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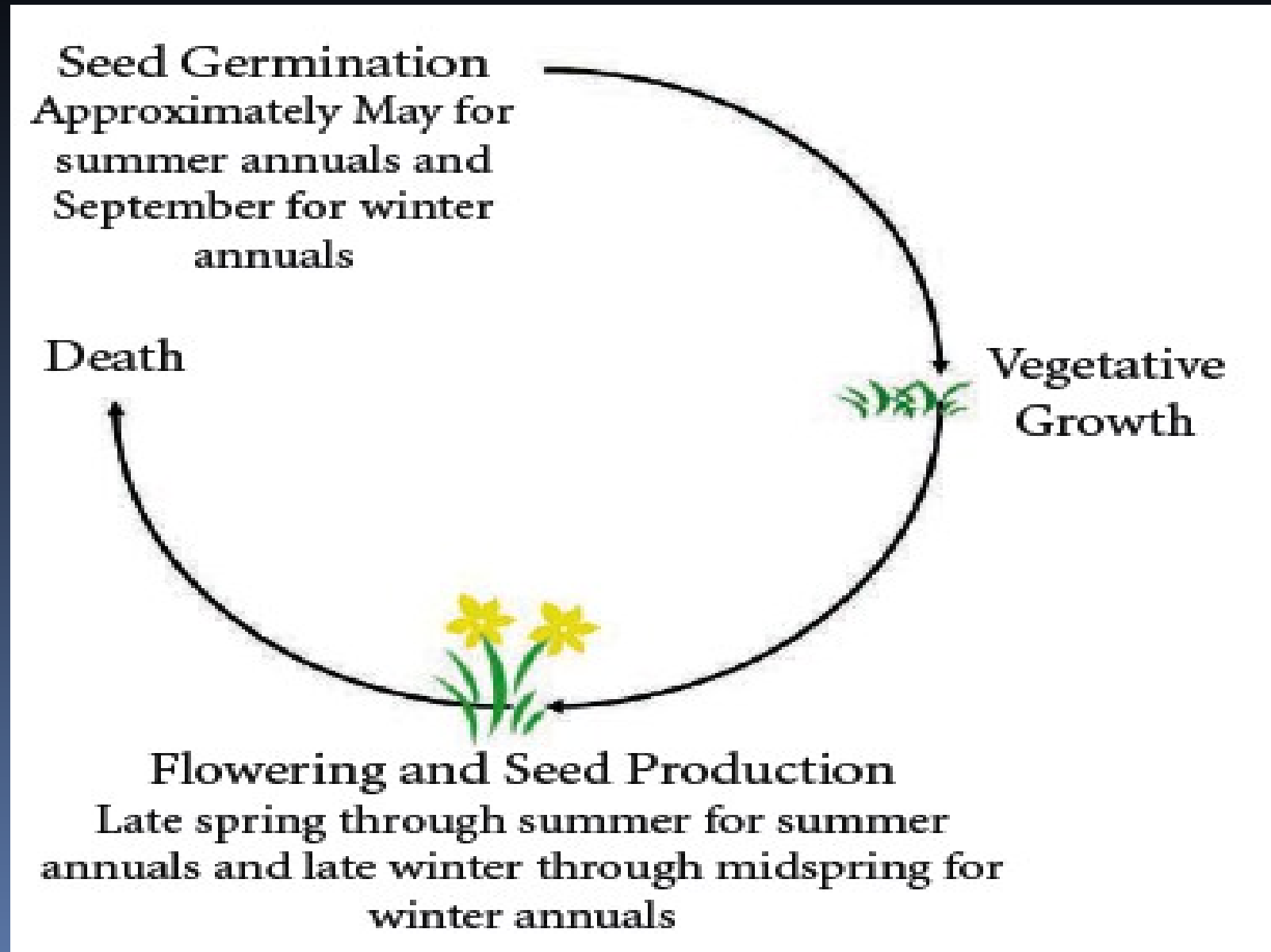


Rai Technology University
ENGINEERING MINDS

Classification & distribution of
horticultural crops

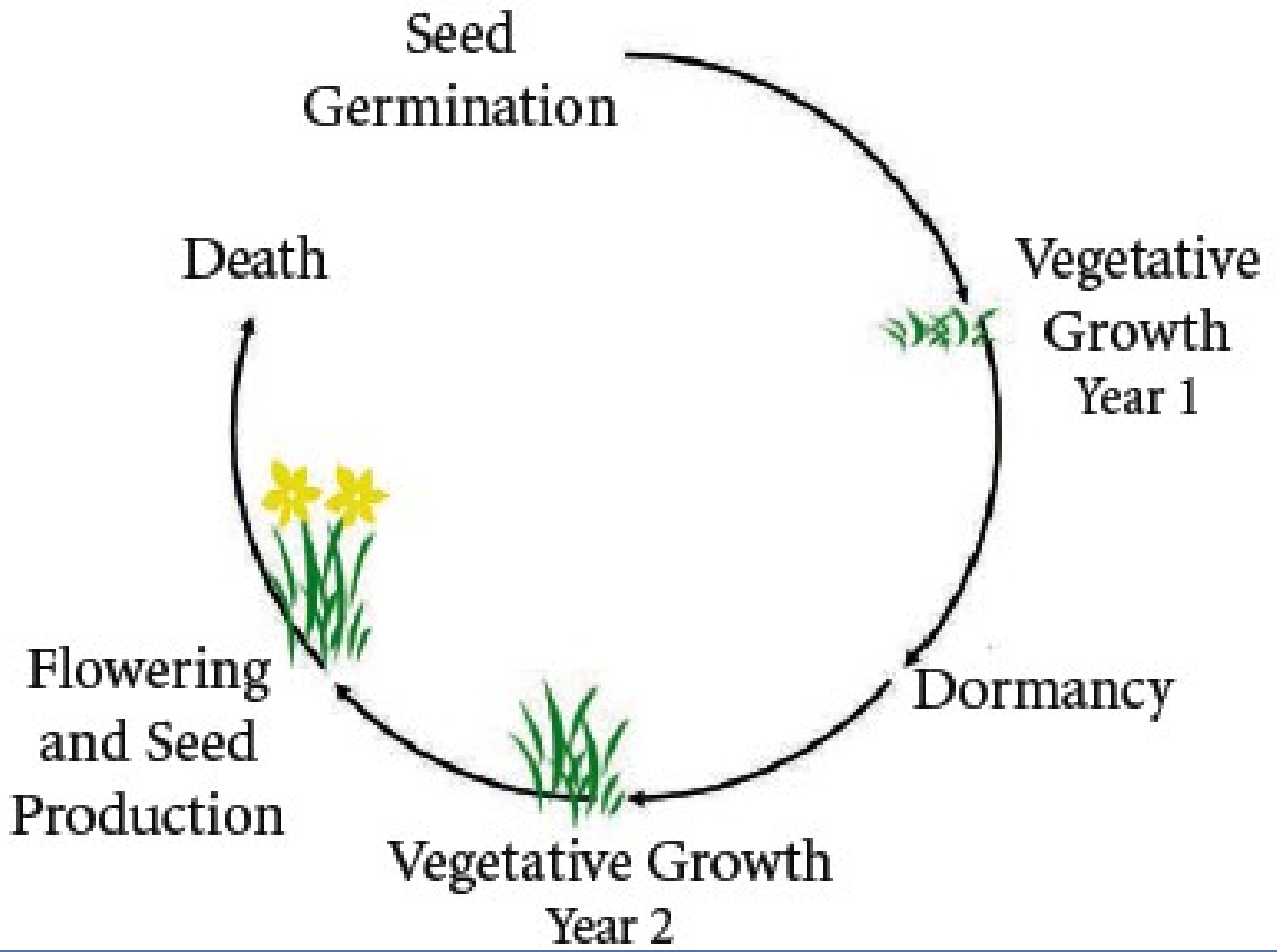


Annual plants complete their life cycle in one year/season



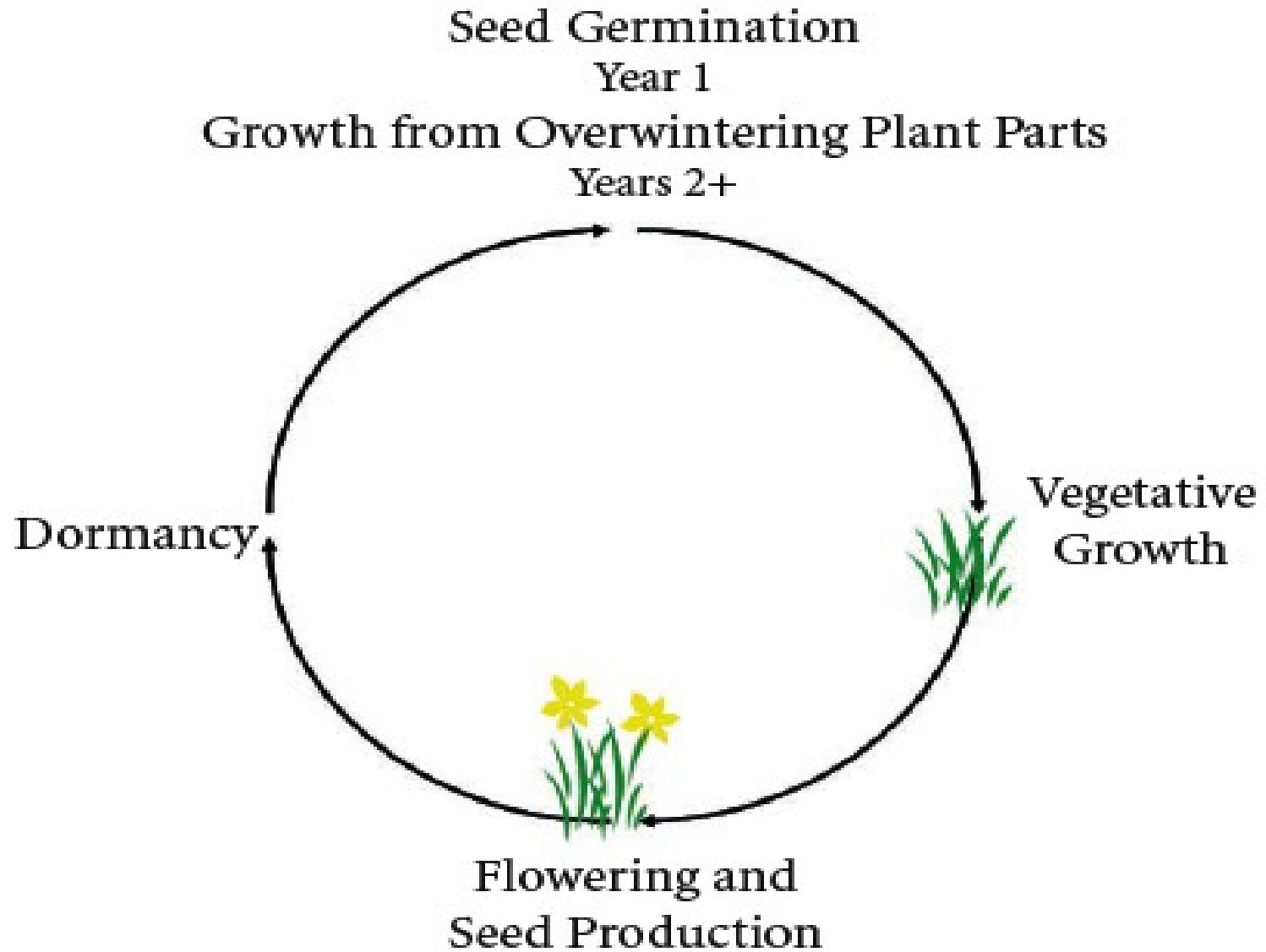


Biennial plants complete their life cycle in two seasons





Perennial plants live for more than two years/seasons





HORTICULTURAL PLANT CLASSIFICATION

A. Vegetables

Plants grown for aerial parts

Cole Crops (cabbage, cauliflower, knol-khol)

Legumes (beans, peas)

Solanaceous crops (eggplant, tomato)

Cucurbits (cucumber, melon, pumpkin)

Greens (amaranth, spinach)

Mushrooms (Agaricus, Pleurotus)

Other vegetables (okra, sweet corn)

Plants grown for underground parts

Root crops (beet, carrot, radish)

Tuber crops (potato, cassava, sweet potato)

Bulb and corm crops (garlic, onion, yam)



B. Fruits

Temperate (Deciduous)

Small fruits

Berries (blueberry, strawberry)

Brambles (blackberry, raspberry)

Vines (grape, kiwi)

Tree fruits

Pome fruits (apple, pear)

Stone fruits (apricot, cherry, peach, plum)

Subtropical and tropical (Evergreen)

Herbaceous and vine fruits (banana, papaya, passionfruit, pineapple)

Tree fruits

Citrus (grapefruit, lemon, lime, orange)

Non-citrus (date, fig, mango, mangosteen)



C. Nuts

Temperate (almond, pistachio)

Tropical (cashew, macadamia)

D. Beverage Crops

Seed (cocoa, coffee)

Leaf (tea)

E. Herbs and Spices

Culinary herbs (dill, rosemary, sage)

Flavorings (peppermint, spearmint)

Tropical spices (cinnamon, clove, nutmeg, pepper)

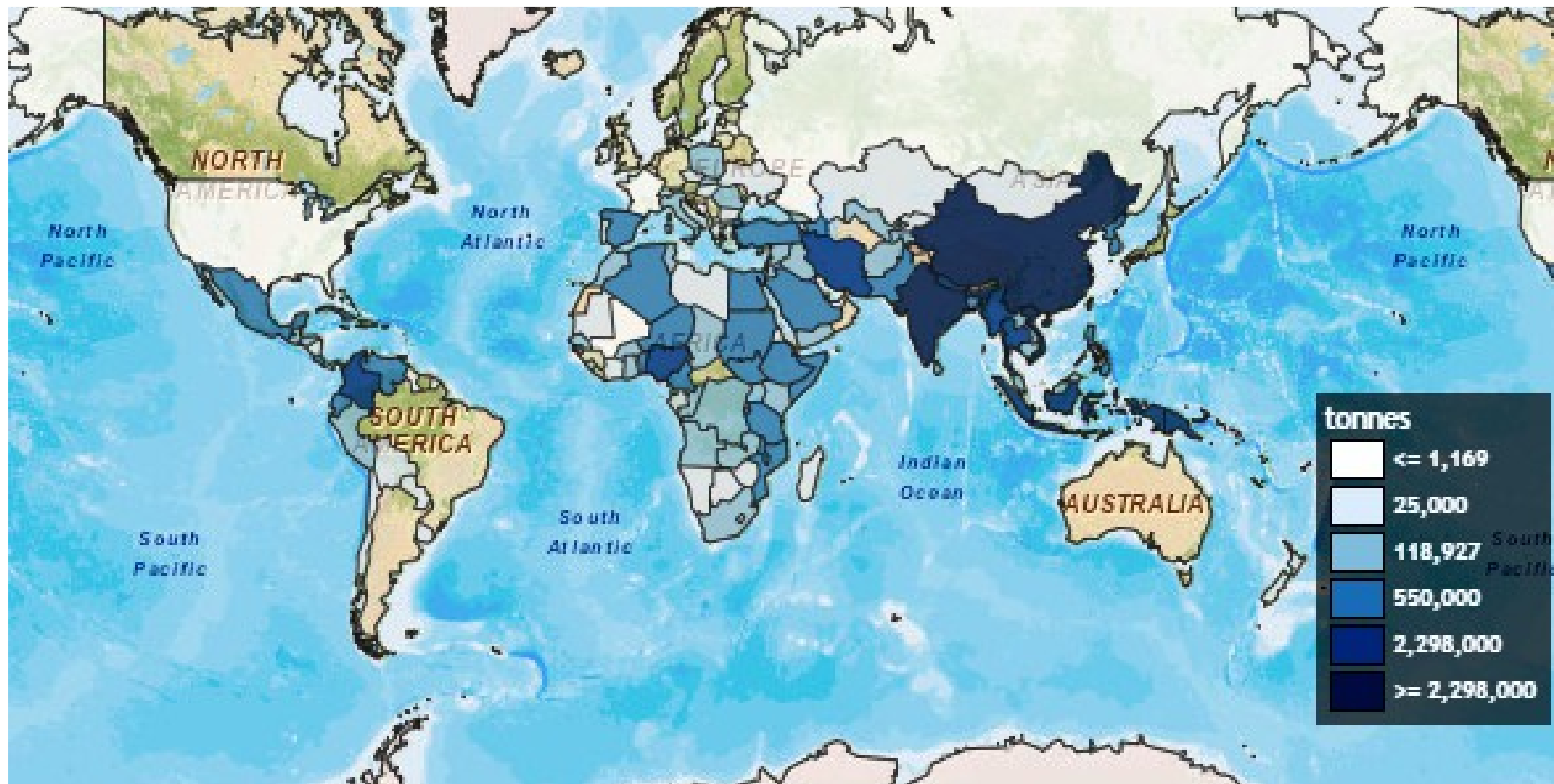
Temperate spices (crocus, allspice)

F. Plantation crops

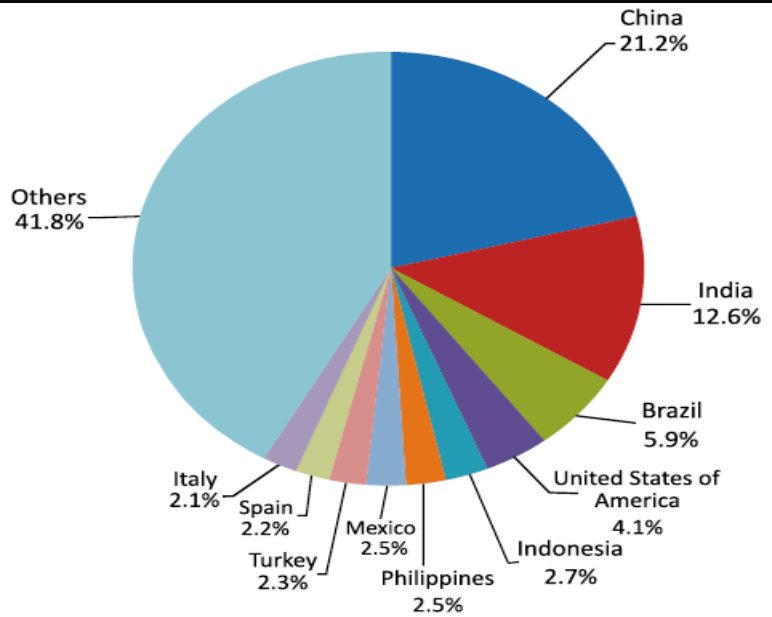
Trees (coconut, arecanut, rubber, oilpalm, palmyrah)

Vines (betelvine)

Fruits map of the World 2013

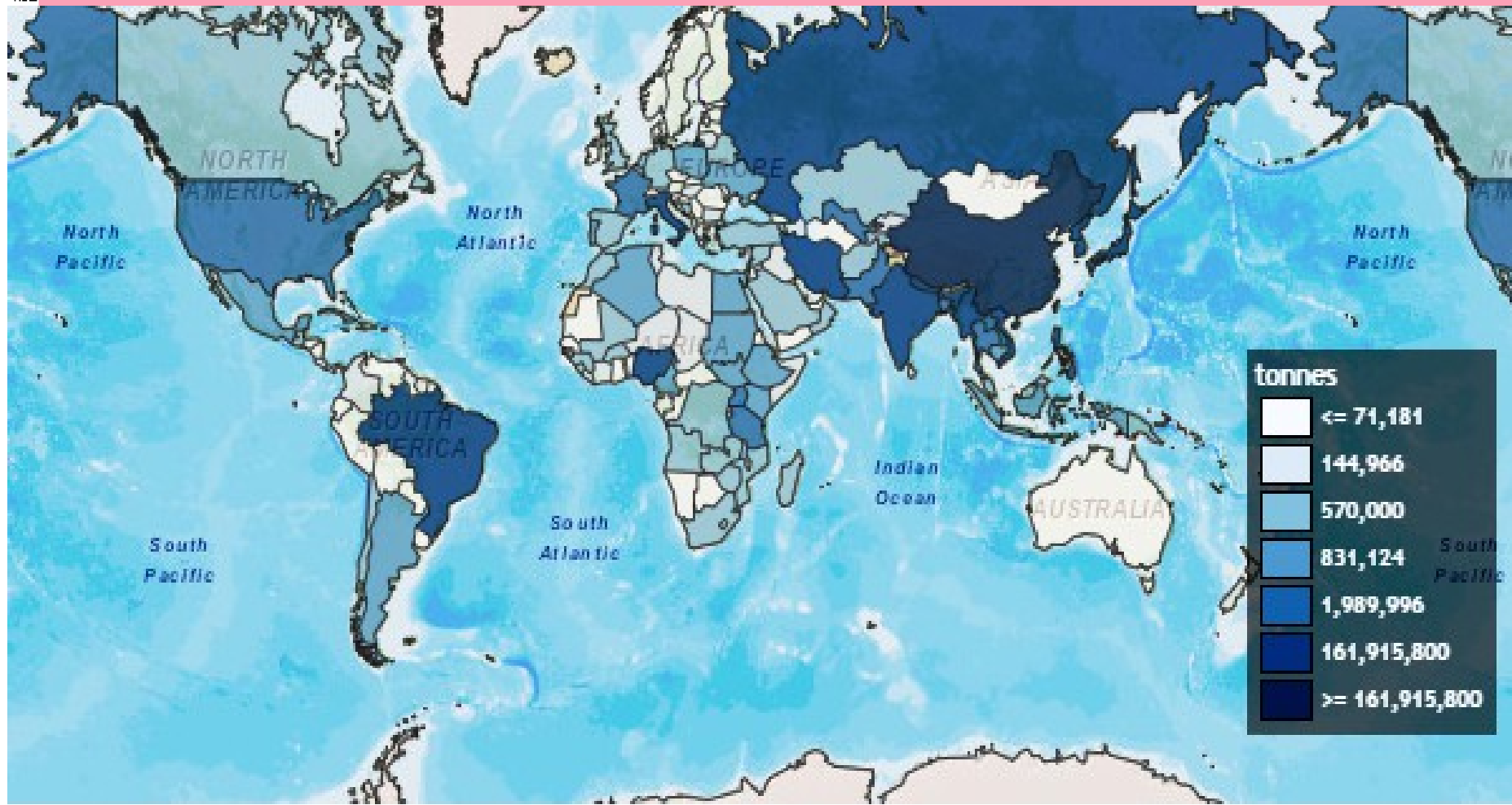


Leading Fruit Producing Countries 2013



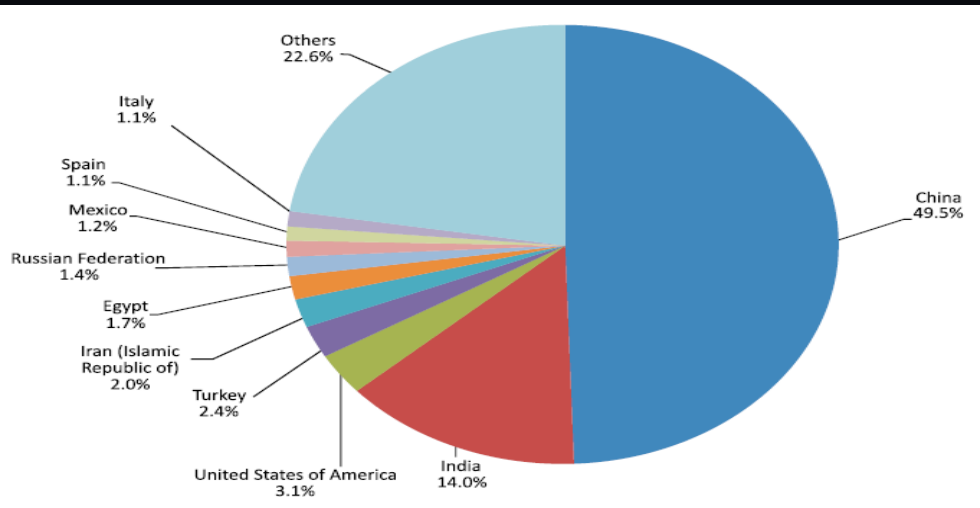
	Area in HA	Production in MT	Productivity MT/HA
China	11834450	137066750	11.6
India	6982015	81285334	11.6
Brazil	2325385	38368678	16.5
United States of America	1137779	26548859	23.3
Indonesia	796530	17744411	22.3
Philippines	1240370	16370976	13.2
Mexico	1256730	15917806	12.7
Turkey	1102662	14974561	13.6
Spain	1539100	13996447	9.1
Italy	1125593	13889219	12.3
Others	27924521	270594597	9.7
World + (Total)	57265135	646757638	11.3

Vegetables map of the World 2013





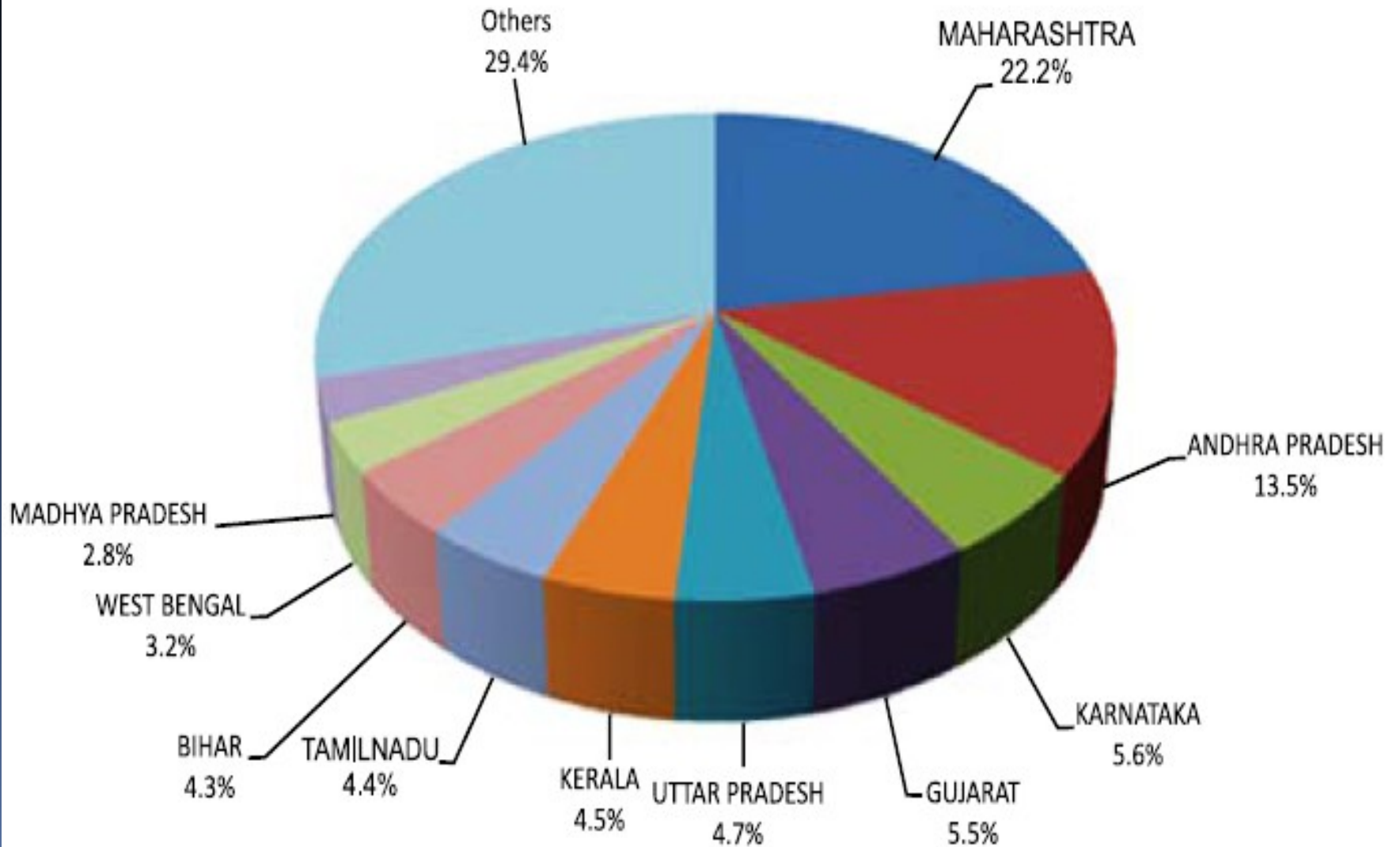
MAJOR VEGETABLES PRODUCING COUNTRIES 2013



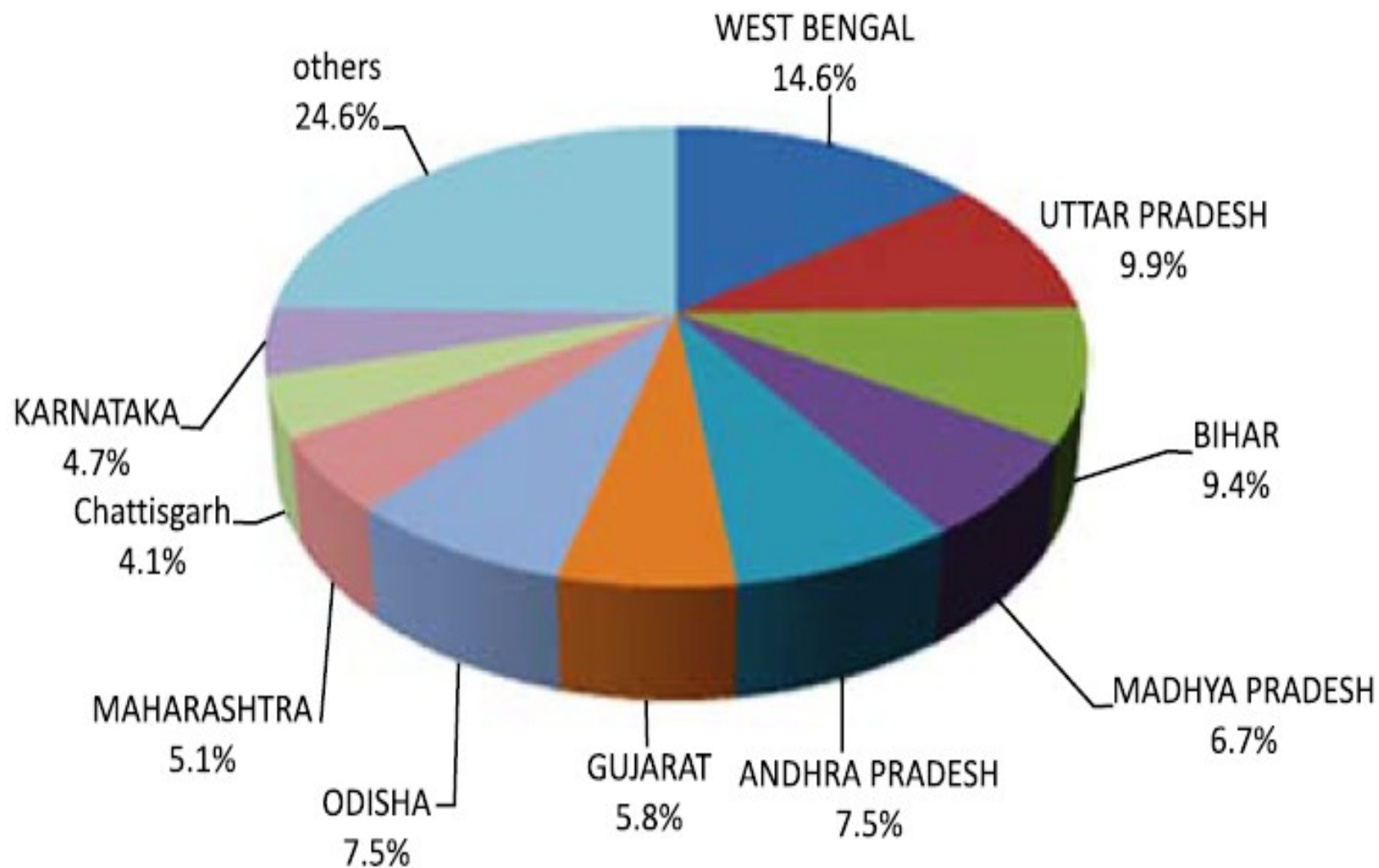
	Area in HA	Production in MT	Productivity MT/HA
China	24560900	573935000	23.4
India	9205186	162186567	17.6
United States of America	1104640	35947720	32.5
Turkey	1111702	27818918	25.0
Iran (Islamic Republic of)	876830	23485675	26.8
Egypt	772487	19825388	25.7
Russian Federation	790500	16084372	20.3
Mexico	683294	13599497	19.9
Spain	318971	12531000	39.3
Italy	450186	12297645	27.3
Others	19096425	261467661	13.7
World + (Total)	58971121	1159179443	19.7



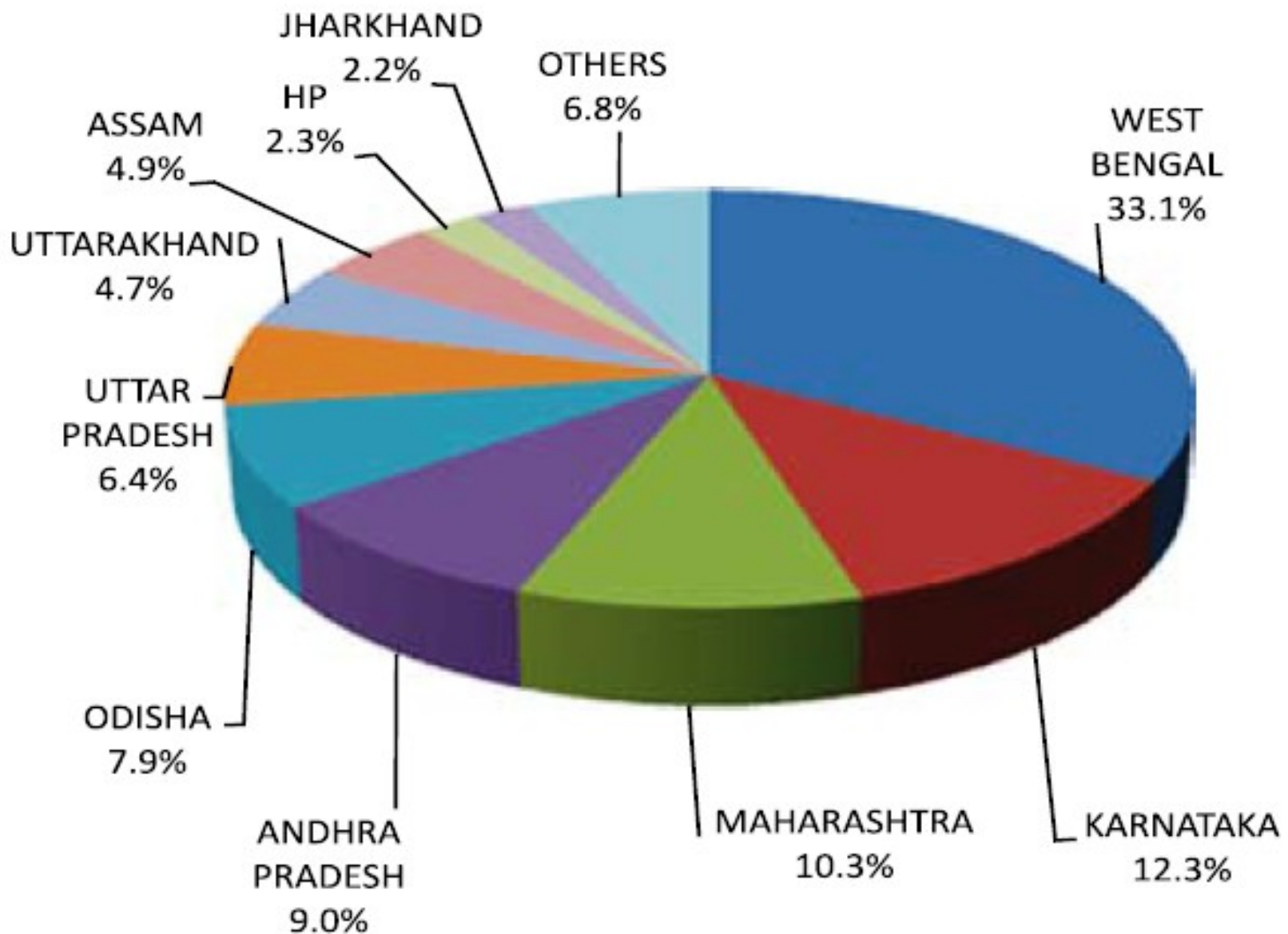
Leading Fruit Producing States in Terms of Area (2012-13)



Leading Vegetable Producing States in Terms of Area (2012-13)



Leading cut flower producing states (2012-13)





Area and Production of Horticulture Crops
All India - 2014

Area in '000 Ha

Production in '000 MT

Fruit	Area	Production
Almond	21	13
Aonla/Gooseberry	104	1225
Apple	313	2498
Banana	803	29725
Ber	48	663



Area and Production of Horticulture Crops
All India - 2014

Area in '000 Ha

Production in '000 MT

<u>Citrus</u>		
<i>(i) Lime/Lemon</i>	286	2835
<i>(ii) Mandarin</i>	330	3431
<i>(iii) Sweet Orange (Mosambi)</i>	335	3886
<i>(iv) Others</i>	126	994
Citrus Total	1078	11147



Area and Production of Horticulture Crops
All India 2014

Area in '000 Ha

Production in '000 MT

Custard apple	22	165
Grapes	119	2585
Guava	268	3668
Jackfruit	158	1573
Kiwi	5	8
Litchi	84	585
Mango	2516	18431
Papaya	133	5639
Passion Fruit	19	124



Area and Production of Horticulture Crops –
All India 2014

Area in '000 Ha

Production in '000 MT

Peach	18	94
Pear	42	317
Picanut	1	0
Pineapple	110	1737
Plum	23	76
Pomegranate	131	1346
Sapota	177	1744
Strawberry	0	2
Walnut	122	241
Others	901	5372
Total Fruits	7216	88977

STATE/UTs	FRUITS	
	2014	Area '000ha
ANDAMAN & NICOBAR	3.55	29.73
ANDHRA PRADESH	640.05	10510.56
ARUNACHAL PRADESH	89.09	321.26
ASSAM	144.68	2007.80
BIHAR	302.07	4013.58
CHHATTISGARH	212.89	1930.18
D & N HAVELI	0.00	0.00
DAMAN & DIU	0.00	0.00
DELHI	0.00	0.00
GOA	11.28	81.19
GUJARAT	370.76	8001.96
HARYANA	50.59	554.90
HIMACHAL PRADESH	220.71	866.34
JAMMU & KASHMIR	355.21	2073.94
JHARKHAND	94.03	890.04
KARNATAKA	396.00	6652.42
KERALA	376.95	2889.50

STATE/UTs	FRUITS	
	2014	Area '000ha
MADHYA PRADESH	203.79	5696.00
MAHARASHTRA	1565.00	13457.92
MANIPUR	54.05	515.69
MEGHALAYA	35.30	348.00
MIZORAM	57.55	343.90
NAGALAND	40.56	411.00
ODISHA	325.86	2148.27
PUDUCHERRY	0.64	12.58
PUNJAB	76.59	1541.24
RAJASTHAN	37.40	581.78
SIKKIM	16.02	24.05
TAMILNADU	328.55	7369.86
TELANGANA	364.48	4440.98
TRIPURA	68.38	786.35
UTTAR PRADESH	378.97	6887.45
UTTARAKHAND	171.62	678.49
WEST BENGAL	223.50	2909.71
TOTAL	7216.31	88977.13

STATE/UTs	VEGETABLES	
	2014	Area '000ha
ANDAMAN & NICOBAR	6.89	51.79
ANDHRA PRADESH	439.64	8149.76
ARUNACHAL PRADESH	1.40	35.00
ASSAM	281.40	3031.90
BIHAR	809.80	15097.77
CHHATTISGARH	403.43	5465.92
D & N HAVELI	1.10	5.50
DAMAN & DIU	0.00	0.00
DELHI	27.30	436.95
GOA	7.00	79.92
GUJARAT	582.28	11571.24
HARYANA	373.17	5565.90
HIMACHAL PRADESH	86.60	1635.88
JAMMU & KASHMIR	63.06	1395.47
JHARKHAND	313.61	4238.13
KARNATAKA	418.69	7500.69
KERALA	147.69	3572.67

STATE/UTs	VEGETABLES	
	2014	Area '000ha
MADHYA PRADESH	628.72	13019.31
MAHARASHTRA	726.00	10161.83
MANIPUR	25.19	271.04
MEGHALAYA	43.60	515.34
MIZORAM	41.10	254.14
NAGALAND	38.55	492.37
ODISHA	677.33	9433.66
PUDUCHERRY	0.90	16.26
PUNJAB	191.02	3936.19
RAJASTHAN	148.88	1114.07
SIKKIM	26.11	134.53
TAMILNADU	289.74	8678.82
TELANGANA	220.94	3647.28
TRIPURA	46.69	780.52
UTTAR PRADESH	859.38	18544.96
UTTARAKHAND	88.28	1016.83
WEST BENGAL	1380.30	23044.95
TOTAL	9396.06	162896.91





STATE/UTs	FLOWERS		
	Area	Loose	Cut
2014			
ANDAMAN & NICOBAR	0.13	0.29	0.00
ANDHRA PRADESH	20.37	136.27	30.00
ARUNACHAL PRADESH	0.02	0.01	1.86
ASSAM	3.00	20.00	32.69
BIHAR	0.82	7.63	2.74
CHHATTISGARH	10.13	45.73	0.00
D & N HAVELI	0.00	0.00	0.00
DAMAN & DIU	0.00	0.00	0.00
DELHI	5.50	5.70	5.77
GOA	0.01	0.02	0.10
GUJARAT	17.30	163.60	0.00
HARYANA	6.48	65.45	11.26
HIMACHAL PRADESH	0.82	28.14	12.36
JAMMU & KASHMIR	0.75	0.42	1.82
JHARKHAND	1.60	22.03	9.51
KARNATAKA	30.60	211.50	71.53
KERALA	--	--	--



STATE/UTs	FLOWERS		
	2014	Area	Loose
MADHYA PRADESH	17.06	200.39	0.00
MAHARASHTRA	23.00	122.65	43.97
MANIPUR	0.76	0.28	0.01
MEGHALAYA	0.05	0.00	2.37
MIZORAM	0.20	171.57	1.23
NAGALAND	0.01	0.00	0.36
ODISHA	7.44	37.40	57.40
PUDUCHERRY	0.14	1.20	0.00
PUNJAB	1.35	10.46	0.00
RAJASTHAN	2.53	2.73	0.00
SIKKIM	0.24	16.00	1.88
TAMILNADU	55.03	343.65	12.87
TELANGANA	6.89	40.68	35.11
TRIPURA	0.00	0.00	0.00
UTTAR PRADESH	16.58	32.16	54.06
UTTARAKHAND	1.35	2.02	8.45
WEST BENGAL	24.85	66.50	145.19
TOTAL	255.02	1754.49	542.53

STATE/UTs	PLANTATION CROPS	
	2014	Area '000ha
ANDAMAN & NICOBAR	27.33	95.71
ANDHRA PRADESH	329.59	1364.68
ARUNACHAL PRADESH	1.00	0.56
ASSAM	97.80	174.56
BIHAR	15.25	97.33
CHHATTISGARH	15.12	23.96
D & N HAVELI	0.00	0.00
DAMAN & DIU	0.00	0.00
DELHI	0.00	0.00
GOA	85.46	123.43
GUJARAT	39.60	227.57
HARYANA	0.00	0.00
HIMACHAL PRADESH	0.00	0.00
JAMMU & KASHMIR	0.00	0.00
JHARKHAND	13.83	4.60
KARNATAKA	870.56	3901.00
KERALA	997.71	4307.17



STATE/UTs	PLANTATION CROPS	
2014	Area '000ha	Prodn '000MT
MADHYA PRADESH	0.00	0.00
MAHARASHTRA	214.48	368.80
MANIPUR	0.90	1.50
MEGHALAYA	25.61	29.40
MIZORAM	7.60	4.40
NAGALAND	1.67	11.35
ODISHA	217.69	309.34
PUDUCHERRY	7.02	26.54
PUNJAB	0.00	0.00
RAJASTHAN	0.00	0.00
SIKKIM	0.00	0.00
TAMILNADU	634.55	4842.33
TELANGANA	1.61	16.58
TRIPURA	15.81	32.20
UTTAR PRADESH	0.00	0.00
UTTARAKHAND	0.00	0.00
WEST BENGAL	51.85	289.41
TOTAL	3674.60	16301.22

FINAL ESTIMATES in '000ha/MT 2014



Crops	Okra		Potato		Onion	
	Area	Prodn	Area	Prodn	Area	Prodn
ANDAMAN NICOBAR	0.84	4.57				
ANDHRA PRADESH	44.10	661.42	2.55	51.06	55.81	1004.55
ARUNCHAL PRADESH						
ASSAM	11.64	170.98	97.96	700.14	7.44	28.81
BIHAR	58.08	783.54	318.45	6536.00	54.32	1304.16
CHHATTISGARH	27.80	430.63	37.89	556.40	20.08	309.54
DELHI	0.94	14.10	0.68	15.72	0.78	17.07
GUJARAT	65.99	759.04	73.64	2267.38	72.79	1851.22
HARYANA	23.48	186.30	29.97	696.51	30.16	672.17
HIMACHAL PRADESH	2.76	34.03	19.20	243.26	2.34	43.71
JAMMU & KASHMIR	2.52	42.99	6.91	127.24	2.85	65.27
JHARKHAND	32.53	447.41	49.06	653.12	16.22	320.53
KARNATAKA	9.26	77.10	40.71	539.70	136.57	2065.16
KERALA			0.48	8.11		
MADHYA PRADESH	26.51	305.91	110.00	2322.40	117.31	2826.02
MAHARASHTRA	23.00	241.50	20.00	370.00	468.00	5864.04
MANIPUR	0.12	0.84			0.27	4.05
MEGHALAYA			18.45	181.82	0.49	4.13
MIZORAM	3.25	22.43	0.24	3.00	0.41	3.74
NAGALAND	0.16	1.28	4.82	65.10	0.70	7.70
ODISHA	65.24	578.53	14.99	249.76	35.81	432.05
PUDUCHERRY	0.07	0.68			0.03	0.11
PUNJAB	3.20	33.35	87.24	2189.16	8.32	185.40
RAJASTHAN	3.95	12.27	9.51	113.25	57.46	704.96
SIKKIM	1.13	7.52	10.24	49.86	0.32	1.72
TAMIL NADU	8.77	83.59	5.35	115.63	39.97	472.69
TELANGANA	25.19	377.82	4.93	98.58	23.57	424.22
TRIPURA	1.68	16.00	8.72	153.80		
UTTAR PRADESH	12.19	148.64	564.25	13808.76	24.27	409.96
UTTARAKHAND	3.28	26.90	24.71	409.62	3.80	35.86
WEST BENGAL	75.00	877.00	412.25	9030.00	23.50	342.85
TOTAL	532.6	6346.37	1203.57	19401.68	1973.19	41555.38

FINAL ESTIMATES in '000 ha/MT 2014

Crops States	Beans		Brinjal		Cabbage		Tomato	
	Area	Prodn	Area	Prodn	Area	Prodn	Area	Prodn
ANDAMAN NICOBAR			0.57	3.29	0.08	1.25	0.13	0.70
ANDHRA PRADESH	17.40	208.78	58.03	1160.53	3.02	45.37	167.72	3354.47
ARUNCHAL PRADESH					0.40	11.00	0.50	13.50
ASSAM			16.98	270.70	31.69	656.67	17.47	408.36
BIHAR	14.10	111.52	57.49	1240.49	40.00	734.98	47.69	1061.77
CHHATTISGARH	5.98	51.35	33.07	585.98	18.59	338.56	50.38	814.22
D & N HAVELI			0.50	2.20			0.40	1.80
DELHI			1.12	16.87			0.91	14.20
GUJARAT			76.01	1476.99	30.35	661.40	44.57	1259.01
HARYANA			19.00	400.78	14.80	241.13	29.42	627.28
HIMACHAL PRADESH	3.75	46.37	1.16	26.68	4.56	153.81	10.37	430.79
JAMMU & KASHMIR	1.78	32.68	2.02	45.24	2.49	73.23	3.58	88.09
JHARKHAND	13.07	202.60	21.20	272.46	30.18	471.30	26.39	251.44
KARNATAKA	12.66	132.22	15.83	402.51	10.03	212.82	61.04	2068.38
LAKSHADWEEP	0.03	0.03	0.02	0.03			0.01	0.01
MADHYA PRADESH			42.74	1066.74	19.67	578.35	65.72	1937.37
MAHARASHTRA	10.00	162.00	30.00	690.00	29.00	640.90	50.00	1200.00
MANIPUR					7.10	84.53	2.83	28.73
MEGHALAYA	0.90	6.13	0.98	13.36	1.83	39.94	2.17	51.42
MIZORAM	2.54	6.08	2.25	16.03	3.23	43.28	0.88	8.27
NAGALAND	2.33	18.65	0.41	3.28	8.10	162.00	2.72	20.00
ODISHA	11.23	52.11	125.20	2158.25	40.98	1150.88	97.02	1385.96
PUDUCHERRY	0.01	0.05	0.17	2.12			0.01	0.06
PUNJAB			3.86	82.02	4.95	87.19	7.39	181.07
RAJASTHAN	0.76	1.58	5.54	23.22	0.78	4.20	17.15	81.75
SIKKIM	1.12	5.64	0.26	1.68	1.21	7.34	1.01	9.08
TAMIL NADU	3.48	72.44	10.93	126.22	2.16	143.47	25.15	332.50
TELANGANA	7.97	95.63	15.11	302.26	5.63	84.38	74.19	1483.71
TRIPURA			3.52	53.56	3.03	79.29	1.58	39.00
UTTAR PRADESH			3.43	111.70	1.89	61.32	8.07	327.83
UTTARAKHAND	5.24	36.55	2.40	25.64	6.20	73.23	9.08	113.65
WEST BENGAL	23.20	127.80	161.50	2977.00	78.20	2197.40	56.50	1141.50

FINAL ESTIMATES Area & Prodn 2014 ('000 ha/MT)



STATES/UTs	GERBERA		JASMINE		MARIGOLD		ROSE			TUBE ROSE		OTHERS			TOTAL FLOWERS		
	A	P	A	P	A	P	A	P	P	A	P	A	P	P	A	P	
		CUT		LOOSE		LOOSE		LOOSE	CUT		LOOSE		LOOSE	CUT		LOOSE	CUT
ANDAMAN NICOBAR			0.01	0.02	0.03	0.09	0.01	0.02				0.08	0.16		0.13	0.29	0.00
ANDHRA PRADESH			2.44	12.18	3.29	24.64	1.30		30.00	2.31	13.88	4.91	15.02		20.37	136.27	30.00
ARUNACHAL PRADESH	0.00	0.50			0.01	0.01	0.00		0.72						0.02	0.01	1.86
ASSAM	0.60	5.83	0.18	1.19	0.45	2.97	0.30	1.98	3.92			0.63	4.26	5.39	3.00	20.00	32.69
BIHAR			0.11	0.32	0.31	5.60	0.07	0.10	0.69	0.11	0.54	0.13	1.08		0.82	7.63	2.74
CHHATTISGARH			0.04	0.09	3.66	26.16	0.96	2.57		1.41	5.54	2.11	4.60		10.13	45.73	0.00
DELHI												5.50	5.70	5.77	5.50	5.70	5.77
GOA	0.00	0.09	0.00	0.00	0.00	0.02				0.00	0.00	0.00	0.00		0.01	0.02	0.10
GUJARAT					7.22	68.93	4.12	37.36				5.96	57.31		17.30	163.60	0.00
HARYANA	0.01	0.03			5.69	64.62	0.17	0.64	2.58	0.10		0.08	0.13	0.96	6.48	65.45	11.26
HIMACHAL PRADESH	0.01	0.39			0.23	19.92	0.04		1.98			0.08	0.00	0.54	0.82	28.14	12.36
JAMMU & KASHMIR	0.00	0.10			0.62	0.32	0.02	0.02	0.26	0.00		0.05	0.08	0.18	0.75	0.42	1.82
JHARKHAND												1.60	22.03	9.51	1.60	22.03	9.51
KARNATAKA		0.58	6.60	43.60	9.10	74.90	2.70		50.56	2.00		5.30	32.00		30.60	211.50	71.53
LAKSHADWEEP															0.00	0.00	0.00
MADHYA PRADESH					7.76	85.07	2.38	13.26		0.26	1.00	3.91	52.56		17.06	200.39	0.00
MAHARASHTRA			2.00	3.50	8.00	70.00	6.00	15.00		1.00	6.10	2.00	10.00	43.97	23.00	122.65	43.97
MANIPUR												0.76	0.28	0.01	0.76	0.28	0.01
MEGHALAYA	0.01	0.83													0.05	0.00	2.37
MIZORAM	0.02	0.19					0.02		0.46			0.07	171.57		0.20	171.57	1.23
NAGALAND	0.00	0.05					0.00		0.16			0.00		0.13	0.01	0.00	0.36
ODISHA					2.68	24.58	1.87		27.54	0.51	12.82	0.01		0.49	7.44	37.40	57.40
PUDUCHERRY			0.03	0.12	0.09	0.72	0.00	0.27		0.01	0.00	0.02	0.09		0.14	1.20	0.00
PUNJAB												1.35	10.46		1.35	10.46	0.00
RAJASTHAN												2.53	2.73		2.53	2.73	0.00
SIKKIM	0.03	0.11			0.02	16.00	0.03		0.18			0.08		0.44	0.24	16.00	1.88
TAMIL NADU												55.03	343.65	12.87	55.03	343.65	12.87
TELANGANA	0.06	1.94	0.84	4.22	2.46	18.44	1.08		33.17	0.03	0.02	1.19	3.81		6.89	40.68	35.11
TRIPURA															0.00	0.00	0.00
UTTAR PRADESH					3.68	7.37	9.71	24.79	14.25						16.58	32.16	54.06
UTTARAKHAND	0.07	7.20			0.60	0.96	0.10	0.09		0.03	0.32	0.10	0.12		1.35	2.02	8.45
WEST BENGAL												24.85	66.50	145.19	24.85	66.50	145.19
TOTAL	0.82	17.84	12.25	65.23	55.89	511.31	30.87	96.09	166.47	7.77	40.22	118.32	804.14	225.45	255.02	1754.49	542.53

FINAL ESTIMATES Area & Prodn 2014 ('000 ha/MT)



STATES/UTs	ARECANUT		CASHEWNUT		COCOA		COCONUT		TOTAL	
	A	P	A	P	A	P	A	P	A	P
A & N	4.23	5.88	1.20	0.38			21.90	89.45	27.33	95.71
ANDHRA PRADESH	0.48	0.26	184.95	100.42	22.24	5.60	121.92	1258.40	329.59	1364.68
ARUNACHAL PRADESH			1.00	0.56					1.00	0.56
ASSAM	76.57	74.04	1.00	6.50			20.23	94.02	97.80	174.56
BIHAR							15.25	97.33	15.25	97.33
CHHATTISGARH			13.60	8.75			1.52	15.21	15.12	23.96
GOA	1.74	2.90	57.97	32.35			25.75	88.18	85.46	123.43
GUJARAT			7.97	24.52			31.63	203.05	39.60	227.57
HARYANA									0.00	0.00
JHARKHAND			13.83	4.60					13.83	4.60
KARNATAKA	217.48	348.77	124.11	80.61	11.68	2.14	517.29	3469.48	870.56	3901.00
KERALA	102.09	113.36	84.93	80.12	13.48	6.32	797.21	4107.37	997.71	4307.17
LAKSHADWEEP							2.57	48.80	2.57	48.80
MADHYA PRADESH									0.00	0.00
MAHARASHTRA	2.20	3.58	184.20	236.20			28.08	129.02	214.48	368.80
MANIPUR			0.90	1.50					0.90	1.50
MEGHALAYA	17.11	24.68	8.50	4.72					25.61	29.40
MIZORAM	7.57	4.32	0.00	0.00			0.03	0.08	7.60	4.40
NAGALAND	0.22	0.12					1.45	11.23	1.67	11.35
ODISHA			166.91	85.71			50.78	223.63	217.69	309.34
PUDUCHERRY	0.06	0.08	5.00	3.00			1.96	23.46	7.02	26.54
PUNJAB									0.00	0.00
RAJASTHAN									0.00	0.00
SIKKIM									0.00	0.00
TAMIL NADU	6.06	13.20	139.42	67.39	23.96	1.07	465.11	4760.67	634.55	4842.33
TELANGANA							1.61	16.58	1.61	16.58
TRIPURA	4.70	9.92	4.20	2.80			6.91	19.48	15.81	32.20
UTTAR PRADESH									0.00	0.00
UTTARAKHAND									0.00	0.00
WEST BENGAL	11.39	21.16	11.16	13.03			29.30	255.22	51.85	289.41
TOTAL	451.90	622.27	1010.85	753.16	71.37	15.13	2140.49	14910.66	3674.60	16301.22