## Random Forest (17 classes):

The values are in order: (n\_estimators, criterion)

MODEL 1	Accuracy
100 words (1000, gini)	76.31%
500 words (1000, gini)	76.47%
1000 words (1000, gini)	75.42%

MODEL 2	Accuracy
100 words (1000, gini)	76.93%
500 words (1000, gini)	76.49%
1000 words (1000, gini)	75.39%

MODEL 3	Accuracy
100 words (1000, gini)	77.61%
500 words (1000, gini)	76.21%
1000 words (1000, gini)	75.04%

Confusion Matrix for Random Forest (Model 3; 100 words) 0.01 0.00 0.06 0.01 0.01 0.03 0.00 0.05 0.01 0.07 0.02 0.01 0.00 0.03 0.00 Agriculture -0.01 0.03 0.00 0.00 0.03 0.01 0.02 0.09 0.06 0.08 0.01 0.01 0.00 Botany 0.48 0.01 0.00 0.01 0.04 0.00 0.05 0.00 0.00 0.00 0.03 0.04 0.00 0.35 0.00 0.00 0.00 Church 0.00 0.01 0.02 0.00 0.24 0.01 0.01 0.02 0.01 0.00 0.00 0.00 0.16 0.00 0.03 Commerce 0.00 0.00 0.00 0.85 0.02 0.00 0.00 0.01 0.01 0.00 0.08 0.00 0.01 0.00 0.01 Drama · 0.00 0.00 0.00 0.91 0.01 0.00 0.00 0.00 0.00 0.00 0.03 0.01 Fiction 0.03 0.72 0.00 0.03 0.04 0.01 0.00 0.02 0.00 0.00 0.01 0.04 0.00 0.05 History 0.00 0.01 0.00 0.01 0.07 0.63 0.01 0.00 0.10 0.02 0.02 0.00 0.00 0.02 History Natural 0.01 0.00 0.02 0.01 0.00 0.78 0.00 0.01 0.00 0.05 0.04 0.01 0.05 0.00 0.02 0.00 0.01 0.82 0.02 0.06 0.02 0.02 0.01 0.02 0.00 **Mathematics** 0.01 0.01 0.00 0.02 0.01 0.92 0.00 0.01 0.01 0.01 Medicine 0.01 0.00 0.00 0.01 0.03 0.01 0.02 0.13 0.14 0.03 0.02 0.06 Physics 0.01 0.02 0.01 0.00 0.00 0.00 0.00 0.00 0.03 Poetry 0.05 0.00 0.06 0.00 0.00 0.00 0.03 0.05 0.01 0.00 0.02 Politics 0.02 0.03 0.01 0.08 0.03 0.03 0.00 0.01 0.09 0.62 0.01 Rhetoric 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.01 0.01 0.00 0.95 0.02 0.00 0.01 Sermons 0.01 0.00 0.00 0.01 0.00 0.06 0.07 0.00 0.01 0.01 0.02 0.00 0.02 0.01 0.00 Travels Agriculture Botany Church Commerce Drama Fiction History Matural Law Mathematics Medicine Physics Poetry Politics Experior Cemons Listory Matural Law

- 0.8

0.6

- 0.4

0.2

0.0

Predicted lab