind extract of pomegranate there will be a decrease in HA titer.

**Key words:** rind extract pomegranate, *Newcastle Disease*, embryonated chicken egg, HA test.