

APPENDIX I

Characteristics of Thai Orchid Exports

Some characteristics of the important genus and species of Thai orchid exports into the world markets can be defined as follows.

A 1.1 Dendrobiums

Some characteristics by Amy and John Ede (1985) are that the name of this very large genus of around 1,000 species come from two Greek words. Dendron means to tree, and Bios' means to life, and thus means living on a tree. This is precisely what they do over most of the jungle or the forests of the East from India / Sri Lanka to China / Japan and down South through Asian countries and Papua New Guinea to Queensland, Australia.



Dendrobium Beauty Queen.

Source: Yamthai, Sa-ngat. 1999.

A common characteristic of most is the pseudo-bulb or false bulb like a swollen stem, long or short on which the leaves grow, acting as food stores to the plants and enabling them to survive either severe natural conditions or the neglect of their owners.

Their flowering habits are interesting, the buds develop along the nodes at the end of the long thin trailing stems or pseudo-bulb, and lie dormant until there is a build-up to the flowers. The flowering may occur five or six times in a year.

Dendrobium spp. have the sympodial of growth and shape, that similar flowers in the same genus but differences in shapes of leaves and pseudo-bulb. Botanists sort out *Dendrobium spp.* by considering of the similarity of flowers that is broad of this genus, the biggest genus of orchids (Sagarik, 1973).

Dendrobium that the farmers grow in Thailand can be divided into 2 kinds as follows.

1. Wild *Dendrobium* of Thailand

This species of *Dendrobium* is very beautiful, blight color, and short stem that is suitable growing for hobby and research breeding such as

2. Foreign *Dendrobium*

This is very important genus and species for Thai orchids in trading, cut orchids, for example, cross breeding of Thai orchids, Madam Pompadour, Ceasar, Sakura, Babara, Chanal, Diamond, Anna, New, Sabin, Ruby, White Bahoo, White 4n, Big White, White Den., Bown Kian, and Yellow Pratima. (Subdivision of Agricultural Business Research, Faculty of Economics, Kasetsart University, 1997).

A 1.2 Vanda

Vanda is originated in tropical zone such as Thailand, Malaysia, India, Philippines, Indonesia and New Guinea Island. This genus is famous in Thailand that has some good characteristics in easily and strongly growing, and fecundity flowers. Vanda has monopodial shape, terminal leaf bud growth. Its flowers are very beautiful, bright color, strong and long stem, and long vase-life period that suitable for cut flowers. Vanda is growing in vertical, shoot, air root, alternative leaves, and flower-bud from aside the stem.

This genus can be divided into 3 types by leaf shape as follows.

1. The Terete Vanda (V-shape leaf)
2. The Strap-leafed Vanda (flat-leaf)
3. The Quarter-terete Vanda

(Larwan, 1991)

One interesting species of the strap-leafed Vanda is in the northern part of Thailand (Chiang Mai, Chiang Rai and Laeu) that has the succulent and thick leaves.



Vanda Kasem's Delight

Source: Yamthai, Sa-ngat. 1999.

Inflorescence is about 20-35 cm. long, 5-12 flowers, 4-5 cm. for flower size, yellow green color, and flower season in December to April (Sagarik, 1973).

A 1.3 Oncidium

This genus is quite big of around 600 Species, only 2-3 species have big-flower sizes. Oncidium Golden Shower is famous for cut flower (that calls in Thai "Dancing dolls"). (Promruksa, 1996).



Oncidium Golden Shower (O. flexuosum + O. sphacelatum)

Source: Amy and J. Ede, 1985.

A 1.4 Cattleya

Its original is in Central and Southern America, tropical zone, and along the North of the West Coastline. This genus' name come from the name of Botanist, William Cattley. Their flower is the biggest and the most beautiful orchid flower, Queen of Orchid. This genus can grow in the moist weather, not strong sunlight. It has semi air root system, no secondary root. (Promruksa, 1996). *Cattleya spp.* have sympodial shape, that have rhizome along with the growing materials, a spindle shape of pseudo-bulb, one or two leaf blade on pseudo-bulb, and one or two or three flowers on one sheath (flower sheath), (Sagarik, 1973).



Lc. Prem "Mother's Day" AM.CST.

Source: Yamthai, Sa-ngat. 1999.

A 1.5 Phalaenopsis

Phalaenopsis is monopodial of growth and shape like Vanda. This genus is quite important for agriculture, because it's famous flowers in beauty to the orchid growers for a long time. It's originated in natural of Southeast Asia and the Island groups in Pacific Ocean, and hot weather zone such as Philippines, Borneo, Sumatra, Malaysia, Thailand, and Mianmar.

The good characteristics of this genus are that the dominant beautiful and interesting inflorescence, easily growing even in the very cold climate, cold and hot weather countries in the world. In the cold climate zone, there are many hybrids of *Phalaenopsis spp.* Many genus and species are crossed breeding with Phalaenopsis such as Aerides, Rhyncostylis, Ascocentrum, Renanthera, Vanda, Arachnis, Neofinetia, Dorites, and Vandopsis.



Phalaenopsis Hybrids

Source : Yamthai, Sa-ngat. 1999.

In Thailand, this genus was grown for 30 years ago. The details of the characteristics of this genus are that its shapes or figures are short, a few couple and alternate opposite of leaves, as well as there leaves are flat, board and fleshy. The habitat of this genus that like to grow in the natural (epiphytic), or on the stone (lithophytic) that their roots strict on the things they live. Some species have very small leaves, and chlorophyll (to photosynthesis).

Some species have terete leaf (cylinder shape) for example *Phalaenopsis denivei*, some species have big or broad leaves, *Phalaenopsis gigantea*, about 25 cm. broad, and 50 cm. long, (Sagarik, 1973).

A 1.6 Ascocenda

Ascocenda is hybrid orchid between Ascocentrum and Vanda. This genus is important for mini beautiful orchid, queen of miniature vandaceous orchids. The dominant characteristic of this genus is very bright color flower, and occurring flower several time in a year (Promruksa, 1996).



Ascocenda Udom Chai

Source : Yamthai, Sa-ngat. 1999.

Ascocentrum distributes in Asia, such as India, Sri Lanka, Burma, Thailand, Vietnam, Indonesia, and Philippines. Some species are found in Thailand as follows.

1. Red Ascocentrum (*Ascocentrum curvifolium*)
2. Purple Ascocentrum (*Ascocentrum ampulaceum*)
3. Orange Ascocentrum (*Ascocentrum miniatum*)

(Sagarik, 1973).

A 1.7 Rhynchostylis

This genus is originated in Thailand, the famous orchid of Thailand, the neighbor countries of Thailand (only a few species), and one species in Philippines.

Rhynchostylis is monopodial growth and shape, the habitat like Vanda, strong and short stem, thick and fleshy leaves (V-shape of cross-section leaves).



Rhynchostylis gigantea Hybrids

Source: Yamthai, Sa-ngat. 1999.

Holtum had reported that there were 4 types as follows.

1. *Rhynchostylis gigantea* RIDL. (Charng in Thai language)
2. *Rhynchostylis retusa* BL. (Puang Malai or Iyarate)
3. *Rhynchostylis coelestis* RCHBF. (Kao kae)
4. *Rhynchostylis violacea* (Charng Philippines)

The first three species are famous in Thailand, reported by Cydenfarden and Samitinun.

Charng in Thai language means “the elephant”, because this species are big and strong in shape and stem, as well as leaf and root when compare to the other species in the same genus. The plant sizes depend on the environment and genesis factors, the leaves broad about 5-7 cm., and 25-30 cm. long, that are thick and strong. The inflorescence is beauty of cylinder curve shape, 20-40 cm. long, 25-60 flowers per inflorescence, and 2.5-3.0 cm. for flower size. The good smell of flowers is the dominant characteristic of this genus, flower season in January and February. (Sagarik, 1973).

A 1.8 Arachnis

This genus is monopodial shape like Vanda, high figure and climbing root. In Thailand prefer calling this genus “Dragonfly” and “Scorpion orchid” in the southern part of Thailand.

This genus can be divided into 3 species.

1. *Arachnis hookeriana*
2. *Arachnis flos-aeris*
3. *Arachnis maingayi*

Arachnis hookeriana was grown in Thailand for several decades, high shape or figure, 2.3 cm. of internode long, strong and straight leaves (1.5-2.0 cm broad, and 8-10 cm. long). Inflorescence is strong and straight, 50-75 cm. long, 6-8 flowers / inflorescence, and 5.5 cm. flower size. Some species are white flowers, “White scorpion orchid”, such as *Arachnis hookeriana* var. *luteola* and *Arachnis hookeriana* var. *viridipes*. This species is easily growing in Thailand. It’s the local orchids of the island groups such as Borneo, Rio, Archipelago, and the islands in the southern part of Singapore.

Arachnis flos-aeris has the characteristics that it has big and strong stem, high figure or shape, 4-10 cm. of internode long, and the leaves are broad about 5 cm., 15-18 cm. long. The length of inflorescence is about 100-150 cm., and has the branches, from the main inflorescence, with 3-4 flowers / branch and 7-9 cm. for flower size. It’s originated in the southern part of Malaysia, especially in Selangor, gives the flowers only once a year.

Arachnis maingayi SCHLTR.

This species has high figure, 2.5-5 cm. of internode long, red-brown color of old stem, strong and straight leaves (2.5 cm. broad and 12 cm. long). The inflorescence is similar to *Arachnis flos-aeris* but the flowers are smaller. It's originated on the islands in southern part of Singapore, Borneo and the southern part of Malaysia.

(Sagarik, 1973).



Arachnistylis Chorchalood (*Arach. hookerana* + *Rhy. gigantea*)

Source: Amy and J. Ede, 1985.

A 1.9 Mokara

This genus is hybrid orchid from :

Arachnis + Ascocentrum + Vanda



Mokara Bibi (Arach. hookerana + Ascda. Choo Lai Keum)

Source: Amy and J. Ede, 1985

A 1.10 Aranda

Aranda is hybrid orchid between :

Arachnis + Vanda



Aranda Christine

Source: Yamthai, Sa-ngat. 1999.

A 1.11 Cymbidium

Cymbidium is sympodial growth and shape in tropical and sub-tropical zone such as India, Burma, Indonesia, Malaysia, Thailand, South china, Philippines, Japan and New Guinea. This genus can be divided into 3 types by environment, climate and original as follows.

1. Hot climate type; this type likes hot and moist weather, temperature about 25-35° C. It can be found in every part of Thailand, especially on the trees in the timber forest. This type has long inflorescence and small flowers; flowers size about 3-4 cm. Even it has small flowers, but can have several inflorescence in one season that is very beautiful.

2. Semi-hot climate type; this type can be growth well in the area that has not so hot or cold weather, moist and sunlight (400-1,000 feet height above the sea). It can be found on decayed leaves on the ground, cracked stone and on a tree. Its flower is small for example *Cymbidium siamense* and *Cymbidium ensifolium*.

3. Cold climate type; this cold climate type is in natural and on the mountain, 1,000 feet height above the sea that has low temperature during the nighttime (about 2-15° C.). In Thailand always found *Cymbidium lowianum* and *Cymbidium traceyanum* on Doi Intanon (Chiang Mai province), 1,600 feet height above the sea, and *Cymbidium insigne* on Pulaung (Laue province). This type has a big and bright color flower that is good characteristic. (Sagarik, 1973).



Cymbidium Jubilation (*C. Borough Green* + *C. Wallara*)

Source: Rentoul, J. N. 1987.

APPENDIX II

Tables of Thai Orchid Exports to the World, Japanese, Italian, and American Markets.

Table A 2.1 : Quantity, value, average price and number of customer countries of Thai orchid exports to the world markets in 1970-1997.

Year	Quantity (ton)	Increasing Rate (%)	Value (million baht)	Increasing Rate (%)	Average price (B/kg)	Increasing rate (%)	Number of customer countries
1970	80	-	4.31	-	53.88	-	21
1971	159	98.75	16.56	284.22	104.15	93.29	18
1972	349	119.50	28.07	69.51	80.42	-22.78	22
1973	663	89.97	48.39	72.39	72.98	-9.25	21
1974	846	27.60	51.10	5.60	60.40	-17.24	23
1975	1,529	80.73	78.74	54.09	51.49	-14.75	23
1976	2,277	48.92	104.28	32.44	45.80	-11.05	25
1977	2,974	30.61	130.52	25.26	43.88	-4.19	29
1978	4,330	45.61	187.13	43.36	43.20	-1.54	35
1979	4,035	-6.82	373.49	99.59	92.55	114.23	43
1980	4,483	11.10	421.83	12.94	94.08	1.65	44
1981	5,311	18.48	401.76	-4.75	75.63	-19.61	45
1982	6,322	19.02	334.43	-16.75	52.89	-30.06	50
1983	7,940	25.57	353.89	5.81	44.57	-15.73	38
1984	7,481	-5.77	391.03	10.49	52.26	17.25	38
1985	6,683	-10.66	422.26	7.98	63.17	20.87	35
1986	6,054	-9.41	386.71	-8.41	63.87	1.10	40
1987	7,090	17.10	408.73	5.69	57.64	-9.75	43
1988	9,531	34.43	515.81	26.19	54.11	-6.12	45
1989	10,751	12.79	506.76	-1.75	47.13	-12.89	58
1990	11,677	8.61	552.09	8.94	47.27	0.29	62
1991	12,398	6.17	662.38	19.92	53.42	13.01	70
1992	11,141	-10.13	701.33	5.87	62.94	17.86	66
1993	12,374	11.06	748.65	6.74	60.49	-3.89	72
1994	11,897	-3.85	782.45	4.51	65.76	8.71	79
1995	11,848	-0.44	760.15	-2.84	64.15	-2.44	78
1996	10,620	-10.36	675.27	-11.17	63.59	-0.87	79
1997	10,470	-1.41	744.68	10.28	71.12	11.84	86

Source : Foreign Trade Statistics of Thailand, Department of Customs, Thailand, 1970-1997

Table A 2.2 : Categorization of Thai orchid exports data to major import countries by values in 1970-1997.

Year	The first (% of total)	The second (% of total)	The third (% of total)	The fourth (% of total)	The fifth (% of total)	Total values of 5 countries (million baht)	% of 5 countries
1970	Gibraltar (88.47)	Switzerland (7.96)	England (1.22)	Italy (0.59)	Yemen (0.30)	4.25	98.55
1971	Gibraltar (82.18)	Switzerland (9.00)	Norway (4.12)	England (3.33)	Yemen (0.56)	16.43	99.21
1972	Gibraltar (75.97)	Norway (10.87)	Switzerland (5.99)	England (4.29)	Yemen (1.79)	27.77	98.93
1973	Gibraltar (76.29)	Norway (11.43)	Switzerland (4.71)	England (4.67)	Yemen (1.41)	47.67	98.53
1974	Germany (70.35)	Netherlands (13.96)	Switzerland (6.82)	Sweden (4.13)	Japan (3.05)	50.25	98.34
1975	Germany (64.24)	Netherlands (15.56)	Japan (6.97)	Switzerland (6.95)	Sweden (4.77)	77.56	98.50
1976	Germany (53.01)	Netherlands (17.86)	Japan (10.62)	Sweden (7.27)	Switzerland (6.18)	99.00	94.94
1977	Germany (43.73)	Netherlands (18.74)	Japan (12.30)	Sweden (6.61)	Switzerland (5.91)	113.97	87.31
1978	Germany (41.26)	Japan (18.17)	Netherlands (16.15)	Sweden (5.40)	Switzerland (4.73)	160.42	85.72
1979	Germany (46.14)	Japan (17.16)	Netherlands (13.76)	Switzerland (6.09)	Sweden (2.83)	321.23	86.00
1980	Germany (36.56)	Japan (20.57)	Netherlands (14.66)	Italy (6.19)	Switzerland (5.92)	354.02	83.92
1981	Japan (26.03)	Germany (26.01)	Netherlands (12.92)	Italy (9.73)	Switzerland (4.77)	319.37	79.49
1982	Germany (24.92)	Japan (21.40)	Netherlands (12.97)	Italy (10.37)	Switzerland (4.19)	247.09	73.88
1983	Japan (27.06)	Germany (19.69)	Netherlands (13.21)	Italy (9.52)	Hong Kong (4.39)	261.51	73.89
1984	Japan (29.24)	Germany (15.97)	Italy (13.29)	Netherlands (11.62)	U.S.A. (4.97)	293.81	75.13
1985	Japan (37.58)	Italy (14.80)	Germany (13.82)	Netherlands (9.22)	U.S.A. (5.77)	342.90	81.20
1986	Japan (47.98)	Germany (11.95)	Italy (11.58)	Netherlands (8.83)	U.S.A. (4.67)	328.80	85.02
1987	Japan (44.82)	Italy (11.48)	Germany (11.12)	Netherlands (8.35)	U.S.A. (7.79)	341.71	83.60
1988	Japan (45.50)	Italy (11.13)	Germany (10.15)	U.S.A. (8.42)	Netherlands (6.63)	422.23	81.85
1989	Japan (42.26)	Italy (13.48)	Germany (10.81)	U.S.A. (8.23)	Netherlands (5.67)	407.81	80.47
1990	Japan (45.66)	Italy (12.69)	U.S.A. (9.11)	Germany (8.08)	Netherlands (5.08)	445.23	80.64
1991	Japan (54.80)	Italy (11.80)	U.S.A. (7.81)	Germany (5.53)	Netherlands (4.24)	557.80	84.21
1992	Japan (51.49)	Italy (12.70)	U.S.A. (9.22)	Germany (5.97)	Netherlands (4.68)	589.69	84.08
1993	Japan (57.82)	Italy (11.01)	U.S.A. (8.13)	Germany (5.15)	Netherlands (3.46)	640.73	85.58
1994	Japan (57.13)	Italy (11.53)	U.S.A. (9.10)	Germany (5.11)	Taiwan (3.37)	674.98	86.26
1995	Japan (57.60)	Italy (10.04)	U.S.A. (8.90)	Taiwan (4.85)	Korea rep. (2.10)	634.80	83.50
1996	Japan (54.51)	Italy (10.82)	U.S.A. (9.24)	Taiwan (5.50)	Germany (4.32)	570.03	84.41
1997	Japan (53.94)	Italy (11.13)	U.S.A. (10.46)	Taiwan (5.19)	Germany (3.99)	630.87	84.72

Source : Department of Customs, Thailand, 1970-1997.

Table A 2.3 : An increasing rate and percent of total of Thai orchid exports to Japan
in 1974-1997.

Year	Total values of Thai orchid exports (baht)	Export values To Japan (baht) (% of the total)	An increasing rate (%)	Quantity (kg)	An average price (B / kg)
1974	51,099,469	1,562,962 (3.05)	-	31,574	49.50
1975	78,738,602	5,488,875 (6.97)	251.18	82,374	66.63
1976	104,275,280	11,075,214 (10.62)	101.76	166,625	66.47
1977	130,521,949	16,061,292 (12.30)	45.02	272,104	59.02
1978	187,126,498	34,005,425 (18.17)	111.72	647,934	52.48
1979	373,486,169	64,100,874 (17.16)	88.50	730,162	87.78
1980	421,834,347	86,803,617 (20.57)	35.42	980,411	88.53
1981	401,755,459	104,597,855 (26.03)	20.50	1,179,012	88.71
1982	334,429,232	71,587,039 (21.40)	-31.56	1,266,545	56.52
1983	353,890,653	95,766,247 (27.06)	33.78	1,405,744	68.12
1984	391,027,694	114,368,213 (29.24)	19.42	1,681,786	68.00
1985	422,258,753	158,691,342 (37.58)	38.75	1,743,674	91.00
1986	386,712,182	189,554,816 (49.02)	19.45	2,654,860	71.40
1987	408,731,322	183,230,651 (44.82)	-3.34	3,141,957	58.31
1988	515,809,087	234,743,819 (45.50)	28.11	4,519,161	51.94
1989	506,755,808	214,185,114 (42.26)	-8.76	4,817,276	44.46
1990	552,093,343	252,088,212 (45.66)	17.70	5,042,338	49.99
1991	662,382,873	363,021,017 (54.80)	44.01	5,537,805	65.55
1992	701,328,232	361,120,570 (51.49)	-0.52	4,323,210	83.53
1993	748,648,391	432,914,010 (57.82)	19.88	5,046,999	85.77
1994	782,446,436	447,074,726 (57.13)	3.27	5,073,577	88.11
1995	760,151,649	437,897,330 (57.60)	-2.05	5,368,815	81.51
1996	675,269,932	368,097,448 (54.51)	-15.94	4,313,969	85.32
1997	744,678,550	401,660,188 (53.94)	9.12	4,082,796	98.38

Source : Department of Customs, Thailand, 1974-1997.

Table A 2.4 : An increasing rate, and percent of total of Thai orchid exports to Italy
in 1970-1997.

Year	Total values of Thai orchid exports (baht)	Export values to Italy (baht) (% of the total)	An increasing rate (%)	Quantity of Thai orchid exports (kg)	Average price (B / kg)
1970	4,310,201	25,677 (0.59)	-	215	119.42
1971	16,559,440	21,736 (0.13)	-15.34	294	73.93
1972	28,070,388	20,800 (0.07)	-4.31	416	50.00
1973	48,385,940	52,169 (0.10)	150.81	1,132	46.09
1974	51,099,469	33,680 (0.06)	-35.44	811	41.53
1975	78,738,602	114,481 (0.14)	239.91	2,593	44.15
1976	104,275,280	338,531 (0.32)	195.71	8,187	41.35
1977	130,521,949	1,176,047 (0.90)	247.40	28,860	40.75
1978	187,126,498	2,960,118 (1.58)	151.70	71,377	41.47
1979	373,486,169	12,389,651 (3.31)	318.55	107,670	115.07
1980	421,834,347	26,142,595 (6.19)	111.00	298,899	87.46
1981	401,755,459	39,125,164 (9.73)	49.66	532,511	73.47
1982	334,429,232	34,705,570 (10.37)	-11.30	710,945	48.82
1983	353,890,653	33,706,297 (9.52)	-2.88	1,154,406	29.20
1984	391,027,694	51,970,305 (13.29)	54.19	1,105,833	46.99
1985	422,258,753	62,509,378 (14.80)	20.28	1,109,606	56.33
1986	386,712,182	44,787,685 (11.58)	-28.35	788,202	56.82
1987	408,731,322	46,961,196 (11.48)	4.85	952,034	49.33
1988	515,809,087	57,448,769 (11.13)	22.33	1,248,475	46.02
1989	506,755,808	68,354,116 (13.48)	18.98	1,502,680	45.49
1990	552,093,343	70,078,769 (12.69)	2.52	1,910,677	36.68
1991	662,382,873	78,202,125 (11.80)	11.59	2,195,611	35.62
1992	701,328,232	89,134,638 (12.70)	13.98	2,348,276	37.96
1993	748,648,391	82,439,824 (11.01)	-7.51	2,143,425	38.46
1994	782,446,439	90,241,217 (11.53)	9.46	2,176,637	41.46
1995	760,151,649	76,326,227 (10.04)	-15.42	1,820,458	41.93
1996	675,269,932	73,121,413 (10.82)	-4.20	1,778,152	41.12
1997	744,678,550	82,892,499 (11.13)	13.36	1,870,757	44.33

Source : Department of Customs, Thailand, 1970-1997.

Table A 2.5 : An increasing rate, and percent of total of Thai orchid exports to USA.
in 1970-1997.

Year	Total values of Thai orchid exports (baht)	Values of Thai orchid exports to USA. (baht) (% of the total)	An increasing rate (%)	Quantity of Thai orchid exports (kg)	Average price (B/kg)
1970	4,310,201	7,517 (1.176)	-	101	74.96
1971	16,559,440	7,280 (0.044)	-3.84	27	269.62
1972	28,070,388	9,360 (0.036)	28.57	166	56.38
1973	48,385,940	17,334 (0.030)	85.19	255	67.97
1974	51,099,469	1,730 (0.003)	-90.02	37	46.75
1975	78,738,602	10,448 (0.013)	503.93	189	55.28
1976	104,275,280	80,226 (0.077)	667.85	1,018	78.80
1977	130,521,949	189,121 (0.145)	135.73	4,759	39.73
1978	187,126,498	1,241,926 (0.664)	556.68	30,682	40.47
1979	373,486,169	1,135,553 (3.040)	-8.56	13,736	82.66
1980	421,834,347	3,036,105 (0.720)	167.37	18,448	164.57
1981	401,755,459	6,287,718 (1.565)	107.10	53,069	118.48
1982	334,429,232	9,259,697 (2.769)	47.26	144,634	64.02
1983	353,890,653	14,052,190 (3.971)	51.76	323,466	43.44
1984	391,027,694	19,443,974 (4.973)	38.37	417,737	46.54
1985	422,258,753	24,401,747 (5.779)	25.50	522,558	46.69
1986	386,712,182	18,061,675 (0.275)	-25.98	384,829	46.93
1987	408,731,322	31,873,962 (7.798)	67.47	566,136	56.30
1988	515,809,087	43,435,378 (8.421)	36.27	739,647	58.72
1989	506,755,808	41,722,222 (8.233)	-3.94	895,220	46.60
1990	552,093,343	50,331,361 (9.116)	20.63	1,018,002	49.44
1991	662,382,873	51,769,603 (7.816)	2.86	1,054,537	49.09
1992	701,328,232	64,698,121 (9.225)	24.97	1,071,824	60.36
1993	748,648,391	60,865,873 (8.130)	-5.92	1,298,268	46.88
1994	782,446,439	71,254,361 (9.107)	17.07	1,311,788	54.31
1995	760,151,649	67,662,187 (8.901)	-5.04	1,387,497	48.76
1996	675,269,932	62,438,401 (9.146)	-7.72	1,366,556	45.69
1997	744,678,550	77,917,053 (11.13)	24.79	1,453,984	53.59

Source : Department of Customs, Thailand, 1970-1997.

Table A 2.6 : The export values and percent of total of Thai orchid exports to Japan, Italy and USA. in 1974-1997.

Year	Total values of Thai orchid exports (baht)	Export values To Japan (baht) (% of the total)	Export values to Italy (baht) (% of the total)	Export values to U.S.A.(baht) (% of the total)	% of export values to 3 countries
1974	51,099,469	1,562,962 (3.05)	33,680 (0.06)	1,730 (0.003)	1,598,372 (3.113)
1975	78,738,602	5,488,875 (6.97)	114,481 (0.14)	10,448 (0.013)	5,563,804 (7.123)
1976	104,275,280	11,075,214 (10.62)	338,531 (0.32)	80,226 (0.077)	11,493,971 (11.017)
1977	130,521,949	16,061,292 (12.30)	1,176,047 (0.90)	189,121 (0.145)	17,426,460 (13.345)
1978	187,126,498	34,005,425 (18.17)	2,960,118 (1.58)	1,241,926 (0.664)	38,207,469 (20.414)
1979	373,486,169	64,100,874 (17.16)	12,389,651 (3.31)	1,135,553 (3.040)	77,626,078 (23.510)
1980	421,834,347	86,803,617 (20.57)	26,142,595 (6.19)	3,036,105 (0.720)	113,982,317 (27.48)
1981	401,755,459	104,597,855 (26.03)	39,125,164 (9.73)	6,287,718 (1.565)	150,010,737 (37.325)
1982	334,429,232	71,587,039 (21.40)	34,705,570 (10.37)	9,259,697 (2.769)	115,552,306 (34.539)
1983	353,890,653	95,766,247 (27.06)	33,706,297 (9.52)	14,052,190 (3.971)	133,524,734 (40.551)
1984	391,027,694	114,368,213 (29.24)	51,970,305 (13.29)	19,443,974 (4.973)	185,782,492 (47.503)
1985	422,258,753	158,691,342 (37.58)	62,509,378 (14.80)	24,401,747 (5.779)	245,602,467 (58.159)
1986	386,712,182	189,554,816 (49.02)	44,787,685 (11.58)	18,061,675 (0.275)	248,404,176 (60.875)
1987	408,731,322	183,230,651 (44.82)	46,961,196 (11.48)	31,873,962 (7.798)	262,065,809 (64.098)
1988	515,809,087	234,743,819 (45.50)	57,448,769 (11.13)	43,435,378 (8.421)	335,627,966 (65.051)
1989	506,755,808	214,185,114 (42.26)	68,354,116 (13.48)	41,722,222 (8.233)	324,261,452 (63.973)
1990	552,093,343	252,088,212 (45.66)	70,078,769 (12.69)	50,331,361 (9.116)	372,498,342 (67.466)
1991	662,382,873	363,021,017 (54.80)	78,202,125 (11.80)	51,769,603 (7.816)	492,992,745 (74.416)
1992	701,328,232	361,120,570 (51.49)	89,134,638 (12.70)	64,698,121 (9.225)	514,953,329 (73.415)
1993	748,648,391	432,914,010 (57.82)	82,439,824 (11.01)	60,865,873 (8.130)	576,219,707 (76.96)
1994	782,446,436	447,074,726 (57.13)	90,241,217 (11.53)	71,254,361 (9.107)	608,570,304 (77.767)
1995	760,151,649	437,897,330 (57.60)	76,326,227 (10.04)	67,662,187 (8.901)	581,885,744 (76.541)
1996	675,269,932	368,097,448 (54.51)	73,121,413 (10.82)	62,438,401 (9.146)	503,657,262 (74.476)
1997	744,678,550	401,660,188 (53.94)	82,892,499 (11.13)	77,917,053 (10.46)	562,469,740 (75.53)

Source : Department of Customs, Thailand, 1974-1997.

Table A 2.7 : Thai orchid export companies rank by export values from 1993-1997.

No.	Thai orchid export companies in 1993	Thai orchid export companies in 1994	Thai orchid export companies in 1995	Thai orchid export companies in 1996	Thai orchid export companies in 1997
1.	Excel Orchid Co., LTD.	Excel Orchid Co., LTD.	Excel Orchid Co., LTD.	Bangkok Green Co., LTD.	Bangkok Green Co., LTD.
2.	Bangkok Green Co., LTD.	Bangkok Green Co., LTD.	Bangkok Green Co., LTD.	Excel Orchid Co., LTD.	Excel Orchid Co., LTD.
3.	Bangkok Flower Center Co., LTD.	Charoen Pokapan Engineer Co., LTD.		Bangkok Flower Center Co., LTD.	Bangkok Flower Center Co., LTD.
4.	Siam Arony Co., LTD.	Bangkok Flower Center Co., LTD.	Bangkok Flower Center Co., LTD.		Success Flower Co., LTD.
5.	Success Flower Co., LTD.	Siam Arony Co., LTD.	Sonear Cosmos LTD., Part	Fine Orchid LTD., Part	
6.	Charoen Pokapan Engineer Co., LTD.	Success Flower Co., LTD.	Fine Orchid LTD., Part	Irma Flora Co., LTD.	Sonear Cosmos LTD., Part
7.	Thai Inter Flora Co., LTD.	Duchess Flora Co., LTD.	Bangkok Orchid (1975) Co., LTD.	Sonear Cosmos LTD., Part	Irma Flora Co., LTD.
8.	Orchid Supreme Co., LTD.	S. T. Florex Co., LTD.	Success Flower Co., LTD.	Success Flower Co., LTD.	Ucen Flower (Thailand)Co., LTD.
9.	Siam Flora LTD., Part	Thai Inter Flora Co., LTD.	Siam Arony Co., LTD.	Charoen Pokapan Engineer Co., LTD.	Asia Flower LTD.
10.	Bangkok Orchid (1975) Co., LTD.	Siam Flora LTD., Part	Charoen Pokapan Engineer Co., LTD.	Ucen Flower Co., LTD.	City Orchid Co., LTD.

11.	Siam Floriculture Co., LTD.	Siam Floriculture Co., LTD.	C. P. Diamond Star Co., LTD.	Siam Arony Co., LTD.	Siam Floriculture Co., LTD.
12.	Tropical Flora (Thailand) Co., LTD.	Tropical Flora (Thailand)	Irma Flora Co., LTD.	Bangkok Orchid (1975) Co., LTD.	Lucky Nurture Flora Co., LTD.
13.	Vacharasak Charoenpol Orchid Co., LTD.	Orchid Supreme Co., LTD.	Orchid Supreme Co., LTD.	Asia Flower LTD.	S. T. Florex Co., LTD.
14.	Chaimongkol Charoen Orchid LTD., Part	Charoen Chargarda (Thailand) Co., LTD.	Siam Floriculture Co., LTD.	Siam Floriculture Co., LTD.	Savadee Flora Co., LTD.
15.	Chun International Flower Co., LTD.	Jet Fresh (Thailand) Co., LTD.	S. T. Florex Co., LTD.	City Orchid Co., LTD.	Siam Flower 1985 Co., LTD.
16.	P. N. Orchid Co., LTD.	Chaimongkol Charoen Orchid LTD., Part	Orchid House Co., LTD.	Orchid House Co., LTD.	Tropical Flora (Thailand) Co., LTD.
17.	Irma Flora Co., LTD.	Changer-A.S.B. (Thai) Co., LTD.	Ucen Flower Co., LTD.	S. T. Florex Co., LTD.	L. E. E. Inter Trade Co., LTD.
18.	Duchess Flora Co., LTD.	Bangkok Orchid (1975) Co., LTD.	City Orchid Co., LTD.	Della Corporation LTD.	Orchid Supreme Co., LTD.
19.	S. T. Florex Co., LTD.		Thai Inter Flora Co., LTD.	C. P. Diamond Star Co., LTD.	Fine Orchid LTD., Part
20.	Dafa International Co., LTD.		L. E. E. Inter Trade Co., LTD.	L. E. E. Inter Trade Co., LTD.	Della Corporation LTD.

Source : Department of Business Economics, Thailand, 1993-1997.

APPENDIX III

Questionnaire for Thai Orchid Export Company

Research Report of Master Thesis

Topic : Growth Rates and Stability of Thai Orchid Exports in Japanese, Italian and American Markets.

Name of company Tel.
 Address

 Name of Interviewee
 Position

1. Beginning to do flower export business since (19....).
2. Customer countries (please put number 1, 2, 3, ... in front of the highest export values, the second, the third, ..., respectively).

- 1. Japan
- 2. Italy
- 3. USA.
- 4. Germany
- 5. The Netherlands
- 6. France
- 7. Hong Kong
- 8. England
- 9. Canada
- 10. Others such as

2. Name of export orchids (please circle the number in front of the orchid's name).

1. Madam Pompadour
2. White Dendrobium
3. Pink Dendrobium
4. Ceasar
5. Other Dendrobium such as

- 6. Mokara
- 7. Arachnis
- 8. Golden Shower
- 9. Aranda
- 10. Ascocenda
- 11. Cattleya
- 12. Vanda
- 13. Others such as

4. Please rank the highest export values of orchids by species, the second, the third, the fourth and the fifth.

No.	Genus and species	Quantity (kg. / year)	Price (baht / inflorescence)	Importing country (name)
1.				
2.				
3.				
4.				
5.				

5. The important problems that caused your company could not increase export values.

.....

.....

.....

.....

6. Could your company increase export values ?

- Increase every year
- Increase in some year
- Tend to increase
- Tend to decrease because

7. The month that your company could get the highest export values (high season) from to and the lowest export

values (low season) fromto

8. Grading, divided intogrades.

1.size (centrimates-long)

2.size (centrimates-long)

3.size (centrimates-long)

9. The important problems (please put / in front of the sentences that
correspondence).

..... 1. Price war among Thai exporters.

..... 2. The different price provision in the world markets.

..... 3. There's unable to cooperate among Thai orchid exporters.

..... 4. Limited flights from Thailand.

..... 5. There is not enough cold storage for fresh flowers at the airport.

..... 6. The exporting procedures in Thailand are complex.

..... 7. Some crooks customer countries.

..... 8. There has late payment from the customer countries.

..... 9. The percentages check out of bad orchid flowers in some countries.

10. The main factors that caused low prices of Thai orchid exports.

.....
.....
.....
.....

11. The major causes of low quality problems.

.....
.....
.....
.....

12. What are the important things that the government should do in order to support
export systems ?

.....
.....
.....
.....

Lists of Export Companies

Lists of export companies of Thai orchids that give information of Thai orchid export-problems in this study are as follows.

1. Bangkok Flower Center CO., LTD. (1969)
34 / 19 Moo 7 Petchakasem Rd., Nongkhaem, Bangkok 10160.
Tel : 421-0020-4
Fax : (662) 421-0025.
2. Siam Flowers CO., LTD. (1975)
3 Moo 1 Soi Yimprayoon, Sukhapiban 1 Rd., Bangkae,
Bangkok 10160.
Tel : 413-0778, 413-3079, 413-1349
Fax : (662) 454-2473.
3. Thai Inter Flora CO., LTD. (1984)
6 / 29 Leapkhong Pasricharoen Rd., Nongkham, Bangkok
Tel : 421-1278.
4. Thaising Tropical Plants Nursery CO., LTD. (1985)
101 / 7-8 Khampaengphet Rd., Chatuchuk, Bangkok 10900.
Tel : 279-4162
Fax : (662) 279-4167
5. Success Flowers CO., LTD. (1990)
121 / 106 Ram-intra Rd., Khunnayao, Beung khum, Bangkok 10230.
Tel : 421-0362, 444-0457
6. Chai Charoen Phol Orchids CO., LTD. (1990)
273 / 1 Budhaboocha Rd., Bangmode, Ratburana, Bangkok
Tel : 426-3733, 870-5883
7. Orchid Garden CO., LTD. (1995)
24 Moo 5, Bang Kor Bua, Prapradaeng, Samutprakarn
8. Excel Orchid Co., LTD.
63 / 3 Soi Petkasaem 63, Petkasaem Rd., Nong-Kam.
Bangkok 10160 Thailand.
Tel. 413-1311, 455-6974-80. Fax.: (66-2) 454-1931

**Questionnaire for Thai Orchid Growers
Reports for Master Thesis**

Topic : Growth Rates and Stability of Thai Orchid Exports in Japanese, Italian and American Markets.

1. General data

- Name Surname Age Years.
- Number of son persons, daughter persons.
- The first son or daughter (occupation).
- The second (occupation).
- The third (occupation).
- The fourth (occupation).
- The fifth (occupation).

2. Beginning to grow orchids in (19....).

3. Genus and species of orchids you grow are following.

No.	Genus and species	Planted areas (rai)	Production (inflorescence/week)	Selling price (B/inflorescence)
1.				
2.				
3.				
4.				
5.				

4. Costs of production

No.	Items (Costs)	Numbers / month (frequency)	Expenditure (baht)
1.			
2.			
3.			
4.			
5.			

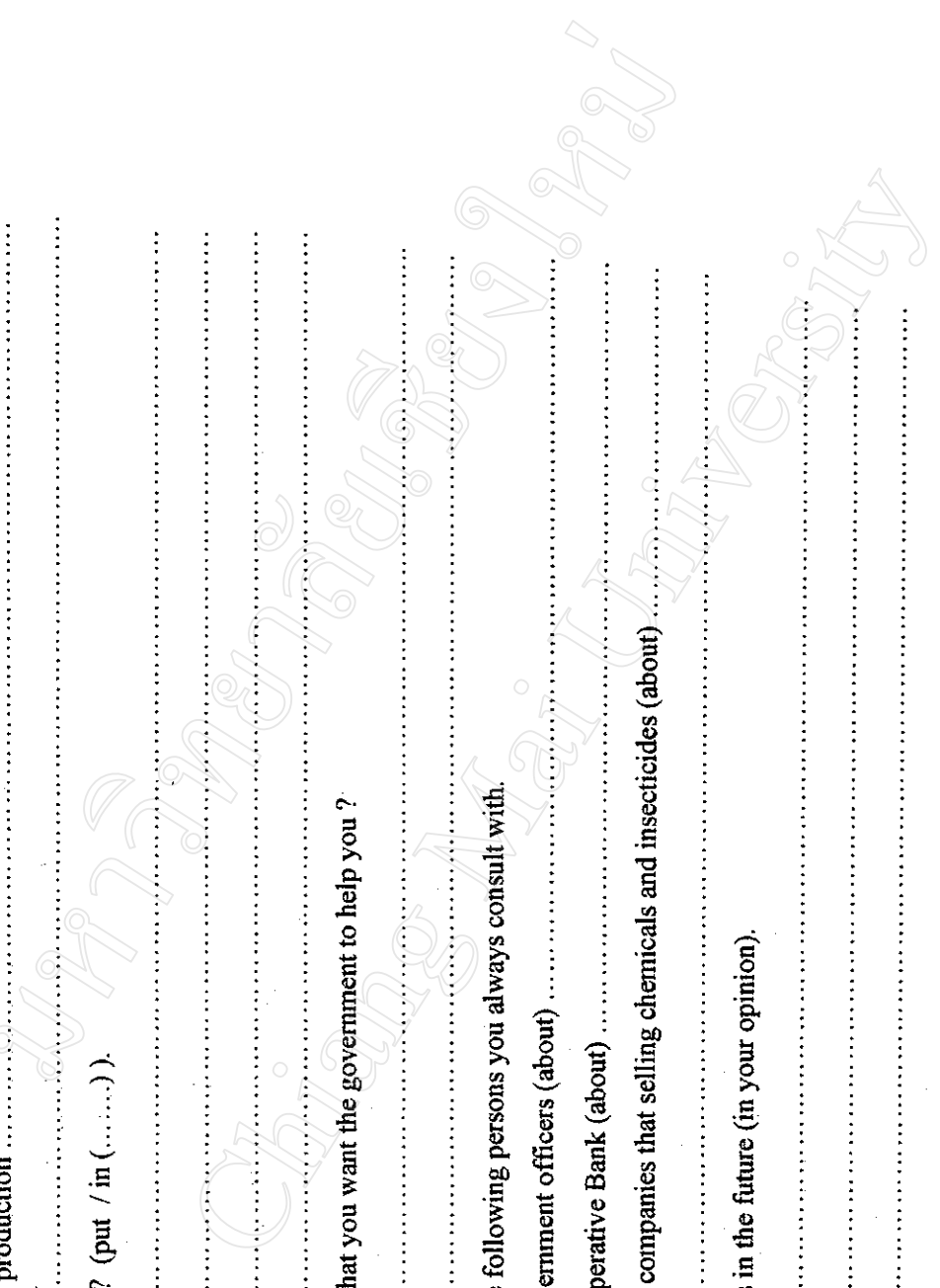
5. Selling

1. Selling to export companies (numbers).
 1. Name of companyin amount(%)
 2. Name of companyin amount(%)
 3. Name of companyin amount(%)
2. Selling to domestic markets (amount)(%) in the form of bouquetkg / bundle, with pricesbaht / bundle.

6. The important problems are as following.

1. Insects and diseases
2. Capital
3. Young orchid plants

- 4. Selling price / costs of production
- 7. Do you need to be an exporter ? (put / in (.....)).
(.....) Yes, because
- (.....) No, because
- 8. What are the important things that you want the government to help you ?
- 9. If you have some problems, the following persons you always consult with.
(.....) Agricultural government officers (about)
- (.....) Farmer and Cooperative Bank (about)
- (.....) The staffs of the companies that selling chemicals and insecticides (about)
- 10. How about the orchid growers in the future (in your opinion).
.....
.....
.....



APPENDIX IV

A 4.1 Trade Organizations

General Agreements on Tariffs and Trade (GATT)

The purpose of GATT is to encourage unrestricted multilateral trade by binding participated nations to negotiating trade rules and by mandating penalties for any deviation. GATT established the most-favored nation principle, which ensures that all member nations receive the most favorable terms by any nation from a GATT member. Since its inception the GATT agreements have helped to liberalize world trade. GATT administered from Geneva, Switzerland, has been and continues to be a milestone in encouraging nations to conduct global business (Kinnear, et al, 1995).

European Economic Community (EC)

In 1958 another important international agreement led to the creation of the European Economic Community (EC), also known as the Common Market. This agreement laid out a plan for a common antitrust law (by Belgium, Denmark, France, Germany, Great Britain, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, and Spain), removal of restrictions on the movement of capital and labor, and the imposition of uniform tariffs on imports from nonmember nations. The EC form a single market that is almost as large as the United States. Because of its size, a strong EC will contribute to a healthy world economic system (Kinnear, ET al, 1995).

The European Union (EU)

Six economic country groups settled the European Union, EU, in 1958 for the purposes of economic cooperative and better standard living of the people. There are 15 member countries that compose of Belgium, Netherlands, Luxembourg, France, Germany, Italy, England, Ireland, Denmark, Greece, Spain, Portugal, Australia, Sweden, and Finland (the last three countries are the new members on January 1, 1995).

The purposes of EU are that they cooperate for one Europe market, one European Central Bank and single currency (at least in 1999) by settlement the European Monetary Institute: EMI on January 1, 1994. (Department of Business Economics, 1997).

United States-Canada Free Trade Agreement

In January 1989, the United States and Canada reached a free trade agreement to remove barriers against trade and investment in industrial, agricultural, and service sectors of their economies. The agreement was intended, among other things, to increase business for Canadian firm and lower prices on both sides of the border (Kinnear, et al, 1995).

The North American Free Trade Agreement (NAFTA)

The United States of America, Canada and Mexico has the North American Free Trade Agreement (NAFTA) on June 5, 1991 that this agreement is to be used on January 1, 1994. The purposes of this agreement are that to eliminate the problems and obstructions of trade and services among the member nations by cancellation the Customs duties in 15 years, supporting the fair competitions, intellectual treasury regulations and dispute settlement provisions of trade agreements (Department of Business Economics, 1997).

ASEAN Free Trade Area (AFTA)

In 1992, there has Framework Agreement on Enhancing ASEAN Economic Cooperation and Agreement on the Common Effective Preferential Tariff (CEPT) Scheme for the ASEAN Free Trade Area (AFTA). These agreements have the purposes of supporting the competence of Asian commodities in the world markets and drawing the foreign countries to do business in Asia. This provides tax reduction for agricultural products and industrial goods into 4 groups as follows.

1. Fast Track: This group has tax reduction to equal 0-5 % in 7 years, such as cement, fertilizer, paper, woven, gems, appliance, wood and rattan furniture, plant oil, chemical goods, plastics, rubber commodities, ceramics, glassware, pharmaceutical and copper cathode.

2. Normal Track: This reduces tax to equal 0-5 % in 10 years (1993-2003).

3. Temporary Exclusion List: This group is the exception commodities that each country does not want to reduce tax but these commodities will be reduced in 5 years (1996-2000). For industrial goods and agricultural industry goods are reduced in 1997-2003 (0-5 %).

4. Sensitive List: This group is agricultural products and will be reduced in 2001-2010 (0-5 %), except rice and sugar will be reduced later than 2010 and higher than 5 %.

(Department of Business Economics, 1997).

Other Trade Agreements

The Japanese are not sitting idly by while the Europeans, Mexicans, and Americans form trading blocs (a trading bloc is a group of countries, banded together, who trade as a single unit with other countries) and economic communities. Japan's approach is to integrate the Asian economies into a single economic unit. Led by Japan, and including Hong Kong, Singapore, South Korea, and Taiwan (these four nations are known as the "Four Dragons"). Indonesia Malaysia, the Philippines, and Thailand, the bloc will work to produce the highest value-added products in the world.

Other nations of the world have also aligned to form trading blocs and economic countries. These include Mercosur (the four South American countries of Argentina, Brazil, Paraguay, and Uruguay). Furthermore, common markets exist among Caribbean countries, countries in Southeast Asia, and countries in West Africa (Kinneer, et al, 1995).

Companies involves in global trade and marketing

The large corporations and small business are involved in global trade and marketing. The type of company can be defined by the nature of an organization's involvement and commitment in global trade and marketing.

- Domestic firms are restricted within the border country.
- International firms have the activities of selling goods and services to markets outside their country.
- Multinational corporations involve in a various business activities outside their countries. Multinationals sell in foreign markets but may also produce goods, conduct research, employ local work forces, and develop new products in a number of countries worldwide.

These three types of organizations represent a progression in terms of global commitment by a firm. The international company is a domestic company that operates in foreign markets (Kinneer, et al, 1995).

Entering and operating in the world markets

A company decision to become involved in global marketing occurs in one of two ways. Either someone asks the firm to enter a foreign market or the firm decides for it that the opportunities of worth pursuing in global markets. Also critical for the company, decision to go global, decides on the means to enter foreign markets. There are four major alternatives: exporting, licensing, joint ventures, and direct ownership. The companies will choose the appropriate alternatives that depend on three factors as follows:

1. The strength and the weakness of controls that the company wishes to maintain over its international marketing activities.
2. The details of commitment and agreements it wishes to make to international marketing.
3. The amount of risk it is willing to incur.

(Kinneer, et al, 1995).

In Table A 4.1 compares each of the four operating methods on these three factors.

Table A 4.1

The Comparison of global operation methods.

No.	Method of Operation	Control	Commitment	Risk
1.	Exporting	Low	Low	Low
2.	Licensing	Low to moderate	Low to moderate	Low
3.	Joint venture	Moderate to high	Moderate to high	Moderate
4.	Direct ownership	High	High	High

Source : Thomas C. Kinnear, Kenneth L. Bernhardt, and Kathleen H. Krentler, 1995.

Exporting

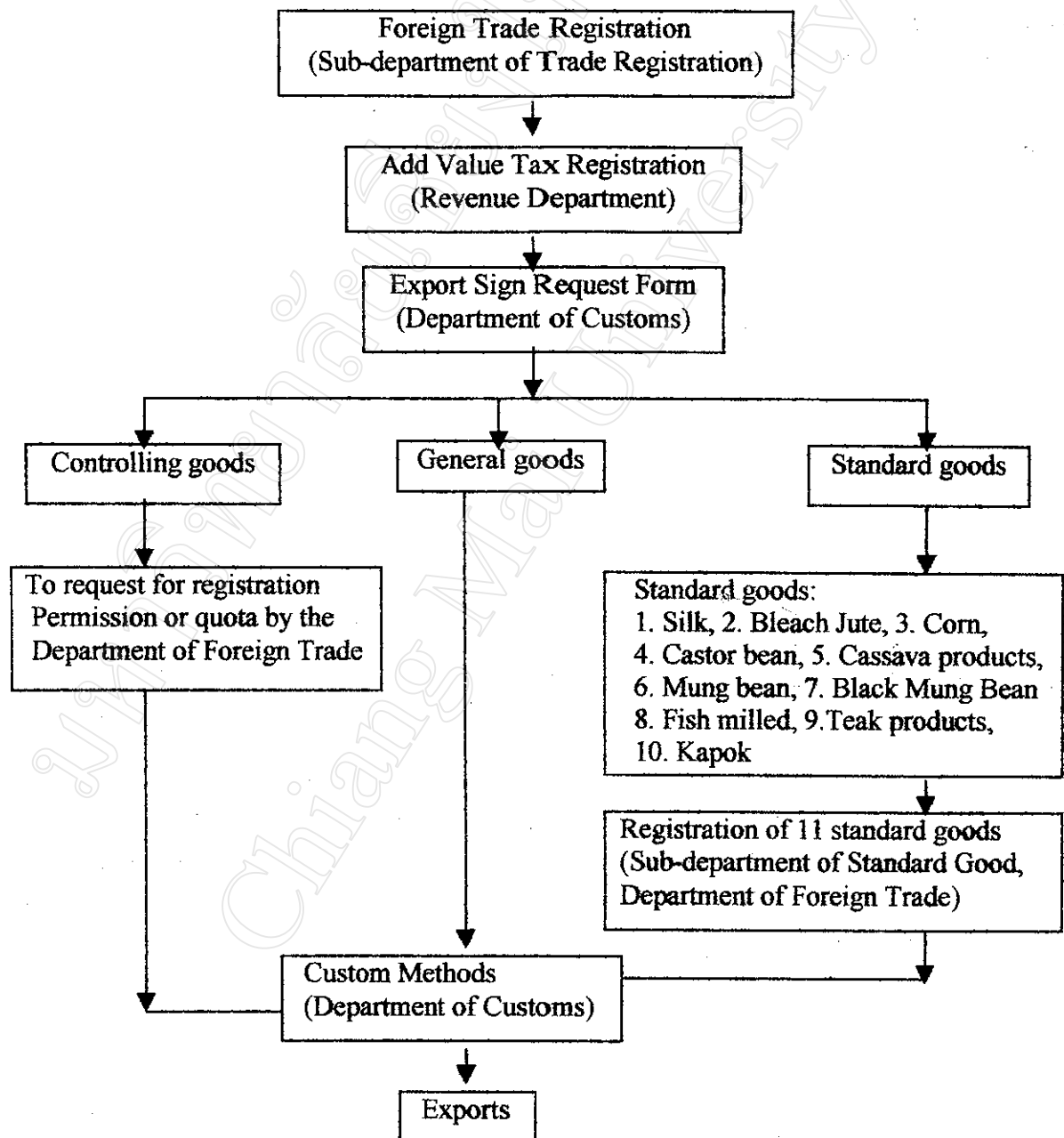
Exporting is selling the products to the different countries that have been produced in one country. Exporting can be accomplished either directly or through intermediaries. The intermediary thus assumes the responsibility for identifying target markets and for all other marketing activities required in the foreign market (Kinnear, et al, 1995).

For Thai orchid business companies, they export the orchid flowers to many countries directly to the importers in the foreign countries that have some details as following.

A 4.2 The Exports Procedures of Thai Orchids

The exporters should know the general information of foreign trade as follows (Department of Business Economics, 1997, Thailand).

Figure A 4.1: The procedures for Exports.



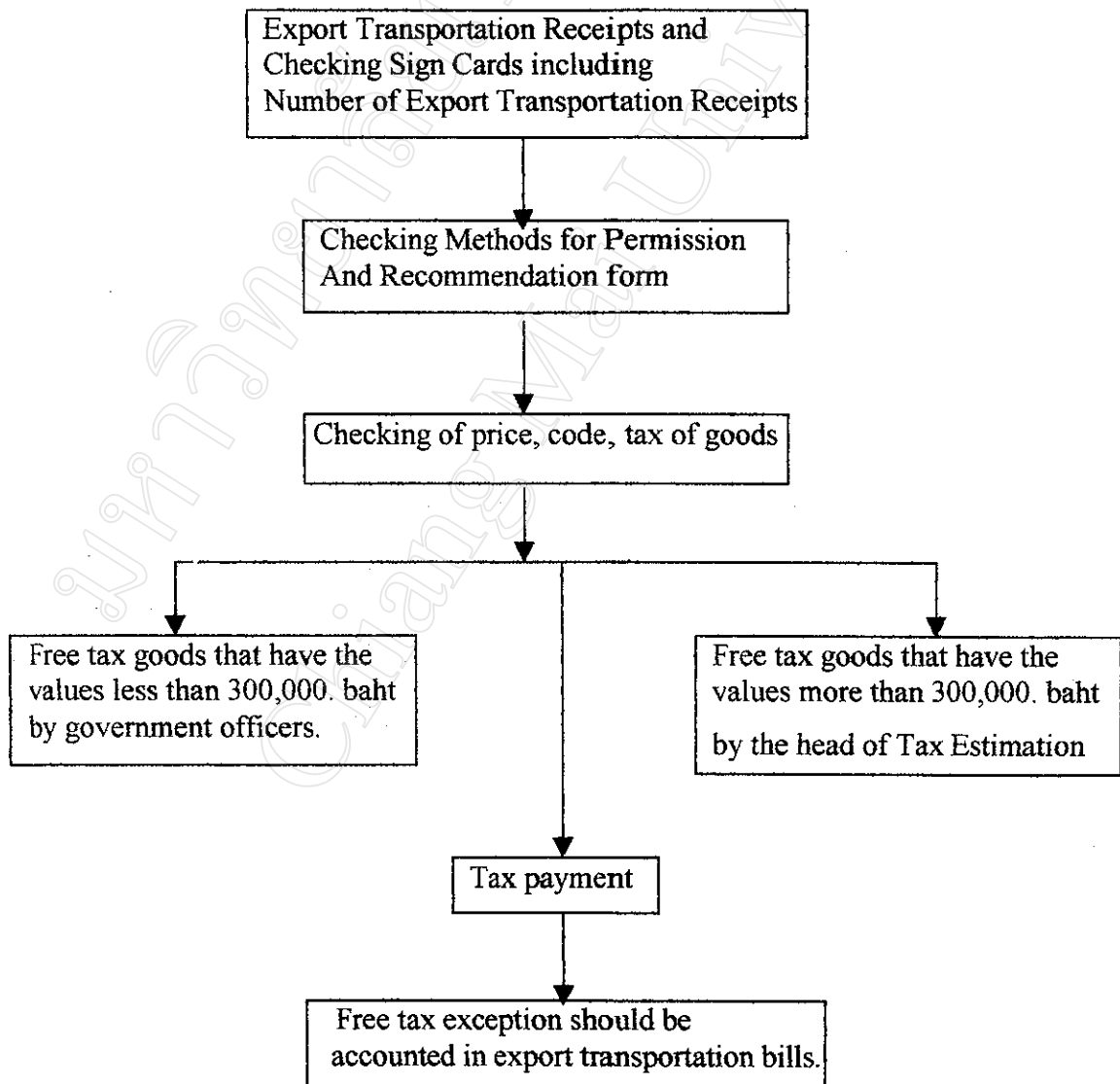
Source : Department of Business Economics, Thailand, 1997.

For Thai orchid exports are provided in general goods (the goods that not provided in the standard goods), for the general countries in the world. The exception of the importing countries in Europe have regulated that orchid flowers are the controlling goods (the goods that are provided by each countries or zone).

Before exports, the exporters should do the following methods at Department of Customs.

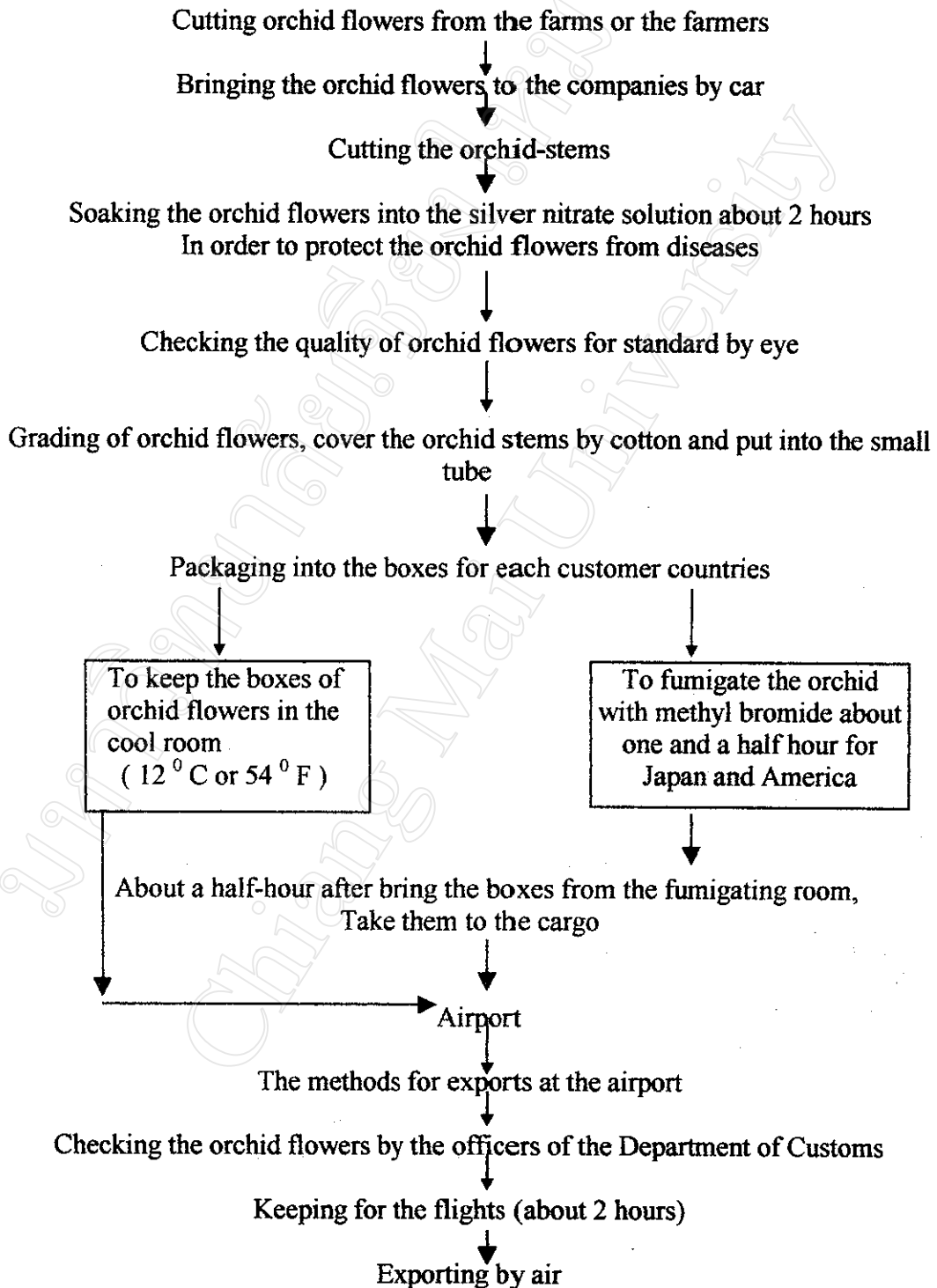
Procedures of Exports

Figure A 4.2 : The procedures of Exports



Source : Department of Business Economics, Thailand, 1997.

Figure A 4.3 : The procedure for Thai orchids exports



Source : Subdivision of Agricultural Business Research, Faculty of Economics, Kasetsart University, 1998.

The information for exports

The good suggestion and some details by Department of Business Economics are as following.

The exporters should consider the 6 most important things in order to get success of exports.

1. The exporters, themselves
2. Goods
3. An agreement
4. Markets
5. Term of payment
6. Export methods

The first part, the exporters should concern about the markets, goods, and then should consider the agreements, terms of payment, and custom methods.

The details of each step of export methods

1. Management

The exporters should study and prepare these following aspects of exports very well.

- Capital requirement
- Land, building, tools, and objectives of the business
- Having credit and making the confidence with the customers
- The ability of the export products including the quality and standard of the products

2. Good selection and Production

- Good selection by studying of new, interesting goods in the details of rules, constraints, quota, and prerogative in the customer countries.
- Resource and supply should have power in producing the products for exports.

- The exporters should study the problems of producing, distribution, and exporting.

- The exporters should understand how to set prices very well by considering the expenditure, the competitive condition in the world markets. The export prices should be lower than domestic prices of the commodities, because they can sell in a large amount of commodities and some exception taxes.

Almost all of the export prices have exchanged in US. Dollars, that provide some conditions as following.

Topic	The Meaning
1. F.O.B. (Free on Board)	This export prices include the total expenditure of commodities Exports, not transportation cost and insurance of the commodities, That the customers should pay for them.
2. F&F or CNF	This export prices equal F.O.B. plus freight (transportation costs) From the export countries to the customer countries.
3. CIF (Cost, Insurance and Freight)	This prices equal C&F including premium and insurance.

- The exporters should control quality standard of the products and standardization in order to make confidences in customer countries and can increase the market shares.

- The exporters should have researches and technology development of the commodities in order to reduce the appropriate commodities for customer requirements in each country.

3. Market Selection

Markets can be selected by two ways as follows.

1. Desk Research

Desk research can get the basic data, secondary data, from many places, such as, the office of Trade Consultants, Department of Export Promotion, Broad Trade

Senate, ESCAP. This method has good point in lower expenditure, by gathering the statistical data of exports and imports in 3-5 years ago.

The best analysis of this method should consider the following.

Topic	The objective of the study
1. Population Size	- To know the purchasing power of the population in customer countries.
2. Competitive condition in the export markets.	- To study the market shares of each export country in the markets in order to find the competitive strategies by comparing the weakness and the strong of the competitive countries in each market.
3. Rule and regulation in the export markets.	- To consider the constraints, rule, and regulation of the commodity exports in order to eliminate the export problems.

2. Field Research

This field research has high expenditure to gather the primary data. This method can be done as follows.

- The exporters should go abroad to study by themselves, that make high expenditure, but they can get the best data of the real phenomenon markets, the customer preferences, and direct communication with the customer countries.
- To communicate with the office of Foreign Trade in customer countries that make low expenditure, but only the basic data they can get.

The important of market selection

The exporters should consider the following aspects for market selection.

- Market Size of the good markets by considering the population and purchasing power.
- Political Economic Stability.
- Growth trend by considering the growth trend of imports of each country from the statistical data in 3-5 years later.
- Competition by studying the important competitive countries, market shares, and export promotion of those markets.

- Commodity distribution by studying the distribution practices and the communication system with the customers that is useful for price setting of the commodity exports.

- Legal Requirement, the exporters should understand the rules, regulation, and constraints of import countries.

- Import tax, Quota, and permission.

- Transportation system between the export and import countries.

4. Sale Contract

Sale Contract between the sellers and the buyers has the following methods.

- Performa Invoice is the documents that the sellers purpose the details to the buyers in prices and other conditions for selling the commodities.

- Purchase Orders after the agreements between the sellers and the buyers in Performa Invoice, the buyers will send the Purchase Order to the sellers to confirm the agreements.

- Sale Confirmation is the sale contract that the sellers or the exporters send to the importers to ensure the agreements.

5. Term of Payment

Payment is very important in exports, because it is very long distant between the exporters and the importers. If there have some problems in quality or the delaying of the commodities and the payment problems, there will have more complex problem happening later.

There are several terms of payment in export systems as follows.

- Cash or Advance Payment is the paying method that the importance will give the Bank Draft to the sellers or the exporters first. Later, the commodities will be sent to the importers. This way is good for the exporters, not the importers.

- Open Account: This method is opposite of the first method, that the importers will pay money after they receive the commodities, such as 30 days, 60 days later. It disadvantages for the exporters.

- Consignment is the paying money method that the importers will pay money after they can sell the commodities.

- Document against Payment (D / P): The importers will pay money at their domestic bank, after the bank receives the document from the foreign exporters. Then the importers can bring the document to receive the commodities (the importers can pay money at sight, 30, 60 or 90 days later, depend on the document).

- Document against Acceptance (D / A): This method is similar to D / P, but the importers can pay in cashier check and may not pay money.

- Letter of Credit (L / C) is the best method, because it is good for both the importers and the exporters.

The importers will do the L / C with bank in their countries and the exporters will get money from the bank in exporters' countries, if the condition agreement is correct.

6. Export Methods

This is the last step for export methods that is quite complex. The government policies can help by eliminate some problems and some steps for exports.

Some general documents that use in export methods are following.

1. Exports Transportation Receipt
2. Commodity Price Account (Invoice)
3. Permission Card or Recommendation Card
4. Requisition for Commodity Exports

(Department of Business Economics, 1997, Thailand).

A 4.3 Some Details for Cut Flowers of EU and US.

Quality Standards for Cut Flowers of EU

The details of cut flowers of EU quality standards, regulation 316 / 68 are as follows (CBI, COLEACP, and Protrade, 1996).

Quality requirements

1. Minimum requirement

Produce (cut flowers) must have been carefully cut or picked, according to the species, and have reached an appropriate stage of growth.

2. Classification

Class I

Product (cut flowers) in this class must be of good quality. It must have the characteristics of the species, and where appropriate, of the variety (cultivar).

All parts of the cut flowers must be: Whole, fresh, free of animal or vegetable parasites and damage, free of residues of pesticides and other extraneous matter affecting the appearance, and not bruised.

Class II

This class shall include all produce (cut flowers) which does not meet all the requirements of class I.

All parts of the cut flowers must be: Whole, fresh, free of animal parasites, slight malformation, slight bruising, slight damage caused (for example by disease and by animal parasites), less rigid stems, and small marks caused by treatment with pesticides.

Extra Class

Product (cut flowers) which qualifies for Class I without the aid of any quality tolerance may be marked "Extra". However, this classification may not be used for American carnations with a split calyx.

Sizing

For cut flowers, sizing must comply at least with the following scale:

Code:	Length:
0	less than 5 centimetres or flowers marketed without stems
5	5 – 10 centimetres
10	10 – 15 centimetres
15	15 – 20 centimetres
20	20 – 25 centimetres
30	30 – 40 centimetres
40	40 – 50 centimetres
50	50 – 60 centimetres
60	60 – 80 centimetres
80	80 – 100 centimetres
100	100 - 120 centimetres
120	more than 120 centimetres

These lengths include the flower head.

The difference per unit of presentation (bunch, bouquet, box, and the like) between the maximum and minimum lengths of the flowers in the unit may not exceed:

- 2.5 centimetres for flowers in codes 15 and below;
- 5.0 centimetres for flowers in codes 20 to 50 (inclusive);
- 10.0 centimetres for flowers in codes 60 and above.

Marking

The following particulars must accompany the goods:

Identification:

- Dispatcher or packer: name and address or code mark.

Nature of product (cut flowers):

- Genus;
- Species or variety (cultivar) or colour of flowers;
- Where appropriate, the word Amixture @ (or equivalent term).

Original of product (cut flower):

- Region or origin, or national, regional or local name.

Commercial specification:

- Class
- Size (length code) or minimum and maximum lengths (optional);
- Number or net weight.

Official control mark (optional)

(CBI, COLEACP, and Protrade, 1996).

A 4.4 The problems for Thai orchid exports into Italy

Europe markets are quite important for Thai orchid export, the top-second importing country of Thai orchid export (Japan is the top-first country). The fluctuations of Thai orchid export values in some years are caused from the following problems (Subdivision of General Goods 1, 1997).

1. GSP problem
2. Competitive countries
3. Plant quarantine (Insect and Disease)

GSP problem

Due to the new GSP for agricultural goods of European Union Plan on June 20, 1996, to change the GSP structure, such as cancellation of GSP quota by tax reduction. The new GSP has the principles of tax reduction for agricultural goods by the sensitiveness of the products. These agricultural products can be divided into 4 groups as follows.

1. Very- Sensitive agricultural products, 15 % for tax reduction.

2. Semi-Sensitive agricultural products, 65 % for tax reduction.

3. Non-Sensitive agricultural products, 100 % for tax reduction.

The orchid flower is also changed for GSP quota by 50 % for tax reduction on January 1, 1997; and will cancel the GSP to 100 % for tax payment on January 1, 1999.

Thai orchid exporters begin to pay for export tax and GSP 50 % on January 1, 1997 as following.

1. During the months of November to May, orchid is the Very-Sensitive agricultural products, 15 % for tax reduction, and 50 % for GSP quota for franchise. The exporters must pay the tax about 92.5 %, 85 % for normal tax plus 7.5 % (50 % GSP of 15 % tax). The tax rates that provides by WTO (World Trade Organization) Section 1-A Tariff of agricultural products, 1995-2000, equal 17.0-8.5 %.

2. During June to October, orchid is in Semi-Sensitive agricultural products, 65 % for tax reduction. Thai orchid exporters pay 35 % for normal tax, plus 32.5 % (50 % GSP of 65 % tax) that the total tax equal 67.5 %. The tax rates equal 24-12 % that provides by WTO Section 1-A Tariffs of agricultural products in 1995-2000. This GSP problem may raise the competitiveness levels for Thai orchid exports, because some competitive countries of Thai orchid exports can get 100 % GSP, 50 % GSP, and free tax for orchid exports to European countries as following.

Competitive country problem

The major competitive countries of Thai orchid exports can be divided into 2 groups.

1. The most important competitive countries are in ANDEAN, Central American and ACP (Africans Caribbean Pacific). These countries can get free tax for orchid exports to Europe, such as Colombia, Kenya, Zimbabwe, and Ecuador.

2. The important competitive countries for Thai orchid exports that can get 50 % GSP reduction the same as Thailand are Morocco, South Africa, Malaysia and Singapore.

Plant quarantine problem

European countries have strong rules for plant quarantine. This causes the serious problem for Thai orchid exporters. If they found the insects in Thai orchid flowers, they will destroy or burn all orchid flowers in that shipment. This happens occur many times in Netherlands, Spain, Germany, France and England, that induce a big lost for Thai orchid exporters.

The details for plant quarantine for exporting to Italy are as follows.

1. Protection Rule for living plants and flowers quarantine on January 31, 1996. This rule forbids importing the living plants and flowers with insects and diseases.

2. The exporting countries that export orchid flowers to Italy must have the plant quarantine certificate from the government office of their countries.

3. The Ministry of Agriculture in Italy will check every shipment of orchid flowers. If they found the insects that never found in Italy, they will destroy all orchid flowers immediately.

4. The orchid flowers that import from European countries must have Plant passports for insects and diseases quarantine.

5. Every exporting country in European countries must register for the member list with the government office in Italy. If they found the lower standard products, they will declare the name of that company to the member countries of Europe.

(Subdivision of General Goods 1, 1997).

A 4.5 Some Information for Exporting to US

Principal Exporting Countries

The following listing includes samples of the main supplier nations of the products that are organized by HTSUS major heading. Countries are listed in rank order of the value of products imported to the U.S. Statistics represent customs value entries for 1993 from the Bureau of Census, U.S. Department of Commerce.

0601: Netherlands, Israel, Canada, United Kingdom, South Africa, Belgium, Japan, New Zealand, Panama, Turkey

0602: Canada, Costa Rica, Netherlands, Guatemala, Mexico, Taiwan, **Thailand**, Honduras, India, Dominican Rep.

0603: Colombia, Netherlands, Ecuador, Mexico, Costa Rica, Guatemala, Canada, **Thailand** (including cut orchids), Australia, France

0604: Canada, Mexico, China, Italy, Costa Rica, Philippines, India, Netherlands, Guatemala, and Australia
(Hinkelman et. al, 1996).

Marketing U.S. products and services

There have details of U.S. markets and the information for Thai orchid exporters as follows (American Business Information Center, 1997).

Distribution and sales channels

The general contract law under the Thailand Civil and Commercial Code governs agreements between foreign suppliers and local agents and distributors. The relationship between the two parties is basically a buyer-seller relationship under a sale of good contract. Under the Thai Revenue Code, this arrangement avoids any tax liability for the suppliers. Importers must obtain licenses for products (orchid flowers). It is the responsibility of the local agent or distributor to apply for any necessary licenses.

New market entrants should appoint an established agent / distributor with good local contracts, market expertise and technical know-how. Thai orchid exporters must invest sufficient time and attention in selecting a qualified agent and providing training for marketing and technical support staff. Frequent contact with local representatives is critical, especially at the outset, in order to build a good working relationship based on shared values and objectives and to make sure there are no misunderstandings or communications problems.

(American Business Information Center, 1997).

The U.S. Commercial Service and the Foreign Agricultural Service at the American Embassy in Bangkok can provide valuable assistance in locating potential representatives and acquiring preliminary market data. Staff at both offices can help

Thai orchid export companies identify agents and distributors well placed in this industry sectors, and they also know many reputable local consultants who are qualified to design market entry strategies and to identify local business partners. (Hinkelman et. al, 1996).

Relevant Government Agencies of U.S.

Address questions regarding the importation of live plants, roots, and cut flowers, or requests for permit applications (Hinkelman et. al, 1996), to:

U.S. Department of Agriculture (USDA)
Animal and Plant Health Inspection Service (APHIS)
Plant Protection and Quarantine (PPQ)

Federal Building, Rm. 631
 6505 Belcrest Road
 Hyattsville, MD 20782
 (301) 436-8645

Address the questions regarding endangered species restrictions to:

U.S. Fish and Wildlife Service (FWS)

Office of Management Authority

4401 N. Fairfax Drive
 Arlington, VA 22203
 (703) 358-2095
 (800) 358-2104, (703) 358-2104 (Permit office)

Address questions regarding the importation of live plants, roots, and cut flowers (orchids), especially those regarding antidumping and countervailing duty rates on cut flowers (orchids) to the district or port director of Customs for that area, contact to:

U.S. Customs Service**1301 Constitution Ave. NW**

Washington, DC 20229

(202) 927-6724 (Information)

(202) 927-1000 (General)

Laws and Regulations of U.S.

The following laws and regulations may be relevant to the importation of live plants, roots, and cut flowers (orchids). The laws are contained in the U.S. Code (USC) and the regulations are published in the Code of Federal Regulations (CFR), both of which may be available at larger public and law libraries.

42 USC 264 et seq.**The Plant Quarantine Act**

This Act gives the Plant Protection and Quarantine branch of the USDA authority to restrict or prohibit importation of plants or their seeds found to carry specific plant pests and pathogens.

7 USC 147 et seq.**Federal Plant Pest Act (FPPA)**

This Act prohibits the importation into or movement through the U.S. of plant pests as defined in the Act, and provides for the inspection of any letter, box, parcel, or container that may carry a plant pest. Inspection is to be performed by U.S. Department of Agriculture in conjunction with Customs.

7 CFR Part 351**Regulations for Entry and Inspection of Plants by Mail**

These regulations set forth the plant imports that are prohibited, the requirements for entering restricted plants by mail, and the inspection procedures followed by the USDA's Animal and Plant Health Inspection Service (APHIS).

19 CFR 12.10 et seq.**Regulations for Entry and Release of Restricted Plants**

These regulations prescribe the procedures followed by U.S. Customs to enforce the USDA requirements for importation of plants.

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

This comprehensive wildlife treaty signed by over 100 countries, including the United States, regulates and in many cases prohibits commercial imports and exports of wild animal and plant species threatened by trade.

16 USC 1531**Endangered Species Act**

This Act prohibits the import and export of species listed as endangered and most species listed as threatened. It is the U.S. law that implements CITES. (Hinkelman et. al, 1996).

APPENDIX V

Table A 5.1 : Import values and quantities and average prices of orchid flowers of Italy in 1992-1997.

Year	1992				1993				1994				1995				1996				1997			
	Import values (1,000 ECU)	Import quantity (no.)	Avg. Price ECU/Items		Import values (1,000 ECU)	Import quantity (no.)	Avg. Price ECU/Items		Import values (1,000 ECU)	Import quantity (no.)	Avg. Price ECU/Items		Import values (1,000 ECU)	Import quantity (no.)	Avg. Price ECU/Items		Import values (1,000 ECU)	Import quantity (no.)	Avg. Price ECU/Items		Import values (1,000 ECU)	Import quantity (no.)	Avg. Price ECU/Items	
Thailand	15,214	69740000	0.2182		13,008	62926120	0.2067		12,317	61045397	0.2018		12,348	59248468	0.2084		12,185	59479996	0.2049		11,158	58976196	0.1892	
Netherlands	647	566,090	1.1431		10,369	10880455	0.9530		8,717	6915725	1.2605		7,247	5763712	1.2573		7,502	8258096	0.9084		6,248	7489344	0.8343	
New Zealand	506	904,000	0.5597		525	564,571	0.9299		578	839,258	0.6887		517	657,288	0.7866		639	786,674	0.8123		619	778,155	0.7954	
Singapore	596	1,125,000	0.5288		480	749,777	0.6135		363	497,000	0.7304		253	401,267	0.6305		171	223,286	0.7658		117	153,185	0.7638	
South Africa	114	455,000	0.2505		55	126,820	0.4337		98	204,080	0.4802		118	175,560	0.6721		37	34,972	1.0580		57	71,318	0.7992	
Australia	66	131,000	0.5038		15	20,909	0.7174		37	35,495	1.0424		29	55,090	0.5264		28	48,451	0.5779		21	15,832	1.3264	
Brazil	24	13,000	1.8462		13	6,260	2.0767		0	0	-		5	21,600	0.2315		1	94	10.6383		5	2,410	2.0747	
Malaysia	23	69,000	0.3333		25	81,436	0.3070		0	0	-		1	960	1.0417		1	1,430	0.6993		57	86,408	0.6597	
United States	27	93,000	0.2903		13	53,541	0.2428		14	53,865	0.2599		5	13,935	0.3588		6	56,311	0.1066		9	64,108	0.1404	
France	63	104,000	0.6058		6	10,329	0.5809		1	1,403	0.7128		2	6,720	0.2976		49	73,395	0.6676		1	890	1.1236	
Germany	7	9,000	0.7778		7	25,780	0.2715		11	15,900	0.6918		15	440,410	0.0941		8	37,960	0.2107		87	57,790	1.5055	
Mauritius	4	13,000	0.3077		15	60,362	0.2485		28	80,360	0.3484		1	4,180	0.2392		3	5,950	0.5042		4	2,950	1.3559	
Portugal	2	4,000	0.5		6	2,980	2.0134		12	11,399	1.0527		11	38,451	0.2861		18	46,818	0.3845		17	72,410	0.2348	

Philippines	2	12,000	0.1667	0	0	-	4	51,201	0.0781	0	0	-	0	0	0	2	1,500	1.3333
Colombia	0	0	-	1	10,965	0.0912	3	17,500	0.1714	18	65,502	0.2748	15	25,440	0.5896	10	36,790	0.2718
Zimbabwe	0	0	-	0	0	-	0	0	-	1	2,500	0.4	0	0	-	1	6,940	0.1441
Ecuador	0	0	-	0	0	-	4	10,280	0.3891	49	179,246	0.2734	10	26,080	0.3834	4	31,410	0.1273
Hong Kong	0	0	-	0	0	-	0	0	-	1	1,050	0.9524	7	37,395	0.1872	4	33,661	0.1188
Bulgaria	11	51,000	0.2157	1	12,040	0.0831	0	0	-	0	6,600	0	0	0	-	0	0	-
Morocco	2	7,000	0.2857	0	0	-	0	0	-	7	36,083	0.1940	0	0	-	0	0	-
Egypt	1	10,000	0.1	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-
Kenya	3	16,000	0.1875	0	0	-	1	9,940	0.1006	0	0	-	0	0	-	0	0	-
Costa Rica	9	30,000	0.3	1	2,080	0.4808	0	0	-	0	0	-	0	0	-	0	0	-
Panama	8	13,000	0.6154	6	9,240	0.6494	0	0	-	0	0	-	0	0	-	0	0	-
Trinidad And Tobac.	2	4,000	0.5	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-
Peru	2	8,000	0.25	0	0	-	0	0	-	0	0	-	2	588	3.4014	0	0	-
Cyprus	2	5,000	0.4	0	0	-	0	0	-	2	16,285	0.1228	0	0	-	0	0	-
Syria	1	4,000	0.25	0	0	-	0	0	-	3	29,430	0.1019	0	0	-	0	0	-
Indonesia	6	37,000	0.1622	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-
Brunel	2	4,000	0.5	0	0	-	0	0	-	0	0	-	0	0	-	0	0	-
ACP (70)	10	33,000	0.3030	15	60,362	0.2485	31	96,448	0.3214	2	6,680	0.2994	3	5,950	0.5042	0	0	-
Belgium And Lux.	0	0	-	3	8,175	0.3670	0	108	0	0	48	0	0	0	-	0	0	-
Tunisia	0	0	-	2	5,025	0.3980	0	0	-	0	0	-	0	0	-	0	0	-
Taiwan	0	0	-	2	6,500	0.3077	1	7,191	0.1391	0	0	-	0	0	-	0	0	-
Denmark	0	0	-	0	10	0	0	0	-	0	0	-	0	0	-	0	0	-

Table A 5.2 : Import quantities and values and average prices of orchid flowers (*Dendrobium spp.*) of USA. in 1993-1997.

No.	Country	1993			1994			1995			1996			1997		
		Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)
1.	Canada	0	0	-	0	0	-	0	0	-	6	1,563	3.839	0	0	-
2.	Mexico	1	5,164	0.194	0	0	-	0	0	-	0	0	-	0	0	-
3.	Costa Rica	13	34,415	0.378	12	23,660	0.507	21	42,005	0.450	15	76,835	0.195	5	42,720	0.117
4.	Panama	2	3,000	0.667	0	0	-	0	0	-	0	0	-	0	0	-
5.	Jamaica	0	0	-	23	44,611	0.516	45	88,030	0.511	37	72,925	0.507	0	0	-
6.	Haiti	3	12,091	0.248	0	0	-	0	0	-	0	0	-	5	52,760	0.095
7.	St Vincent and Grenadines	0	0	-	1	2,600	0.385	0	0	-	0	0	-	0	0	-
8.	Trinidad and Tobago	44	89,095	0.494	6	12,020	0.499	9	21,030	0.428	6	5,790	1.036	0	0	-
9.	Netherlands	2	3,110	0.643	6	22,952	0.261	12	0,358	33,520	115	384,474	0.299	0	0	-
10.	France	0	0	-	0	0	-	0	0	-	0	0	-	2	0.800	2.500
11.	Italy	0	0	-	0	0	-	0	0	-	18	35,297	0.510	3	1,100	2.727
12.	India	0	0	-	0	0	-	0	0	-	3	8,410	0.357	3	5,870	0.511
13.	Thailand	4161	13748.4	0.303	4216	16407.1	0.257	4434	15499.1	0.286	4624	27743.1	0.167	4741	29093.6	0.163
14.	Singapore	23	54,498	0.422	82	289,019	0.284	265	243,393	1.080	78	77,505	1.006	35	67,305	0.520
15.	China (Taiwan)	3	92,000	0.033	0	0	-	0	0	-	0	0	-	0	0	-
16.	Japan	5	2,070	2.416	0	0	-	0	0	-	0	0	-	0	0	-
17.	New Zealand	0	0	-	21	37,142	0.565	26	30,435	0.854	5	0,909	5.501	4	1,517	2.637
18.	Zimbabwe	0	0	-	0	0	-	0	0	-	6	24,300	0.247	0	0	-
	World	4257	14043.8	0.303	4369	16839.1	0.260	4811	15926.3	0.302	4913	28431.1	0.173	4797	29265.7	0.164

Source : American Business Information Center, Thailand, 1993-1997.

Table A 5.3 : Import values and quantities and average prices of orchid flowers (except Dendrobium) of USA. in 1993-1997.

No.	Country	1993			1994			1995			1996			1997		
		Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)	Import Value (C.i.f.) (1,000)	Import Quantity (no.) (1,000)	Avg. Price (\$ / stem)
1.	Canada	0	0	-	7	20,427	0.343	12	12,283	0.977	37	27,512	1.345	6	3,934	1.525
2.	Mexico	0	0	-	0	0	-	7	4,312	1.623	3	11,098	0.270	4	1,580	2.532
3.	Costa Rica	68	159,520	0.428	212	433,496	0.489	216	464,485	0.465	219	575,275	0.381	252	764,615	0.330
4.	Panama	6	6,720	0.893	14	16,260	0.861	0	0	-	3	3,000	1.000	2	2,100	0.952
5.	Jamaica	0	0	-	0	0	-	0	0	-	2	0,059	33.898	3	3,380	0.888
6.	Dominican Republic	0	0	-	0	0	-	0	0	-	0	0	-	2	1,000	2.000
7.	Trinidad and Tobago	0	0	-	3	10,297	0.291	6	19,714	0.304	4	10,430	0.384	0	0	-
8.	Colombia	49	113,359	0.432	17	32,534	0.523	7	4,900	1.429	56	60,772	0.922	6	23,604	0.254
9.	Ecuador	0	0	-	0	0	-	2	12,075	0.166	0	0	-	0	0	-
10.	Peru	0	0	-	0	0	-	0	0	-	0	0	-	2	8,066	0.248
11.	Netherlands	536	1779.14	0.301	521	1489.60	0.350	564	1675.68	0.337	389	1090.08	0.357	542	1404.94	0.386
12.	France	0	0	-	9	2,240	4.018	0	0	-	0	0	-	0	0	-
13.	Germany	0	0	-	3	0.360	8.333	0	0	-	0	0	-	0	0	-
14.	Portugal	0	0	-	5	9,000	0.556	2	4,500	0.444	0	0	-	0	0	-
15.	Italy	12	3,500	3.429	0	0	-	0	0	-	0	0	-	0	0	-
16.	Israel	0	0	-	5	0.400	12.50	0	0	-	3	6,000	0.500	0	0	-
17.	India	0	0	-	0	0	-	0	0	-	3	1,930	1.554	0	0	-
18.	Thailand	1466	3661.44	0.400	1621	3968.69	0.409	1756	3162.88	0.555	1506	3931.53	0.384	938	2263.19	0.415

19.	Singapore	1	5.791	0.173	0	0	-	9	73.520	0.122	16	15.525	1.031	5	4.225	1.183
20.	Korea, Republic of	39	13.140	2.968	0	0	-	0	0	-	5	1.050	4.762	0	0	-
21.	China (Taiwan)	2	0.500	4.00	0	0	-	0	0	-	0	0	-	23	5.040	4.564
22.	Australia	58	65.119	0.891	50	66.381	0.753	65	31.953	2.034	68	68.991	0.986	66	67.116	0.983
23.	New Zealand	272	421.775	0.645	287	316.801	0.906	312	567.184	0.550	344	613.658	0.561	216	312.729	0.691
24.	Mauritius	0	0	-	0	0	-	0	0	-	3	4.080	0.735	0	0	-
25.	Republic of South Africa	3	2.000	1.500	7	1.980	3.535	7	0.130	53.846	0	0	-	0	0	-
26.	Namibia	0	0	-	0	0	-	0	0	-	2	2.704	0.740	0	0	-
	World	2513	6232	0.403	2760	6368.47	0.433	2966	6033.62	0.492	2664	6423.70	0.415	2067	4864.52	0.425

Source : American Business Information Center, Thailand, 1993-1997.

CURRICULUM VITAE

Name : Pattana Youpensuk

Date of birth : September 26, 1956

Place of birth : Sukhothai, Thailand.

Education background :

1976 – 1980 B. Sc. Agriculture
Faculty of Agriculture, Kasetsart University
Bangkok, Thailand.

1995 – 2000 M.S. Agriculture (Agricultural Systems)
Faculty of Agriculture, Chiang Mai University
Chiang Mai, Thailand.

Work experience :

1980 – 1981 Teacher
Khamphangphet Agricultural College
Khamphangphet, Thailand.

1981 – 1982 Country Development Foundation
Bangkok, Thailand.

1982 - present Rajamangala Institute of Technology
Pitsanulok Campus, Pitsanulok, Thailand.

Home address :

63 Moo 2, Tanote Subdistrict,
Keereemart District, Sukhothai 64160,
Thailand.

Tel. (055) 627090.