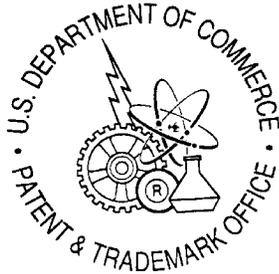


# PLANT PATENTS

JANUARY 1977 -- DECEMBER 1998



March 1999  
U.S. PATENT AND TRADEMARK OFFICE  
OFFICE FOR PATENT AND TRADEMARK INFORMATION/ TAF PROGRAM  
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*A TECHNOLOGY ASSESSMENT AND FORECAST REPORT*

## Plant Patents Report 1/1977 - 12/1998 Explanation of Data

This Technology Assessment and Forecast (TAF) Program Report profiles patent activity for U.S. plant patents (hereafter referred to as patents) granted between 1977 and December 1998. The source of the data used for this report is the TAF data base maintained by the Office for Patent and Trademark Information.

### Data Distribution By Date of Grant and By Date of Application

#### **Parts A1 and A2**

Part A1 distributes patent GRANT data by year of patent grant ("Patents Granted By Date of Patent Grant"). Part A2 distributes grant data by the year in which the patented application was filed ("Patents Granted By Date of Patent Application"). Parts A1 and A2 each provide patent counts (pages A1-1 and A2-1) and percent distributions (pages A1-2 and A2-2).

Patent data in the "Pre 1985" column corresponds to the period January 1, 1977 through December 31, 1984.

#### **Part B**

Part B of this report distributes patent GRANT data for organizations that have received U.S. patents since 1977. Data are presented by the year in which the patent was granted ("Patents By Year of Grant") and the year the patented application was filed ("Patents by Year of Application").

DATA FOR THOSE APPLICATIONS WHICH WERE FILED BUT NEVER ISSUED (ROUGHLY 40% OF TOTAL FILINGS) ARE NOT INCLUDED IN THIS REPORT.

Since the average time period between filing for a patent and the issuing of the patent (i.e., a patent's "pendency") is now about 24 months, the patented application data for the most recent years are incomplete.\* This is because a significant number of the applications filed in the most recent years, which will ultimately become patents, were still pending in **December 1998**. Since they had not yet become patents at the time this report was prepared, they were not included in this report.

Patented application data are of significant value since the date an application was filed more accurately reflects when the technology was developed. Additionally, fluctuations in data based on application date are much more likely to reflect changes in technological activity, since such fluctuations would for the most part be immune from changes in PTO processing such as occurred in 1986 when the PTO issued fewer patents than would normally have been expected due to a lack of funds to print patents. Note that a patent's "pendency" can be quite variable from one patent to another thereby affecting the date of

patent grant. Such variation in pendency is determined by many factors, including PTO workload (which varies between technologies), budget and manpower levels, patent printing schedules, etc.

### Parts of the Report

**Parts A1 and A2** present tables which show, by number and percent, the patent activity. Part A1 presents data by year of patent grant ("Patents Granted by Date of Patent Grant"). Part A2 redistributes grant data by year of patent application ("Patents Granted by Date of Patent Application"). The location of patent origin is determined by the residence of the first-named inventor at the time of grant.

Information on **patent ownership** reflects ownership at the time of patent grant and does not include subsequent changes in ownership. If more than one assignee was declared at the time of grant, the patent is attributed to the first-named assignee. The U.S. and Foreign Corporations ownership categories count predominantly corporate patents; however, patents assigned to other organizations such as small businesses, nonprofit organizations, universities, etc. are also included in this category. While U.S. Government patent ownership includes only patents granted to the Federal Government, no such distinction is made for Foreign Government patents.

**Part B** is a ranked listing of national and international organizations (i.e., corporations, universities, government agencies) which have received 3 or more U.S. plant patents since 1977. Data line 1 for each listed organization distributes counts of patent grants by year of grant. Data line 2 for each organization redistributes those same patent grants by year in which the patented application was filed. Information on patent ownership reflects ownership at the time of patent grant. Although a substantial effort has been made to combine name variations into a single organizational name, many organizations continue to have patents listed under more than one organizational name.

\* As of December 31, 1998, UTILITY patent application data (most issued patent documents are utility patents) were approximately 98% complete for patent applications filed in 1995, 84% complete for applications filed in 1996, and 27% complete for applications filed in 1997. They are essentially complete for applications filed prior to 1995. Currently, completion percentages restricted to plant patents are not available.

Part A1

Patent Grants As Distributed By Year of Patent Grant

---- Patents Granted By Date Of Patent Grant (Granted: Jan 01, 1977 - Dec 31, 1998) ----

	NUMBER OF PATENTS															
	Pre 1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Total
<b>Total</b>	1372	242	224	229	425	587	318	353	321	442	499	387	362	394	561	6716
U.S. Origin	1045	143	150	131	260	345	153	237	196	236	283	201	183	230	245	4038
Foreign Origin	327	99	74	98	165	242	165	116	125	206	216	186	179	164	316	2678
GERMANY	136	25	17	25	27	102	51	39	17	52	32	44	48	34	62	711
NETHERLANDS	36	27	17	21	54	58	38	23	46	63	63	34	41	29	71	621
FRANCE	31	22	16	6	32	24	34	21	13	22	16	16	18	27	27	325
UNITED KINGDOM	50	3	3	16	13	13	11	7	4	13	37	16	8	22	24	240
DENMARK	12	2	1	2	13	3	1	3	4	3	11	16	27	9	40	147
JAPAN	6		2		3	12	7	2	11	8	9	13	9	6	20	108
ISRAEL	1	1			2		2		7	21	14	21	7		12	88
AUSTRALIA	1			1	7	10	3	9	2	3	2	3	7	14	13	75
NEW ZEALAND	14	6	1	2	3	8	2	4	7	7	6	4	2	2	4	72
CANADA	8		1	3		4	6	1	8	5	2	7		15	8	68
COSTA RICA	12	11	6	2	1			3		4	4	6	5		4	58
BELGIUM			3	2	5	1		2	2	2	10	3	2	4	20	56
ITALY	2	2	5	1	4	2	9		2	2	1	1	2		1	34
AUSTRIA				15	1						1					17
SWITZERLAND	10			1		2										13
SPAIN						2			2		3		2			9
SWEDEN	3		1					1		1			1		1	8
SOUTH AFRICA				1											6	7
COLOMBIA	3					1	1				1	1				7
ARGENTINA			1								1			1		3
TAIWAN	1										1					2
IRELAND										1	1					2
HONDURAS										1				1		2
INDIA															2	2
LEBANON								1								1
NORWAY	1															1
MOROCCO															1	1
<b>Ownership:</b>																
U.S. Corporations	818	104	125	120	197	308	144	188	164	232	250	200	163	198	237	3448
U.S. Government								1						2		3
U.S. Individuals	415	65	63	43	98	119	57	75	60	61	82	59	55	73	74	1399
Foreign Corporations	75	61	26	43	96	89	75	44	74	104	150	104	116	98	199	1354
Foreign Government						2	1	1	8	5	2	5		5	1	30
Foreign Individuals	64	12	10	23	34	69	41	44	15	40	15	19	28	18	50	482

---- Patents Granted By Date Of Patent Grant (Granted: Jan 01, 1977 - Dec 31, 1998) ----

	PERCENT OF PATENTS															
	Pre 1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	Total
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
U.S. Origin	76	59	67	57	61	59	48	67	61	53	57	52	51	58	44	60
Foreign Origin	24	41	33	43	39	41	52	33	39	47	43	48	49	42	56	40
GERMANY	10	10	8	11	6	17	16	11	5	12	6	11	13	9	11	11
NETHERLANDS	3	11	8	9	13	10	12	7	14	14	13	9	11	7	13	9
FRANCE	2	9	7	3	8	4	11	6	4	5	3	4	5	7	5	5
UNITED KINGDOM	4	1	1	7	3	2	3	2	1	3	7	4	2	6	4	4
DENMARK	1	1		1	3	1		1	1	1	2	4	7	2	7	2
JAPAN			1		1	2	2	1	3	2	2	3	2	2	4	2
ISRAEL							1		2	5	3	5	2		2	1
AUSTRALIA					2	2	1	3	1	1		1	2	4	2	1
NEW ZEALAND	1	2		1	1	1	1	1	2	2	1	1	1	1	1	1
CANADA	1			1		1	2		2	1		2		4	1	1
COSTA RICA	1	5	3	1				1		1	1	2	1		1	1
BELGIUM			1	1	1			1	1		2	1	1	1	4	1
ITALY		1	2		1		3		1				1			1
AUSTRIA				7												0
SWITZERLAND	1															0
SPAIN									1		1		1			0
SWEDEN																0
SOUTH AFRICA															1	0
COLOMBIA																0
ARGENTINA																0
TAIWAN																0
IRELAND																0
HONDURAS																0
INDIA																0
LEBANON																0
NORWAY																0
MOROCCO																0
Ownership:																
U.S. Corporations	60	43	56	52	46	52	45	53	51	52	50	52	45	50	42	51
U.S. Government														1		0
U.S. Individuals	30	27	28	19	23	20	18	21	19	14	16	15	15	19	13	21
Foreign Corporations	5	25	12	19	23	15	24	12	23	24	30	27	32	25	35	20
Foreign Government									2	1		1		1		0
Foreign Individuals	5	5	4	10	8	12	13	12	5	9	3	5	8	5	9	7

Part A2

Patent Grants As Distributed By Year of Patent Application

---- Patents Granted By Date Of Patent Application (Granted: Jan 01, 1977 - Dec 31, 1998) ----

	NUMBER OF PATENTED APPLICATIONS															Total
	Pre 1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
<b>Total</b>	1851	263	304	422	360	363	410	399	314	340	424	429	599	238	6716	
U.S. Origin	1337	163	184	241	224	195	251	212	179	214	221	217	306	94	4038	
Foreign Origin	514	100	120	181	136	168	159	187	135	126	203	212	293	144	2678	
GERMANY	179	25	15	66	56	53	45	35	26	25	46	52	46	42	711	
NETHERLANDS	83	22	38	60	19	40	40	74	28	41	37	47	57	35	621	
FRANCE	71	7	30	12	17	37	22	12	19	13	14	21	35	15	325	
UNITED KINGDOM	58	16	9	8	12	10	13	7	16	14	23	11	33	10	240	
DENMARK	15	2	12	1	4	2	2	6		8	19	27	34	15	147	
JAPAN	8		3	7	8	4	12	4	11	2	12	15	19	3	108	
ISRAEL	2		2		2		1	29	5	7	25	3	12		88	
AUSTRALIA	2		2	14	2	8	4	2	2	2	4	8	21	4	75	
NEW ZEALAND	22	2	3	5	2	5	6	8	6	1	5	2	5		72	
CANADA	10	2		3	6	2	4	6	5	1	6	8	11	4	68	
COSTA RICA	30	1	1				3		5	1	5	8		4	58	
BELGIUM	4	3	3	1			4		6	8	2	3	15	7	56	
ITALY	9	3	2		7	4	1	3	1		1	2	1		34	
AUSTRIA		16									1				17	
SWITZERLAND	10	1		2											13	
SPAIN				2			2		3			2			9	
SWEDEN	4					1		1			1			1	8	
SOUTH AFRICA	1											1	4	1	7	
COLOMBIA	3				1	1			1		1				7	
ARGENTINA	1									1		1			3	
TAIWAN	1								1						2	
IRELAND										1	1				2	
HONDURAS											1	1			2	
INDIA														2	2	
LEBANON						1									1	
NORWAY	1														1	
MOROCCO														1	1	
<b>Ownership:</b>																
U.S. Corporations	1054	133	144	215	184	178	205	184	182	184	213	190	283	99	3448	
U.S. Government						1						1	1		3	
U.S. Individuals	538	62	68	82	76	61	82	58	48	59	64	77	91	33	1399	
Foreign Corporations	170	44	71	81	52	81	71	114	67	88	123	129	180	83	1354	
Foreign Government				2		1	2	11	3	1	4	2	4		30	
Foreign Individuals	89	24	21	42	48	41	50	32	14	8	20	30	40	23	482	

---- Patents Granted By Date Of Patent Application (Granted: Jan 01, 1977 - Dec 31, 1998) ----

	PERCENT OF PATENTED APPLICATIONS															Total
	Pre 1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
U.S. Origin	72	62	61	57	62	54	61	53	57	63	52	51	51	39		60
Foreign Origin	28	38	39	43	38	46	39	47	43	37	48	49	49	61		40
GERMANY	10	10	5	16	16	15	11	9	8	7	11	12	8	18		11
NETHERLANDS	4	8	13	14	5	11	10	19	9	12	9	11	10	15		9
FRANCE	4	3	10	3	5	10	5	3	6	4	3	5	6	6		5
UNITED KINGDOM	3	6	3	2	3	3	3	2	5	4	5	3	6	4		4
DENMARK	1	1	4		1	1		2		2	4	6	6	6		2
JAPAN			1	2	2	1	3	1	4	1	3	3	3	1		2
ISRAEL			1		1			7	2	2	6	1	2			1
AUSTRALIA			1	3	1	2	1	1	1	1	1	2	4	2		1
NEW ZEALAND	1	1	1	1	1	1	1	2	2		1		1			1
CANADA	1	1		1	2	1	1	2	2		1	2	2	2		1
COSTA RICA	2							1	2		1	2		2		1
BELGIUM		1	1					1	2	2		1	3	3		1
ITALY		1	1		2	1		1								1
AUSTRIA		6														0
SWITZERLAND	1															0
SPAIN									1							0
SWEDEN																0
SOUTH AFRICA													1			0
COLOMBIA																0
ARGENTINA																0
TAIWAN																0
IRELAND																0
HONDURAS																0
INDIA															1	0
LEBANON																0
NORWAY																0
MOROCCO																0
Ownership:																
U.S. Corporations	57	51	47	51	51	49	50	46	58	54	50	44	47	42		51
U.S. Government																0
U.S. Individuals	29	24	22	19	21	17	20	15	15	17	15	18	15	14		21
Foreign Corporations	9	17	23	19	14	22	17	29	21	26	29	30	30	35		20
Foreign Government								3	1		1		1			0
Foreign Individuals	5	9	7	10	13	11	12	8	4	2	5	7	7	10		7

Part B

Ranked Listing of Organizations with Patent Grants

As Distributed By Year of Patent Grant

and As Distributed By Year of Patent Application

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre																TOTAL
	1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL	
<b>YODER BROTHERS, INC.</b>																	
Patents By Year of Grant:	94	17	17	9	21	45	14	47	18	38	53	22	29	36	26	486	
Patents By Year of Application:	129	8	14	21	32	45	28	35	24	43	29	23	39	16	0	486	
<b>CONARD-PYLE COMPANY</b>																	
Patents By Year of Grant:	45	5	6	6	13	14	21	12	9	24	13	10	16	14	7	215	
Patents By Year of Application:	59	5	10	7	11	18	17	11	18	12	10	18	13	6	0	215	
<b>BEAR CREEK GARDENS, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	9	2	15	14	13	61	29	17	4	15	179	
Patents By Year of Application:	0	0	0	9	2	0	27	14	26	30	35	12	17	7	0	179	
<b>JACKSON &amp; PERKINS CO.</b>																	
Patents By Year of Grant:	71	7	21	13	13	21	10	1	0	0	0	0	0	0	0	157	
Patents By Year of Application:	98	11	17	18	6	7	0	0	0	0	0	0	0	0	0	157	
<b>MIKKELSENS, INC.</b>																	
Patents By Year of Grant:	56	4	6	12	23	6	12	0	15	6	12	1	3	1	0	157	
Patents By Year of Application:	70	8	12	15	2	12	13	2	6	12	1	4	0	0	0	157	
<b>PAUL ECKE RANCH, INC.</b>																	
Patents By Year of Grant:	9	0	0	0	0	0	14	7	11	25	12	16	1	14	26	135	
Patents By Year of Application:	9	0	0	0	11	6	15	8	18	11	16	4	22	15	0	135	
<b>PAN AMERICAN PLANT COMPANY</b>																	
Patents By Year of Grant:	89	19	8	0	0	0	0	0	0	0	0	0	0	0	0	116	
Patents By Year of Application:	116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	
<b>NOR'EAST MINIATURE ROSES, INC.</b>																	
Patents By Year of Grant:	28	8	3	9	2	17	1	5	5	7	4	1	6	5	4	105	
Patents By Year of Application:	40	8	2	11	7	4	5	5	4	3	7	2	4	3	0	105	
<b>DEVOR NURSERIES, INC.</b>																	
Patents By Year of Grant:	5	0	0	2	0	4	0	16	18	5	4	10	13	5	7	89	
Patents By Year of Application:	5	2	0	3	1	7	18	9	6	5	9	13	10	1	0	89	
<b>MELRIDGE, INC.</b>																	
Patents By Year of Grant:	17	0	1	19	26	20	0	0	0	0	0	0	0	0	0	83	
Patents By Year of Application:	19	18	21	25	0	0	0	0	0	0	0	0	0	0	0	83	
<b>FIDES BEHEER B.V.</b>																	
Patents By Year of Grant:	0	0	0	0	13	20	0	0	14	23	1	2	1	2	3	79	
Patents By Year of Application:	0	0	13	18	2	0	4	31	2	1	2	1	3	2	0	79	

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre																
	1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL	
<b>GESSELLSCHAFTSVERTRAG UBER DIE ERFINDERGEMEINSCHAFT "OPTI</b>																	
Patents By Year of Grant:	33	17	5	0	6	16	0	0	0	0	0	0	0	0	0	77	
Patents By Year of Application:	55	0	6	16	0	0	0	0	0	0	0	0	0	0	0	77	
<b>UNIVERSITY OF CALIFORNIA, THE REGENTS OF</b>																	
Patents By Year of Grant:	36	0	1	1	6	10	1	2	0	4	8	2	2	0	4	77	
Patents By Year of Application:	37	3	3	11	1	0	2	3	1	8	2	2	4	0	0	77	
<b>VAN STAAVEREN B.V.</b>																	
Patents By Year of Grant:	0	0	0	5	4	6	0	5	17	4	12	6	4	4	10	77	
Patents By Year of Application:	0	5	3	7	0	0	22	4	2	10	6	4	11	3	0	77	
<b>FLORFIS AG</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	6	3	0	8	15	14	11	5	7	69	
Patents By Year of Application:	0	0	0	0	0	9	0	7	1	15	18	10	8	1	0	69	
<b>LABORATOIRE DE PHYSIOLOGIE VEGETALE DE LA LONDE</b>																	
Patents By Year of Grant:	0	20	6	3	17	3	11	0	0	1	4	1	0	0	0	66	
Patents By Year of Application:	27	2	18	2	8	3	0	1	4	0	1	0	0	0	0	66	
<b>GEORGE J. BALL, INC.</b>																	
Patents By Year of Grant:	6	1	0	0	0	0	0	3	0	13	4	12	22	0	0	61	
Patents By Year of Application:	7	0	0	0	0	0	3	7	7	3	12	22	0	0	0	61	
<b>ARMSTRONG NURSERIES, INC.</b>																	
Patents By Year of Grant:	37	9	7	2	2	0	0	0	0	0	0	0	0	0	0	57	
Patents By Year of Application:	53	4	0	0	0	0	0	0	0	0	0	0	0	0	0	57	
<b>BALL PANAM PLANT COMPANY</b>																	
Patents By Year of Grant:	0	0	6	19	21	10	0	0	0	0	0	0	0	0	0	56	
Patents By Year of Application:	7	20	10	19	0	0	0	0	0	0	0	0	0	0	0	56	
<b>DANZIGER - "DAN" FLOWER FARM</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	1	16	2	20	4	0	7	50	
Patents By Year of Application:	0	0	0	0	0	0	0	17	2	0	21	3	7	0	0	50	
<b>CALIFORNIA FLORIDA PLANT COMPANY L.P.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	3	8	21	0	5	0	4	8	49	
Patents By Year of Application:	0	0	0	0	0	0	10	9	12	1	5	0	12	0	0	49	
<b>CHRYSANTHEMUM BREEDERS ASSOCIATION N.V.</b>																	
Patents By Year of Grant:	2	1	1	13	11	2	0	0	0	2	9	0	0	3	3	47	
Patents By Year of Application:	10	12	1	6	1	0	0	4	0	7	0	0	6	0	0	47	

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre 1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL
<b>DE RUITER'S NIEUWE ROZEN B.V.</b>																
Patents By Year of Grant:	0	0	0	0	4	1	1	7	0	3	6	5	9	0	10	46
Patents By Year of Application:	0	0	4	0	1	6	2	3	6	1	2	11	4	6	0	46
<b>DAVID AUSTIN ROSES LIMITED</b>																
Patents By Year of Grant:	0	0	0	0	0	0	4	3	0	9	20	0	5	0	3	44
Patents By Year of Application:	0	0	0	0	4	3	9	0	11	5	4	5	0	3	0	44
<b>WEEKS WHOLESALE ROSE GROWERS, INC.</b>																
Patents By Year of Grant:	0	0	0	0	0	3	0	1	2	3	0	10	7	4	7	37
Patents By Year of Application:	0	0	0	1	2	0	1	3	2	2	8	7	6	5	0	37
<b>OGLEVEE LTD.</b>																
Patents By Year of Grant:	0	0	0	0	0	12	2	0	5	4	2	4	2	2	3	36
Patents By Year of Application:	0	0	0	0	9	5	1	7	1	0	6	4	3	0	0	36
<b>TERRA NIGRA HOLDING B.V.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	10	0	12	5	0	9	0	36
Patents By Year of Application:	0	0	0	0	0	0	3	7	7	9	1	4	5	0	0	36
<b>OGLEVEE ASSOCIATES, INC.</b>																
Patents By Year of Grant:	27	0	2	0	5	0	0	0	0	0	0	0	0	0	0	34
Patents By Year of Application:	27	2	5	0	0	0	0	0	0	0	0	0	0	0	0	34
<b>STARK BROTHERS NURSERIES &amp; ORCHARDS COMPANY</b>																
Patents By Year of Grant:	20	4	2	0	2	1	0	0	0	0	2	2	0	0	0	33
Patents By Year of Application:	26	0	2	0	1	0	0	0	1	1	2	0	0	0	0	33
<b>CLEANGRO, LTD.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	3	0	0	15	14	32
Patents By Year of Application:	0	0	0	0	0	0	0	0	2	1	1	0	25	3	0	32
<b>SEQUOIA NURSERY</b>																
Patents By Year of Grant:	8	2	5	1	2	5	1	0	3	5	0	0	0	0	0	32
Patents By Year of Application:	15	1	1	3	3	1	0	7	1	0	0	0	0	0	0	32
<b>BALL SEED CO., A DIVISION OF GEO. J. BALL, INC.</b>																
Patents By Year of Grant:	0	0	0	0	0	16	0	3	3	1	2	6	0	0	0	31
Patents By Year of Application:	0	0	0	7	9	0	6	0	1	0	5	3	0	0	0	31
<b>RUTGERS UNIVERSITY</b>																
Patents By Year of Grant:	0	4	1	0	0	9	7	2	0	4	2	2	0	0	0	31
Patents By Year of Application:	5	0	0	3	12	1	2	4	3	0	1	0	0	0	0	31

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre																
	1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL	
<b>JOHN BODGER &amp; SONS CO.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	2	0	7	21	30	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	2	7	17	4	0	30	
<b>MONROVIA NURSERY CO.</b>																	
Patents By Year of Grant:	10	0	2	2	3	3	1	0	1	0	2	0	2	2	2	30	
Patents By Year of Application:	13	3	1	2	2	0	1	0	0	2	0	2	4	0	0	30	
<b>TWYFORD INTERNATIONAL, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	7	3	8	9	2	29	
Patents By Year of Application:	0	0	0	0	0	0	0	0	1	6	4	9	8	1	0	29	
<b>KLEMM &amp; SOHN</b>																	
Patents By Year of Grant:	0	0	0	1	3	5	3	2	2	2	8	2	0	0	0	28	
Patents By Year of Application:	0	4	0	0	6	4	2	2	2	8	0	0	0	0	0	28	
<b>SUNTORY LTD.</b>																	
Patents By Year of Grant:	0	0	0	0	0	3	0	0	0	0	2	7	3	3	10	28	
Patents By Year of Application:	0	0	0	0	3	0	0	0	0	0	5	10	8	2	0	28	
<b>DRISCOLL STRAWBERRY ASSOCIATES INC.</b>																	
Patents By Year of Grant:	13	0	1	0	2	1	2	1	0	0	3	1	0	0	3	27	
Patents By Year of Application:	13	1	2	0	3	1	0	0	0	3	1	0	2	1	0	27	
<b>DUMMEN JUNGPFANZENKULTUREN</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	19	6	0	25	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	20	5	0	0	25	
<b>GOLDSMITH SEEDS, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	13	0	3	6	0	0	2	24	
Patents By Year of Application:	0	0	0	0	0	0	0	13	0	3	5	1	2	0	0	24	
<b>GEER. VLETTER &amp; J.A. DEN HAAN</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	5	0	0	17	1	0	0	0	0	23	
Patents By Year of Application:	0	0	0	0	4	1	0	18	0	0	0	0	0	0	0	23	
<b>PURDUE RESEARCH FOUNDATION</b>																	
Patents By Year of Grant:	17	1	0	0	1	0	0	0	0	0	0	2	0	1	0	22	
Patents By Year of Application:	18	0	1	0	0	0	0	0	0	2	0	1	0	0	0	22	
<b>CEBECO LILIES, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	1	0	1	8	0	0	9	19	
Patents By Year of Application:	0	0	0	0	0	0	1	0	1	0	8	0	4	5	0	19	









---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre																TOTAL
	1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		
<b>HOFFGAARDE B.V.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	2	0	0	0	1	7	0	0	0	10	
Patents By Year of Application:	0	0	0	0	0	2	0	0	0	0	8	0	0	0	0	10	
<b>KNUD JEPSEN A/S</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	4	0	6	10	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	4	5	1	0	10	
<b>POULSEN ROSER APS</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	
<b>CLEARWATER NURSERY, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	2	2	3	0	2	9	
Patents By Year of Application:	0	0	0	0	0	0	0	0	1	1	2	3	2	0	0	9	
<b>DENHOLM SEEDS, INC.</b>																	
Patents By Year of Grant:	0	0	0	4	0	3	0	1	1	0	0	0	0	0	0	9	
Patents By Year of Application:	0	4	0	3	0	0	1	1	0	0	0	0	0	0	0	9	
<b>GOLDSTOCK BREEDING LIMITED</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	5	4	0	0	0	9	
Patents By Year of Application:	0	0	0	0	0	0	0	0	3	2	4	0	0	0	0	9	
<b>MITSUWA NURSERY, INC.</b>																	
Patents By Year of Grant:	0	0	3	0	0	1	1	3	0	1	0	0	0	0	0	9	
Patents By Year of Application:	0	3	0	0	1	3	1	1	0	0	0	0	0	0	0	9	
<b>NATIVE PLANTS, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	7	2	0	0	0	0	0	0	9	
Patents By Year of Application:	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9	
<b>TWYFORD PLANT LABORATORIES, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	8	1	0	0	0	0	0	0	0	9	
Patents By Year of Application:	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	9	
<b>UNIVERSITY OF ARKANSAS</b>																	
Patents By Year of Grant:	0	0	0	0	0	3	0	0	0	4	0	0	0	2	0	9	
Patents By Year of Application:	0	0	0	3	0	0	0	0	4	0	0	1	1	0	0	9	
<b>UNIVERSITY OF MINNESOTA, THE REGENTS OF</b>																	
Patents By Year of Grant:	2	0	0	0	0	1	3	0	1	1	0	0	0	0	1	9	
Patents By Year of Application:	2	0	0	0	4	0	1	1	0	0	0	0	1	0	0	9	

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre																
	1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL	
<b>WEYERHAEUSER COMPANY</b>																	
Patents By Year of Grant:	1	0	2	0	1	4	1	0	0	0	0	0	0	0	0	9	
Patents By Year of Application:	3	1	0	1	4	0	0	0	0	0	0	0	0	0	0	9	
<b>CO-OPERATIVE ROSE GROWERS, INC.</b>																	
Patents By Year of Grant:	0	0	1	1	0	3	1	0	2	0	0	0	0	0	0	8	
Patents By Year of Application:	2	0	0	2	1	1	0	2	0	0	0	0	0	0	0	8	
<b>COLORADO STATE UNIVERSITY RESEARCH FOUNDATION</b>																	
Patents By Year of Grant:	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	8	
Patents By Year of Application:	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	8	
<b>FIDES, HANDELSKWEKERIJ</b>																	
Patents By Year of Grant:	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	8	
Patents By Year of Application:	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8	
<b>INTERNATIONAL PLANT MANAGEMENT</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	
<b>KENT'S BROMELIAD NURSERY, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	2	3	2	1	8	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	2	3	2	1	0	0	8	
<b>NEW PLANTS</b>																	
Patents By Year of Grant:	0	0	0	0	1	3	4	0	0	0	0	0	0	0	0	8	
Patents By Year of Application:	0	0	1	2	5	0	0	0	0	0	0	0	0	0	0	8	
<b>PELARGONIEN-FISCHER KG</b>																	
Patents By Year of Grant:	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
Patents By Year of Application:	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
<b>TRESEARCH (PARTNERSHIP)</b>																	
Patents By Year of Grant:	4	1	2	0	0	0	0	0	0	0	0	0	0	0	1	8	
Patents By Year of Application:	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	8	
<b>WASHINGTON STATE UNIVERSITY RESEARCH FOUNDATION, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	3	0	0	2	0	1	1	0	0	1	8	
Patents By Year of Application:	0	0	0	0	3	0	0	2	1	0	1	0	0	1	0	8	
<b>WOLFGANG BOCK PFLANZENEXPORT KG</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	8	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	3	3	2	0	8	

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre 1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL
<b>ADAMS COUNTY NURSERY, INC.</b>																
Patents By Year of Grant:	0	0	0	0	1	4	0	0	0	0	0	0	0	1	1	7
Patents By Year of Application:	0	0	1	0	4	0	0	0	0	0	0	1	0	1	0	7
<b>BAILEY NURSERIES, INC.</b>																
Patents By Year of Grant:	2	0	0	0	0	1	0	0	0	1	1	0	0	1	1	7
Patents By Year of Application:	2	0	0	0	1	0	0	1	1	0	0	0	1	1	0	7
<b>BALL FLORAPLANT</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	5	2	0	0	0	0	7
Patents By Year of Application:	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
<b>BEGONIA BREEDERS ASSOC. B.V.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	7
<b>GROOT ASSOCIATES II</b>																
Patents By Year of Grant:	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7
Patents By Year of Application:	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7
<b>L. DAEHNFELDT LTD.</b>																
Patents By Year of Grant:	4	2	0	0	0	0	0	0	1	0	0	0	0	0	0	7
Patents By Year of Application:	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	7
<b>MIYOSHI &amp; CO. LTD.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	7
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	3	4	0	0	7
<b>OMS INVESTMENTS, INC.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	1	1	4	1	7
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	1	2	4	0	0	7
<b>PLANTAS DE NAVARRA S.A.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	2	0	3	0	2	0	0	7
Patents By Year of Application:	0	0	0	0	0	0	2	0	3	0	0	2	0	0	0	7
<b>REEDLEY NURSERY, INC.</b>																
Patents By Year of Grant:	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Patents By Year of Application:	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
<b>STATE OF ISRAEL, MINISTRY OF AGRICULTURE, THE VOLCANI CENTER</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	4	0	3	0	0	0	0	7
Patents By Year of Application:	0	0	0	0	0	0	0	4	3	0	0	0	0	0	0	7



---- Organizational Patenting

(Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre																TOTAL
	1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		
<b>KOALA BLOOMS PTY. LTD.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	
<b>METZLER INVESTMENTS</b>																	
Patents By Year of Grant:	0	0	0	1	1	4	0	0	0	0	0	0	0	0	0	6	
Patents By Year of Application:	0	1	1	0	4	0	0	0	0	0	0	0	0	0	0	6	
<b>NATIONAL SEED DEVELOPMENT ORGANISATION LIMITED</b>																	
Patents By Year of Grant:	4	0	1	0	0	1	0	0	0	0	0	0	0	0	0	6	
Patents By Year of Application:	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6	
<b>ROSES BY FRED EDMUNDS, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	6	
Patents By Year of Application:	0	0	0	0	0	0	1	3	2	0	0	0	0	0	0	6	
<b>SAKATA SEED AMERICA, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	6	
Patents By Year of Application:	0	0	0	2	1	0	0	0	0	0	0	0	3	0	0	6	
<b>BIOTECH PLANTS PTY. LTD.</b>																	
Patents By Year of Grant:	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5	
Patents By Year of Application:	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5	
<b>BODGER SEEDS, LTD.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	4	0	0	1	0	0	0	0	0	5	
Patents By Year of Application:	0	0	0	0	0	4	0	0	1	0	0	0	0	0	0	5	
<b>CARLTON NURSERY COMPANY, INC.</b>																	
Patents By Year of Grant:	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
Patents By Year of Application:	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
<b>CHAS. KLEHM &amp; SON</b>																	
Patents By Year of Grant:	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
Patents By Year of Application:	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5	
<b>CP (DELAWARE), INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	
<b>D. S. COLE GROWERS, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	2	1	1	1	5	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	2	1	1	1	0	5	

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre																
	1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL	
<b>DELEON'S BROMELIAD WORLD, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	2	0	0	0	0	0	3	5	
Patents By Year of Application:	0	0	0	0	0	0	2	0	0	0	0	0	0	3	0	5	
<b>ETABLISSEMENTS BARBERET ET BLANC</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	
Patents By Year of Application:	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5	
<b>FLOWERWOOD NURSERY INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	1	1	3	0	0	0	5	
Patents By Year of Application:	0	0	0	0	0	0	0	0	1	1	1	2	0	0	0	5	
<b>FRAMPTONS NURSERIES LIMITED</b>																	
Patents By Year of Grant:	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0	5	
Patents By Year of Application:	2	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5	
<b>GEBR. MAN C.V.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	5	
Patents By Year of Application:	0	0	0	0	0	2	0	0	0	0	0	0	0	3	0	5	
<b>H. DE MEYER - DE ROUCK B.V.B.A.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	4	0	0	1	0	5	
Patents By Year of Application:	0	0	0	0	0	0	0	0	1	3	0	1	0	0	0	5	
<b>HINES NURSERIES INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	3	0	0	1	1	0	0	0	5	
Patents By Year of Application:	0	0	0	0	0	3	0	0	1	0	1	0	0	0	0	5	
<b>HOKUETSU NOHJI CO., LTD.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	
Patents By Year of Application:	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5	
<b>M. LEK EN ZONEN, B.V.</b>																	
Patents By Year of Grant:	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	5	
Patents By Year of Application:	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	5	
<b>MT. HOOD LILIES, INC.</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	5	
<b>NEW WORLD PLANTS USA</b>																	
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	5	
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	1	0	0	4	0	0	5	

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 1998) ---- Ranked List of Organizations with 5 or More Patents ----

	Pre 1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	TOTAL
<b>OREGON BULB FARMS, INC.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	5
Patents By Year of Application:	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	5
<b>ROYAL SLUIS B.V.</b>																
Patents By Year of Grant:	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	5
Patents By Year of Application:	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	5
<b>SWEETBRIAR DEVELOPMENT INC.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	2	0	0	1	2	0	0	5
Patents By Year of Application:	0	0	0	0	0	0	0	2	0	0	1	2	0	0	0	5
<b>UNIVERSITY OF CONNECTICUT</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	0	0	3	1	1	0	5
Patents By Year of Application:	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5
<b>UNIVERSITY OF FLORIDA BOARD OF REGENTS</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	1	2	1	1	0	0	0	0	5
Patents By Year of Application:	0	0	0	0	0	1	1	1	2	0	0	0	0	0	0	5
<b>UNIVERSITY OF TENNESSEE RESEARCH CORPORATION</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5
Patents By Year of Application:	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
<b>YOVAL AGRICULTURAL PRODUCTS LTD.</b>																
Patents By Year of Grant:	0	0	0	0	0	0	0	0	0	1	1	0	3	0	0	5
Patents By Year of Application:	0	0	0	0	0	0	0	2	0	0	3	0	0	0	0	5
<b>Other Organizations (384)</b>																
Patents By Year of Grant:	105	11	22	9	49	42	30	30	27	39	50	32	36	57	69	608
Patents By Year of Application:	138	17	35	31	30	38	32	37	33	30	35	64	63	25	0	608