

## Determination of Agricultural Insurance Premium Prices Based on Rainfall Index with the Black-Scholes Model

<b>Title</b>	Determination of Agricultural Insurance Premium Prices Based on Rainfall Index with the Black-Scholes Model
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<b>Accreditation</b>	
<b>Abstract</b>	<p>This article discusses the use of the European put option formula to calculate agricultural insurance premium prices based on the rainfall index. The data used in this study is data on rainfall and rice production in Banjarnegara Regency from 2014 to 2019 which are arranged in quarterly form. The research was completed by literature study and online secondary data searching. From the results of the research, rainfall data that has a strong correlation is rainfall in the tenth month (October) so that rainfall data on October is used as a rainfall index. From the calculation results, at the 5th percentile, the October rainfall is 2.2 mm. For this rainfall, a premium price of IDR 2,515,549.00 is obtained, if the trigger data for the last rainfall (2.2 mm) is used. When used as a reference, the average overall rainfall data (9.92 mm) obtained a premium of IDR 562,664.00. These results show that the selection of references gives very different results. The calculation results also show that the high and low percentiles affect the price of agricultural insurance premiums in Banjarnegara Regency. The higher the percentile value, the more rainfall will increase, and the premium price will increase.</p>
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