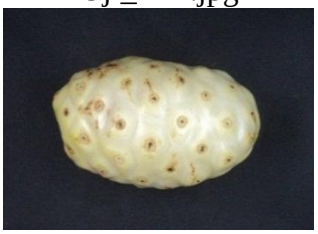
LAMPIRAN 1

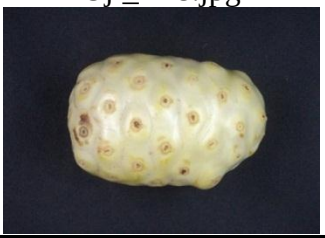
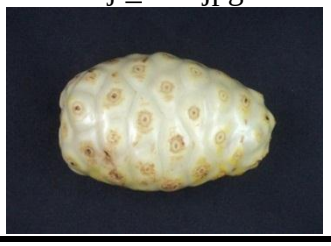
DATA YANG DIGUNAKAN UNTUK PENELITIAN

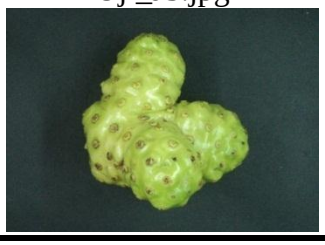
No	Nama Citra	Ciri Ekstraksi	Nilai Ciri Sebelum	Setelah di Normalisasi
1	Uji_B1.jpg	Ekstraksi Warna	0.3527	
		ASM	0.4289	0.1797
		Contrast	52.3239	0.2637
		Correlation	0.9967	0.8432
		Variance	7873.7572	0.6408
		IDM	0.7430	0.2022
		Entropy	4.8953	0.8148
2	Uji_B2.jpg	Ekstraksi Warna	0.3526	
		ASM	0.4693	0.3241
		Contrast	43.6695	0.1189
		Correlation	0.9973	1.0022
		Variance	8090.6668	0.6838
		IDM	0.7782	0.4607
		Entropy	4.4346	0.6243
3	Uji_B3.jpg	Ekstraksi Warna	0.3638	
		ASM	0.4440	0.2336
		Contrast	48.5463	0.2005
		Correlation	0.9970	0.9277
		Variance	8115.2221	0.6886
		IDM	0.7494	0.2493
		Entropy	4.7919	0.7721
4	Uji_B4.jpg	Ekstraksi Warna	0.3528	
		ASM	0.4686	0.3218
		Contrast	43.2243	0.1114
		Correlation	0.9973	1.0101
		Variance	8101.0916	0.6858
		IDM	0.7777	0.4569
		Entropy	4.4403	0.6267
5	Uji_B5.jpg	Ekstraksi Warna	0.3585	
		ASM	0.4715	0.3321
		Contrast	45.5860	0.1510
		Correlation	0.9971	0.9578
		Variance	7933.8137	0.6527
		IDM	0.7755	0.4408
		Entropy	4.4451	0.6286
6	Uji_B6.jpg	Ekstraksi Warna	0.3557	
		ASM	0.4868	0.3868
		Contrast	47.1019	0.1763

		Correlation	0.9970	0.9204
		Variance	7799.7275	0.6262
		IDM	0.7819	0.4882
		Entropy	4.3139	0.5744
	Uji_B7.jpg	Ekstraksi Warna	0.3524	
		ASM	0.4668	0.3153
		Contrast	48.2149	0.1949
7		Correlation	0.9970	0.9358
		Variance	8146.9959	0.6949
		IDM	0.7710	0.4080
		Entropy	4.5276	0.6628
	Uji_B8.jpg	Ekstraksi Warna	0.3521	
		ASM	0.4704	0.3281
		Contrast	49.8867	0.2229
8		Correlation	0.9970	0.9305
		Variance	8370.8025	0.7392
		IDM	0.7730	0.4224
		Entropy	4.4952	0.6494
	Uji_B9.jpg	Ekstraksi Warna	0.3717	
		ASM	0.4305	0.1853
		Contrast	78.0882	0.6948
9		Correlation	0.9958	0.6115
		Variance	9224.1243	0.9081
		IDM	0.7314	0.1168
		Entropy	5.0124	0.8633
	Uji_B10.jpg	Ekstraksi Warna	0.3552	
		ASM	0.4867	0.3864
		Contrast	46.7069	0.1697
10		Correlation	0.9970	0.9280
		Variance	7810.8733	0.6284
		IDM	0.7817	0.4867
		Entropy	4.3158	0.5752
	Uji_B11.jpg	Ekstraksi Warna	0.3523	
		ASM	0.4668	0.3151
		Contrast	48.1166	0.1933
11		Correlation	0.9971	0.9386
		Variance	8160.8762	0.6977
		IDM	0.7712	0.4091
		Entropy	4.5269	0.6625
		Ekstraksi Warna	0.3526	
12	Uji_B12.jpg	ASM	0.4723	0.3348
		Contrast	49.4650	0.2159

		Correlation	0.9970	0.9351
		Variance	8350.7515	0.7352
		IDM	0.7743	0.4317
		Entropy	4.4817	0.6438
	Uji_B13.jpg	Ekstraksi Warna	0.3528	
		ASM	0.5133	0.4817
		Contrast	59.7576	0.3881
13		Correlation	0.9965	0.8007
		Variance	8562.7599	0.7772
		IDM	0.7856	0.5150
		Entropy	4.1696	0.5147
	Uji_B14.jpg	Ekstraksi Warna	0.3513	
		ASM	0.4595	0.2889
		Contrast	57.3024	0.3470
14		Correlation	0.9971	0.9363
		Variance	9688.3542	1.0000
		IDM	0.7746	0.4345
		Entropy	4.5034	0.6528
	Uji_B15.jpg	Ekstraksi Warna	0.3610	
		ASM	0.4530	0.2659
		Contrast	49.5636	0.2175
15		Correlation	0.9966	0.8324
		Varianc	7365.1495	0.5402
		IDM	0.7578	0.3108
		Entropy	4.6513	0.7139
	Uji_B16.jpg	Ekstraksi Warna	0.3588	
		ASM	0.4594	0.2887
		Contrast	46.7183	0.1699
16		Correlation	0.9971	0.9477
		Variance	8020.4055	0.6699
		IDM	0.7666	0.3754
		Entropy	4.5809	0.6848
	Uji_B17.jpg	Ekstraksi Warna	0.3712	
		ASM	0.5115	0.4753
		Contrast	36.5637	0.0000
17		Correlation	0.9973	0.9891
		Variance	6647.6940	0.3981
		IDM	0.7895	0.5434
		Entropy	4.1452	0.5046
		Ekstraksi Warna	0.3538	
18	Uji_B18.jpg	ASM	0.3808	0.0075
		Contrast	52.2776	0.2629

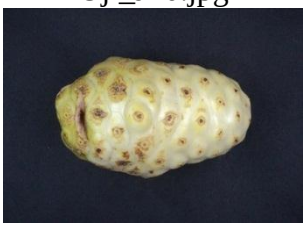
		Correlation	0.9967	0.8525
		Variance	7954.2382	0.6568
		IDM	0.7182	0.0195
		Entropy	5.3280	0.9938
	Uji_B19.jpg	Ekstraksi Warna	0.3627	
		ASM	0.4436	0.2323
		Contrast	49.0145	0.2083
19		Correlation	0.9970	0.9194
		Variance	8105.3448	0.6867
		IDM	0.7494	0.2489
		Entropy	4.7990	0.7750
	Uji_B20.jpg	Ekstraksi Warna	0.3585	
		ASM	0.4590	0.2873
		Contrast	46.6457	0.1687
20		Correlation	0.9971	0.9472
		Variance	8002.2182	0.6663
		IDM	0.7662	0.3722
		Entropy	4.5831	0.6857
	Uji_B21.jpg	Ekstraksi Warna	0.3538	
		ASM	0.4664	0.3138
		Contrast	43.2680	0.1122
21		Correlation	0.9972	0.9795
		Variance	7760.2175	0.6184
		IDM	0.7694	0.3960
		Entropy	4.5249	0.6616
	Uji_B22.jpg	Ekstraksi Warna	0.3534	
		ASM	0.4508	0.2578
		Contrast	55.6571	0.3195
22		Correlation	0.9966	0.8149
		Variance	8104.5801	0.6865
		IDM	0.7484	0.2417
		Entropy	4.7581	0.7581
	Uji_B23.jpg	Ekstraksi Warna	0.3539	
		ASM	0.3787	0.0001
		Contrast	52.5966	0.2683
23		Correlation	0.9967	0.8491
		Variance	7971.1710	0.6601
		IDM	0.7168	0.0097
		Entropy	5.3430	1.0000
		Ekstraksi Warna	0.3533	
24	Uji_B24.jpg	ASM	0.4503	0.2561
		Contrast	55.8849	0.3233

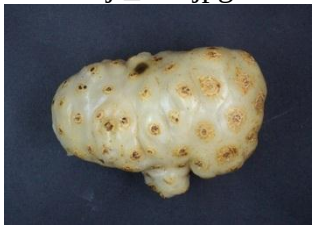
		Correlation	0.9966	0.8112
		Variance	8103.3291	0.6863
		IDM	0.7485	0.2426
		Entropy	4.7609	0.7592
	Uji_B25.jpg	Ekstraksi Warna	0.3530	
		ASM	0.4697	0.3257
		Contrast	49.7783	0.2211
25		Correlation	0.9970	0.9344
		Variance	8394.9614	0.7440
		IDM	0.7731	0.4233
		Entropy	4.5015	0.6520
	Uji_B26.jpg	Ekstraksi Warna	0.3528	
		ASM	0.4668	0.3151
		Contrast	48.7216	0.2034
26		Correlation	0.9970	0.9305
		Variance	8175.5104	0.7006
		IDM	0.7710	0.4082
		Entropy	4.5275	0.6627
	Uji_B27.jpg	Ekstraksi Warna	0.3558	
		ASM	0.4863	0.3848
		Contrast	46.8186	0.1716
27		Correlation	0.9970	0.9264
		Variance	7813.8159	0.6290
		IDM	0.7812	0.4825
		Entropy	4.3219	0.5777
	Uji_B28.jpg	Ekstraksi Warna	0.3585	
		ASM	0.4717	0.3326
		Contrast	45.7590	0.1539
28		Correlation	0.9971	0.9560
		Variance	7944.8447	0.6549
		IDM	0.7754	0.4399
		Entropy	4.4459	0.6290
	Uji_B29.jpg	Ekstraksi Warna	0.3630	
		ASM	0.4436	0.2320
		Contrast	48.2913	0.1962
29		Correlation	0.9970	0.9315
		Variance	8113.4088	0.6883
		IDM	0.7496	0.2507
		Entropy	4.7990	0.7750
		Ekstraksi Warna	0.3529	
30	Uji_B30.jpg	ASM	0.4295	0.1818
		Contrast	52.4024	0.2650

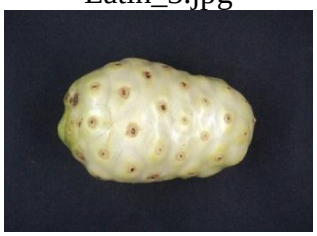
		Correlation	0.9967	0.8406
		Variance	7862.1297	0.6385
		IDM	0.7439	0.2085
		Entropy	4.8881	0.8119
	Uji_J1.jpg	Ekstraksi Warna	0.3246	
		ASM	-	-
		Contrast	-	-
31		Correlation	-	-
		Variance	-	-
		IDM	-	-
		Entropy	-	-
	Uji_J2.jpg	Ekstraksi Warna	0.3164	
		ASM	-	-
		Contrast	-	-
32		Correlation	-	-
		Variance	-	-
		IDM	-	-
		Entropy	-	-
	Uji_J3.jpg	Ekstraksi Warna	0.3135	
		ASM	-	-
		Contrast	-	-
33		Correlation	-	-
		Variance	-	-
		IDM	-	-
		Entropy	-	-
	Uji_J4.jpg	Ekstraksi Warna	0.3150	
		ASM	-	-
		Contrast	-	-
34		Correlation	-	-
		Variance	-	-
		IDM	-	-
		Entropy	-	-
	Uji_J5.jpg	Ekstraksi Warna	0.3228	
		ASM	-	-
		Contrast	-	-
35		Correlation	-	-
		Variance	-	-
		IDM	-	-
		Entropy	-	-
		Ekstraksi Warna	0.3838	
		ASM	0.4942	0.4131
36	Uji_J6.jpg	Contrast	58.6518	0.3696
		Correlation	0.9961	0.6993

		Variance	7543.4519	0.5754
		IDM	0.7681	0.3863
		Entropy	4.4219	0.6190
	Uji_J7.jpg	Ekstraksi Warna	0.3550	
		ASM	0.5070	0.4589
		Contrast	77.0357	0.6772
37		Correlation	0.9946	0.3113
		Variance	7113.0032	0.4902
		IDM	0.7686	0.3904
		Entropy	4.3650	0.5955
	Uji_J8.jpg	Ekstraksi Warna	0.3640	
		ASM	0.4654	0.3102
		Contrast	80.5211	0.7355
38		Correlation	0.9940	0.1654
		Variance	6720.5539	0.4126
		IDM	0.7438	0.2078
		Entropy	4.7381	0.7498
	Uji_J9.jpg	Ekstraksi Warna	0.3630	
		ASM	0.4966	0.4218
		Contrast	96.3313	1.0000
39		Correlation	0.9940	0.1647
		Variance	8036.2833	0.6730
		IDM	0.7574	0.3078
		Entropy	4.4879	0.6463
	Uji_J10.jpg	Ekstraksi Warna	0.3543	
		ASM	0.4989	0.4300
		Contrast	70.7578	0.5721
40		Correlation	0.9947	0.3272
		Variance	6609.6763	0.3906
		IDM	0.7657	0.3687
		Entropy	4.4329	0.6236
	Uji_J11.jpg	Ekstraksi Warna	0.3592	
		ASM	0.5096	0.4682
		Contrast	60.1677	0.3949
41		Correlation	0.9949	0.3887
		Variance	5887.1493	0.2476
		IDM	0.7834	0.4991
		Entropy	4.1393	0.5022
		Ekstraksi Warna	0.3630	
		ASM	0.6582	1.0000
42	Uji_J12.jpg	Contrast	44.0053	0.1245
		Correlation	0.9953	0.4812

		Variance	4636.1976	0.0000
		IDM	0.8516	1.0001
		Entropy	2.9251	0.0000
	Uji_J13.jpg	Ekstraksi Warna	0.3565	
		ASM	0.5276	0.5328
		Contrast	56.6776	0.3365
43		Correlation	0.9952	0.4539
		Variance	5839.1549	0.2381
		IDM	0.7858	0.5167
		Entropy	4.0558	0.4677
	Uji_J14.jpg	Ekstraksi Warna	0.3602	
		ASM	0.5458	0.5979
		Contrast	61.9144	0.4242
44		Correlation	0.9942	0.2103
		Variance	5325.1518	0.1364
		IDM	0.8071	0.6727
		Entropy	3.7995	0.3616
	Uji_J15.jpg	Ekstraksi Warna	0.3562	
		ASM	0.5419	0.5837
		Contrast	59.8402	0.3894
45		Correlation	0.9954	0.5075
		Variance	6445.2198	0.3581
		IDM	0.8036	0.6475
		Entropy	3.9149	0.4093
	Uji_J16.jpg	Ekstraksi Warna	0.3641	
		ASM	0.5200	0.5056
		Contrast	59.8164	0.3891
46		Correlation	0.9946	0.3011
		Variance	5482.3905	0.1675
		IDM	0.7879	0.5321
		Entropy	4.0259	0.4553
	Uji_J17.jpg	Ekstraksi Warna	0.3588	
		ASM	0.5338	0.5551
		Contrast	71.2258	0.5799
47		Correlation	0.9942	0.2029
		Variance	6095.4232	0.2888
		IDM	0.7825	0.4923
		Entropy	4.1365	0.5010
		Ekstraksi Warna	0.3637	
48	Uji_J18.jpg	ASM	0.5198	0.5050
		Contrast	87.9331	0.8595

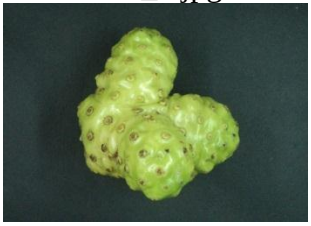
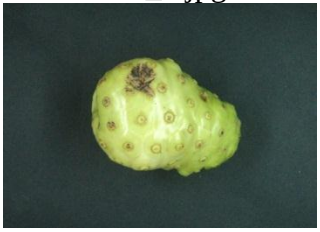
		Correlation	0.9934	-0.0039
		Variance	6602.1448	0.3891
		IDM	0.7707	0.4054
		Entropy	4.2859	0.5628
	Uji_J19.jpg	Ekstraksi Warna	0.3572	
		ASM	0.4315	0.1889
		Contrast	73.9997	0.6264
49		Correlation	0.9952	0.4532
		Variance	7619.5556	0.5905
		IDM	0.7265	0.0807
		Entropy	5.1072	0.9025
	Uji_J20.jpg	Ekstraksi Warna	0.3706	
		ASM	0.5123	0.4781
		Contrast	58.9884	0.3752
50		Correlation	0.9955	0.5393
		Variance	6529.6357	0.3748
		IDM	0.7760	0.4447
		Entropy	4.3046	0.5705
	Uji_J21.jpg	Ekstraksi Warna	0.3643	
		ASM	0.4640	0.3053
		Contrast	51.4474	0.2490
51		Correlation	0.9963	0.7378
		Variance	6884.2920	0.4450
		IDM	0.7570	0.3052
		Entropy	4.6873	0.7288
	Uji_J22.jpg	Ekstraksi Warna	0.3509	
		ASM	0.4684	0.3208
		Contrast	56.7453	0.3377
52		Correlation	0.9962	0.7081
		Variance	7363.2379	0.5398
		IDM	0.7549	0.2898
		Entropy	4.6497	0.7133
	Uji_J23.jpg	Ekstraksi Warna	0.3590	
		ASM	0.4437	0.2327
		Contrast	63.8285	0.4562
53		Correlation	0.9946	0.3125
		Variance	5898.6530	0.2499
		IDM	0.7388	0.1715
		Entropy	4.8269	0.7866
		Ekstraksi Warna	0.3675	
		ASM	0.4799	0.3621
54	Uji_J24.jpg	Contrast	68.6501	0.5369
		Correlation	0.9948	0.3536

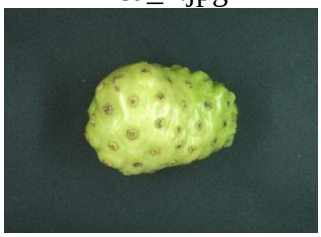
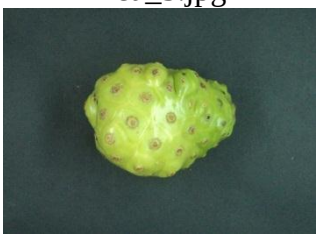
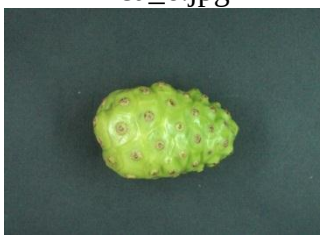
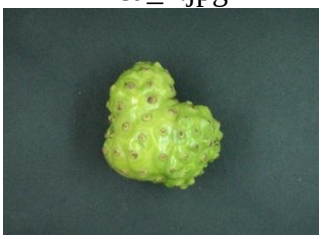
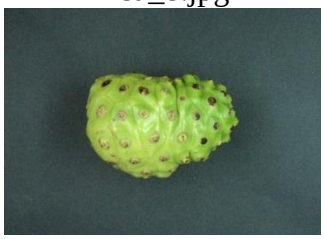
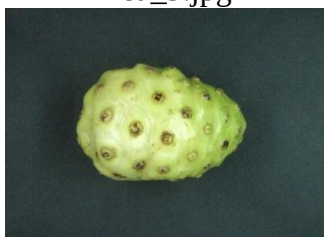
		Variance	6540.2759	0.3769
		IDM	0.7642	0.3578
		Entropy	4.5689	0.6798
	Uji_J25.jpg	Ekstraksi Warna	0.3625	
		ASM	0.5029	0.4445
		Contrast	69.2893	0.5475
55		Correlation	0.9946	0.3061
		Variance	6373.7095	0.3439
		IDM	0.7836	0.5007
		Entropy	4.2831	0.5616
	Uji_J26.jpg	Ekstraksi Warna	0.3550	
		ASM	0.4934	0.4104
		Contrast	68.2342	0.5299
56		Correlation	0.9942	0.2145
		Variance	5885.5747	0.2473
		IDM	0.7675	0.3820
		Entropy	4.3802	0.6018
	Uji_J27.jpg	Ekstraksi Warna	0.3460	
		ASM	-	-
		Contrast	-	-
57		Correlation	-	-
		Variance	-	-
		IDM	-	-
		Entropy	-	-
	Uji_J28.jpg	Ekstraksi Warna	0.3586	
		ASM	0.4195	0.1461
		Contrast	74.7510	0.6389
58		Correlation	0.9944	0.2638
		Variance	6671.1505	0.4028
		IDM	0.7282	0.0936
		Entropy	5.0587	0.8824
	Uji_J29.jpg	Ekstraksi Warna	0.3611	
		ASM	0.4160	0.1334
		Contrast	74.3054	0.6315
59		Correlation	0.9942	0.2113
		Variance	6395.1927	0.3482
		IDM	0.7239	0.0615
		Entropy	5.1393	0.9158
		Ekstraksi Warna	0.3470	
		ASM	-	-
60	Uji_J30.jpg	Contrast	-	-
		Correlation	-	-

		Variance	-	-
		IDM	-	-
		Entropy	-	-
	Latih_1.jpg	Ekstraksi Warna	0.3552	
		ASM	0.4867	0.3864
		Contrast	46.7069	0.1697
61		Correlation	0.9970	0.9280
		Variance	7810.8733	0.6284
		IDM	0.7817	0.4867
		Entropy	4.3158	0.5752
	Latih_2.jpg	Ekstraksi Warna	0.3521	
		ASM	0.4704	0.3281
		Contrast	49.8867	0.2229
62		Correlation	0.9970	0.9305
		Variance	8370.8025	0.7392
		IDM	0.7730	0.4224
		Entropy	4.4952	0.6494
	Latih_3.jpg	Ekstraksi Warna	0.3574	
		ASM	0.5113	0.4746
		Contrast	44.0076	0.1245
63		Correlation	0.9971	0.9585
		Variance	7666.6846	0.5998
		IDM	0.7901	0.5478
		Entropy	4.1438	0.5040
	Latih_4.jpg	Ekstraksi Warna	0.3533	
		ASM	0.4503	0.2561
		Contrast	55.8849	0.3233
64		Correlation	0.9966	0.8112
		Variance	8103.3291	0.6863
		IDM	0.7485	0.2426
		Entropy	4.7609	0.7592
	Latih_5.jpg	Ekstraksi Warna	0.3507	
		ASM	0.4596	0.2895
		Contrast	57.3033	0.3470
65		Correlation	0.9970	0.9347
		Variance	9668.2177	0.9960
		IDM	0.7750	0.4373
		Entropy	4.5028	0.6525
		Ekstraksi Warna	0.3555	
66	Latih_6.jpg	ASM	0.4862	0.3847
		Contrast	46.3647	0.1640

		Correlation	0.9970	0.9339
		Variance	7814.5183	0.6291
		IDM	0.7813	0.4834
		Entropy	4.3232	0.4834
	Latih_7.jpg	Ekstraksi Warna	0.3557	
		ASM	0.5000	0.4339
		Contrast	48.6063	0.2015
67		Correlation	0.9970	0.9201
		Variance	8045.3551	0.6748
		IDM	0.7876	0.5297
		Entropy	4.2329	0.5409
	Latih_8.jpg	Ekstraksi Warna	0.3632	
		ASM	0.4436	0.2322
		Contrast	49.1587	0.2107
68		Correlation	0.9970	0.9170
		Variance	8104.7796	0.6866
		IDM	0.7490	0.2462
		Entropy	4.7992	0.7751
	Latih_9.jpg	Ekstraksi Warna	0.3571	
		ASM	0.4363	0.2060
		Contrast	73.9007	0.6247
69		Correlation	0.9951	0.4431
		Variance	7547.1374	0.5762
		IDM	0.7285	0.0958
		Entropy	5.0679	0.8862
	Latih_10.jpg	Ekstraksi Warna	0.3586	
		ASM	0.4394	0.2173
		Contrast	64.6368	0.4697
70		Correlation	0.9946	0.3029
		Variance	5931.7932	0.2564
		IDM	0.7369	0.1572
		Entropy	4.8639	0.8019
	Latih_11.jpg	Ekstraksi Warna	0.3480	
		ASM	0.4139	0.1259
		Contrast	76.9536	0.6758
71		Correlation	0.9941	0.1830
		Variance	6497.9785	0.3685
		IDM	0.7246	0.0670
		Entropy	5.1168	0.9065
		Ekstraksi Warna	0.3569	
72	Latih_12.jpg	ASM	0.4077	0.1038
		Contrast	75.5580	0.6524

		Correlation	0.9944	0.2599
		Variance	6725.0206	0.4135
		IDM	0.7215	0.0442
		Entropy	5.1716	0.9291
	Latih_13.jpg	Ekstraksi Warna	0.3586	
		ASM	0.4420	0.2264
		Contrast	63.8024	0.4557
73		Correlation	0.9946	0.3047
		Variance	5862.8073	0.2428
		IDM	0.7381	0.1663
		Entropy	4.8447	0.7939
	Latih_14.jpg	Ekstraksi Warna	0.3560	
		ASM	0.4343	0.1990
		Contrast	73.3492	0.6155
74		Correlation	0.9951	0.4477
		Variance	7518.6522	0.5705
		IDM	0.7274	0.0876
		Entropy	5.0830	0.8925
	Latih_15.jpg	Ekstraksi Warna	0.3543	
		ASM	0.4024	0.0849
		Contrast	67.3599	0.5153
75		Correlation	0.9945	0.2940
		Variance	6142.3439	0.2981
		IDM	0.7155	0.0003
		Entropy	5.2181	0.9484
	Latih_16.jpg	Ekstraksi Warna	0.3632	
		ASM	0.4642	0.3060
		Contrast	69.5381	0.5517
76		Correlation	0.9945	0.2838
		Variance	6294.7952	0.3283
		IDM	0.7527	0.2736
		Entropy	4.6400	0.7093

Acu_1.jpg	Acu_2.jpg	Acu_3.jpg
		
Nilai Warna: 0.3164	Nilai Warna: 0.3135	Nilai Warna: 0.3287

Acu_4.jpg  Nilai Warna: 0.3265	Acu_5.jpg  Nilai Warna: 0.3253	Acu_6.jpg  Nilai Warna: 0.3291
Acu_7.jpg  Nilai Warna: 0.3286	Acu_8.jpg  Nilai Warna: 0.3286	Acu_9.jpg  Nilai Warna: 0.3293
Acu_10.jpg Nilai Warna: 0.3193		

Keterangan:

Dari hasil pengujian diatas dapat disimpulkan bahwa citra akan diproses melalui 2 tahap, yakni penapisan warna dan juga penapisan tekstur. Jika proses pertama yakni penapisan warna, lolos proses akan dilanjutkan dengan mencari nilai-nilai ciri tekstur. Sementara jika tidak lolos penapisan warna, proses akan langsung dihentikan sehingga tidak dilakukan proses perhitungan nilai-nilai ciri tekstur.

LAMPIRAN 2

SOURCE CODE UNTUK *FUNCTION CO-OCCURRENCE MATRIX*

ko000.m

source code ko000.m digunakan untuk menghitung nilai Orientasi dengan interval sudut 0^0

```
function MatriksHasil=ko000(GambarAsli)
GambarAsli=double(GambarAsli);
Temp=zeros(256);
[tinggi,lebar]=size(GambarAsli);
for i=1:tinggi
    for j=1:lebar-1
        p=GambarAsli(i,j)+1;
        q=GambarAsli(i,j+1)+1;
        Temp(p,q) = Temp(p,q)+1 ;
        Temp(q,p) = Temp(q,p)+1 ;
    end
end
JumlahPixel=sum(sum(Temp));
MatriksHasil=Temp/JumlahPixel;
```

ko045.m

source code ko045.m digunakan untuk menghitung nilai Orientasi dengan interval sudut 45^0

```
function MatriksHasil=ko045(GambarAsli)
GambarAsli=double(GambarAsli);
Temp=zeros(256);
[tinggi,lebar]=size(GambarAsli);
for i=2:tinggi
    for j=1:lebar-1
        p=GambarAsli(i,j)+1;
        q=GambarAsli(i-1,j+1)+1;
        Temp(p,q) = Temp(p,q)+1 ;
        Temp(q,p) = Temp(q,p)+1 ;
    end
end
JumlahPixel=sum(sum(Temp));
MatriksHasil=Temp/JumlahPixel;
```

ko090.m

source code ko090.m digunakan untuk menghitung nilai Orientasi dengan interval sudut 90^0

```
function MatriksHasil=ko090(GambarAsli)
GambarAsli=double(GambarAsli);
Temp=zeros(256);
[tinggi,lebar]=size(GambarAsli);
for i=2:tinggi
    for j=1:lebar
        p=GambarAsli(i,j)+1;
        q=GambarAsli(i-1,j)+1;
        Temp(p,q) = Temp(p,q)+1 ;
        Temp(q,p) = Temp(q,p)+1 ;
```

```
    end
end
JumlahPixel=sum(sum(Temp));
MatriksHasil=Temp/JumlahPixel;
```

ko135.m

source code ko135.m digunakan untuk menghitung nilai Orientasi dengan interval sudut 135^0

```
function MatriksHasil=ko135(GambarAsli)
GambarAsli=double(GambarAsli);
Temp=zeros(256);
[tinggi,lebar]=size(GambarAsli);
for i=2:tinggi
    for j=2:lebar
        p=GambarAsli(i,j)+1;
        q=GambarAsli(i-1,j-1)+1;
        Temp(p,q) = Temp(p,q)+1 ;
        Temp(q,p) = Temp(q,p)+1 ;
    end
end
JumlahPixel=sum(sum(Temp));
MatriksHasil=Temp/JumlahPixel;
```

CIRIORDEDUA.m

```
function CiriOrdeDua(Citra)
mk000=ko000(Citra);
mk045=ko045(Citra);
mk090=ko090(Citra);
mk135=ko135(Citra);
MatKook=(mk000+mk045+mk090+mk135)/4;
I=[1:256];
SumX=sum(MatKook); SumY=sum(MatKook');
MeanX=SumX*I'; MeanY=SumY*I';
StdX=sqrt((I-MeanX).^2*SumX');
StdY=sqrt((I-MeanY).^2*SumY');
CiriASM=sum(sum(MatKook.^2));
CiriCON=0;CiriCOR=0;CiriVAR=0;CiriIDM=0;CiriENT=0;
for i=1:256
    for j=1:256
        TempCON = (i-j)*(i-j)*MatKook(i,j);
        TempCOR = (i)*(j)*MatKook(i,j);
        TempVAR = (i-MeanX)*(j-MeanY)*MatKook(i,j);
        TempIDM = (MatKook(i,j))/(1+(i-j)*(i-j));
        TempENT = -(MatKook(i,j))*(log2(MatKook(i,j)+eps));
        CiriCON = CiriCON + TempCON;
        CiriCOR = CiriCOR + TempCOR;
        CiriVAR = CiriVAR + TempVAR;
        CiriIDM = CiriIDM + TempIDM;
        CiriENT = CiriENT + TempENT;
    end
end
CiriCOR=(CiriCOR-MeanX*MeanY)/(StdX*StdY);

%Nilai Minimal
ASMIN =      0.3787;
CONIN =     36.5637;
```

```
CORIN =      0.9934;
VARIN =   4636.1976;
IDMIN =      0.7155;
ENTIN =      2.9251;

%Nilai Maksimal
ASMAX =      0.6582;
CONAX =     96.3313;
CORAX =      0.9973;
VARAX =   9688.3542;
IDMAX =      0.8516;
ENTAX =      5.3430;

%--------------------------------------------------------------------
%Perhitungan Ekstraksi Ciri Orde 2 ternormalisasi
%--------------------------------------------------------------------
ASM = ((CiriASM - ASMIN)/(ASMAX - ASMIN));
CON = ((CiriCON - CONIN)/(CONAX - CONIN));
COR = ((CiriCOR - CORIN)/(CORAX - CORIN));
VAR = ((CiriVAR - VARIN)/(VARAX - VARIN));
IDM = ((CiriIDM - IDMIN)/(IDMAX - IDMIN));
ENT = ((CiriENT - ENTIN)/(ENTAX - ENTIN));

fprintf('\n\t          Ekstriaksi 6 Ciri Tekstur Orde Dua\n');
fprintf(' \tSebelum di Normalisasi     ');
fprintf('\t|Setelah di Normalisasi\n');
fprintf(' \tASM         =%13.4f',CiriASM); fprintf('    |\tASM
=%13.4f\n',ASM);
fprintf(' \tCON         =%13.4f',CiriCON); fprintf('    |\tCON
=%13.4f\n',CON);
fprintf(' \tCOR         =%13.4f',CiriCOR); fprintf('    |\tCOR
=%13.4f\n',COR);
fprintf(' \tVAR         =%13.4f',CiriVAR); fprintf('    |\tVAR
=%13.4f\n',VAR);
fprintf(' \tIDM         =%13.4f',CiriIDM); fprintf('    |\tIDM
=%13.4f\n',IDM);
fprintf(' \tENT         =%13.4f',CiriENT); fprintf('    |\tENT
=%13.4f\n',ENT);
%--------------------------------------------------------------------

%Standardisasi Ciri Baik
%----------------------------------------
    ASM1         =       0.3864;
    CON1         =       0.1697;
    COR1         =       0.9280;
    VAR1         =       0.6284;
    IDM1         =       0.4867;
    ENT1         =       0.5752;

    ASM2         =       0.3281;
    CON2         =       0.2229;
    COR2         =       0.9305;
    VAR2         =       0.7392;
    IDM2         =       0.4224;
    ENT2         =       0.6494;
```

```
    ASM3          =       0.4746;
    CON3          =       0.1245;
    COR3          =       0.9585;
    VAR3          =       0.5998;
    IDM3          =       0.5478;
    ENT3          =       0.5040;

    ASM4          =       0.2561;
    CON4          =       0.3233;
    COR4          =       0.8112;
    VAR4          =       0.6863;
    IDM4          =       0.2426;
    ENT4          =       0.7592;

    ASM5          =       0.2895;
    CON5          =       0.3470;
    COR5          =       0.9347;
    VAR5          =       0.9960;
    IDM5          =       0.4373;
    ENT5          =       0.6525;
%----------------------------------------

%Standardisasi Tekstur Jelek
%----------------------------------------
    ASM6          =       0.2060;
    CON6          =       0.6247;
    COR6          =       0.4431;
    VAR6          =       0.5762;
    IDM6          =       0.0958;
    ENT6          =       0.8862;

    ASM7          =       0.2173;
    CON7          =       0.4697;
    COR7          =       0.3029;
    VAR7          =       0.2564;
    IDM7          =       0.1572;
    ENT7          =       0.8019;

    ASM8          =       0.1259;
    CON8          =       0.6758;
    COR8          =       0.1830;
    VAR8          =       0.3685;
    IDM8          =       0.0670;
    ENT8          =       0.9065;

    ASM9          =       0.1038;
    CON9          =       0.6524;
    COR9          =       0.2599;
    VAR9          =       0.4135;
    IDM9          =       0.0442;
    ENT9          =       0.9291;

    ASM10          =       0.2264;
    CON10          =       0.4557;
    COR10          =       0.3047;
    VAR10          =       0.2428;
```

```
    IDM10          =       0.1663;
    ENT10          =       0.7939;
%---------------------------------------

%Penyelesaian menggunakan Square Euclidean
%-------------------------------------------------------------------
MENGKUDU_1 = ((ASM1-ASM)^2+(CON1-CON)^2+(COR1-COR)^2+(VAR1-
VAR)^2+(IDM1-IDM)^2+(ENT1-ENT)^2);
MENGKUDU_2 = ((ASM2-ASM)^2+(CON2-CON)^2+(COR2-COR)^2+(VAR2-
VAR)^2+(IDM2-IDM)^2+(ENT2-ENT)^2);
MENGKUDU_3 = ((ASM3-ASM)^2+(CON3-CON)^2+(COR3-COR)^2+(VAR3-
VAR)^2+(IDM3-IDM)^2+(ENT3-ENT)^2);
MENGKUDU_4 = ((ASM4-ASM)^2+(CON4-CON)^2+(COR4-COR)^2+(VAR4-
VAR)^2+(IDM4-IDM)^2+(ENT4-ENT)^2);
MENGKUDU_5 = ((ASM5-ASM)^2+(CON5-CON)^2+(COR5-COR)^2+(VAR5-
VAR)^2+(IDM5-IDM)^2+(ENT5-ENT)^2);
MENGKUDU_6 = ((ASM6-ASM)^2+(CON6-CON)^2+(COR6-COR)^2+(VAR6-
VAR)^2+(IDM6-IDM)^2+(ENT6-ENT)^2);
MENGKUDU_7 = ((ASM7-ASM)^2+(CON7-CON)^2+(COR7-COR)^2+(VAR7-
VAR)^2+(IDM7-IDM)^2+(ENT7-ENT)^2);
MENGKUDU_8 = ((ASM8-ASM)^2+(CON8-CON)^2+(COR8-COR)^2+(VAR8-
VAR)^2+(IDM8-IDM)^2+(ENT8-ENT)^2);
MENGKUDU_9 = ((ASM9-ASM)^2+(CON9-CON)^2+(COR9-COR)^2+(VAR9-
VAR)^2+(IDM9-IDM)^2+(ENT9-ENT)^2);
MENGKUDU_10 = ((ASM10-ASM)^2+(CON10-CON)^2+(COR10-COR)^2+(VAR10-
VAR)^2+(IDM10-IDM)^2+(ENT10-ENT)^2);

fprintf('\n\tPerhitungan Menggunakan Square Euclidean\n');
fprintf(' \tMENGKUDU_1         = %13.4f\n',MENGKUDU_1);
fprintf(' \tMENGKUDU_2         = %13.4f\n',MENGKUDU_2);
fprintf(' \tMENGKUDU_3         = %13.4f\n',MENGKUDU_3);
fprintf(' \tMENGKUDU_4         = %13.4f\n',MENGKUDU_4);
fprintf(' \tMENGKUDU_5         = %13.4f\n',MENGKUDU_5);
fprintf(' \tMENGKUDU_6         = %13.4f\n',MENGKUDU_6);
fprintf(' \tMENGKUDU_7         = %13.4f\n',MENGKUDU_7);
fprintf(' \tMENGKUDU_8         = %13.4f\n',MENGKUDU_8);
fprintf(' \tMENGKUDU_9         = %13.4f\n',MENGKUDU_9);
fprintf(' \tMENGKUDU_10        = %13.4f\n',MENGKUDU_10);
%-------------------------------------------------------------------

%Penapisan Tekstur
%-----------------

A = min(MENGKUDU_1,MENGKUDU_2);
B = min(A, MENGKUDU_3);
C = min(B, MENGKUDU_4);
D = min(C, MENGKUDU_5);

E = min(MENGKUDU_6, MENGKUDU_7);
F = min(E, MENGKUDU_8);
G = min(F, MENGKUDU_9);
H = min(G, MENGKUDU_10);

if H < D
    msgbox('Tergolong Mengkudu MASAK Tetapi Memiliki Tekstur JELEK
@Tidak cocok digunakan sebagai OBAT HERBAL','Informasi')
```

```
else
    msgbox('Tergolong Mengkudu MASAK dan memiliki Tekstur BAIK
@Cocok digunakan sebagai OBAT HERBAL','Informasi')
end
```

LAMPIRAN 3

SOURCE CODE PERHITUNGAN SQUARE EUCLIDEAN

```
%Penyelesaian menggunakan Square Euclidean
%----------------------------------------
MENGKUDU_1 = ((ASM1-CiriASM)^2+(CON1-CiriCON)^2+(COR1-
CiriCOR)^2+(VAR1-CiriVAR)^2+(IDM1-CiriIDM)^2+(ENT1-CiriENT)^2);
MENGKUDU_2 = ((ASM2-CiriASM)^2+(CON2-CiriCON)^2+(COR2-
CiriCOR)^2+(VAR2-CiriVAR)^2+(IDM2-CiriIDM)^2+(ENT2-CiriENT)^2);
MENGKUDU_3 = ((ASM3-CiriASM)^2+(CON3-CiriCON)^2+(COR3-
CiriCOR)^2+(VAR3-CiriVAR)^2+(IDM3-CiriIDM)^2+(ENT3-CiriENT)^2);
MENGKUDU_4 = ((ASM4-CiriASM)^2+(CON4-CiriCON)^2+(COR4-
CiriCOR)^2+(VAR4-CiriVAR)^2+(IDM4-CiriIDM)^2+(ENT4-CiriENT)^2);
MENGKUDU_5 = ((ASM5-CiriASM)^2+(CON5-CiriCON)^2+(COR5-
CiriCOR)^2+(VAR5-CiriVAR)^2+(IDM5-CiriIDM)^2+(ENT5-CiriENT)^2);
MENGKUDU_6 = ((ASM6-CiriASM)^2+(CON6-CiriCON)^2+(COR6-
CiriCOR)^2+(VAR6-CiriVAR)^2+(IDM6-CiriIDM)^2+(ENT6-CiriENT)^2);
MENGKUDU_7 = ((ASM7-CiriASM)^2+(CON7-CiriCON)^2+(COR7-
CiriCOR)^2+(VAR7-CiriVAR)^2+(IDM7-CiriIDM)^2+(ENT7-CiriENT)^2);
MENGKUDU_8 = ((ASM8-CiriASM)^2+(CON8-CiriCON)^2+(COR5-
CiriCOR)^2+(VAR8-CiriVAR)^2+(IDM8-CiriIDM)^2+(ENT8-CiriENT)^2);
MENGKUDU_9 = ((ASM9-CiriASM)^2+(CON9-CiriCON)^2+(COR9-
CiriCOR)^2+(VAR9-CiriVAR)^2+(IDM9-CiriIDM)^2+(ENT9-CiriENT)^2);
MENGKUDU_10 = ((ASM10-CiriASM)^2+(CON10-CiriCON)^2+(COR10-
CiriCOR)^2+(VAR10-CiriVAR)^2+(IDM10-CiriIDM)^2+(ENT10-CiriENT)^2);
```

LAMPIRAN 4

SOURCE CODE PROGRAM UTAMA

```
clc;
clear all, close all;
a1 = imread('DSC07556.jpg');
a2 = im2double(a1);
a3 = rgb2gray(a1);

%Pemisahan Kanal RGB
R = a2(:,:,1);
G = a2(:,:,2);
B = a2(:,:,3);

figure,
subplot(221),imshow(a2),title('Citra RGB');
subplot(222),imshow(R),title('Citra R');
subplot(223),imshow(G),title('Citra G');
subplot(224),imshow(B),title('Citra B');

%Normalisasi RGB
b1=R+G+B;
r = R./b1;
g = G./b1;
b = B./b1;

figure,
subplot(221),imshow(a2),title('Citra RGB');
subplot(222),imshow(r),title('Citra Normalisasi R');
subplot(223),imshow(g),title('Citra Normalisasi G');
subplot(224),imshow(b),title('Citra Normalisasi B');

%Nilai Mean
meanb = mean2(b);

if meanb >= 0.3480
    %Mengkudu Baik

    %Pendeteksian Tepi
    ED1 = edge(a3, 'sobel');
    figure, imshow(ED1), title('Deteksi Tepi "Sobel"');
    %---------------------------------------------------------------

    %Proses Morfologi
    %----------------

    %Proses Dilasi
    se90 = strel('line', 3, 90);
    se0 = strel('line', 3, 0);
    BWsdil = imdilate(ED1, [se90 se0]);
    figure, imshow(BWsdil), title('Dilatasi');
```

```
    %Tahap Filling Objek
    BWdfill = imfill(BWsdil, 'holes');
    figure, imshow(BWdfill), title('Filling (Pengisian)');
    %-----------------------------------------------------------------

    %Operasi Penghilangan Noise
    seD = strel('diamond',1);
    BWfinal = imerode(BWdfill,seD);
    secl=strel('disk',3);
    bwopen=imopen(BWfinal,secl);
    figure, imshow(bwopen), title('Penghilangan Noise');
    %-----------------------------------------------------------------

    %-----------------------------------------------------------------
    %Penyatuan Hasil Segmentasi dg Objek Asli
    %-----------------------------------------------------------------
    [m,n] = size(bwopen);
    idx = find(bwopen==1);
    hasil = zeros(m,n);
    hasil(idx) = a3(idx);
    hasil = uint8(hasil);
    figure, imshow(hasil), title('Hasil Segmentasi');
    %-----------------------------------------------------------------

    %Ekstraksi ciri tekstur
    fprintf(' \n\tNilai Warna =%13.4f\n',meanb);
    CIRIORDEDUA(hasil)
else
    fprintf(' \n\tNilai Warna =%13.4f\n',meanb);
    msgbox('Tergolong Mengkudu BELUM MASAK @Tidak cocok digunakan
    sebagai OBAT HERBAL','Informasi')
end
```