

# IMPLEMENTASI *BICLUSTERING* DENGAN ALGORITMA *PLAID* PADA DATA *MAIZE GROWTH STAGE*

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## INTISARI

*Data ekspresi gen merupakan teknologi yang handal dalam menjelaskan tentang fungsi genomik dalam ilmu kehidupan. Pada kasus ini, kami menggunakan data ekspresi gen maize growth stage yang didapat dari Maize qTeller. Data tersebut di analisis dengan biclustering algoritma plaid untuk mencari clustering secara bersamaan pada dimensi baris dan kolom. Sebelum di analisis algoritma plaid, terlebih dahulu dilakukan filtering untuk menghilangkan missing value dan uji t untuk mengurangi baris yang memiliki p-value dibawah 0.0001. Analisis algoritma plaid menggunakan paket RcmdrPlugin.BiclustGUI di R. Kami menggunakan beberapa parameter yaitu shuffle=3, back.fit=0, max.layers=20, iter.startup=5, iter.layer=10. Maka dapat diketahui hasil 5 bicluster di antaranya bicluster 1 berdimensi 2 gen dan 35 organ, bicluster 2 berdimensi 2 gen dan 16 organ, bicluster 3 berdimensi 6 gen dan 30 organ, bicluster 4 berdimensi 3 gen dan 10 organ, bicluster 5 berdimensi 47 gen dan 24 organ.*

**Kata Kunci:** *biclustering*, tanaman jagung, algoritma *plaid*

# **IMPLEMENTATION *BICLUSTERING* WITH *PLAID* ALGORITHM IN *MAIZE GROWTH STAGE DATASET***

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## **ABSTRACT**

*Gene expression data is a reliable technology in explaining the function of genomics in life sciences. In this case, we used the expression data on the growth stage of the corn gene obtained from Corn qeller. The data is processed by biclustering plaid algorithm to find groupings simultaneously in dimensions and columns. Before doing the plaid algorithm, filtering is done first to remove the missing value and t test to reduce the line that has a p-value below 0.0001. Plaid algorithm analysis uses the RcmdrPlugin package. BiclustGUI in R. We use several parameters namely shuffle = 3, back.fit = 0, max.layers = 20, iter.startup = 5, iter.layer = 10. Then 5 bicluster results can be informed Bicluster 1 was explored with 2 genes and 35 organs, bicluster 2 with 2 genes and 16 organs, bicluster 3 with 6 genes and 30 organs, bicluster 4 with 3 genes and 10 organs, bicluster 5 with 47 genes and 24 organs.*

**Kata Kunci:** *biclustering, Maize, algorithm plaid*