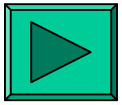
»» slide show - introduction



2002 & 2003 Hybrids

Reticulata Iris - Creating A Rainbow

Alan McMurtrie
www.Reticulatas.com

Outline

The Species

The Hybrids

About Reticulatas

How To Hybridize

Hybridizing Goals

Results: 20 Years and Counting

Understanding The Results

Dutch Connection

Cultivation Suggestions

Facts

Bloom starts just as the snow disappears
Last for 3 weeks
Individual flowers last 3 to 7 days
Some clones are early, and a few are late
For additional bloom, plant some where the snow is last to leave
6.5-12 cm tall (2½-4½ inches)
4-10 cm in diameter (1½-4 inches) [3.5-8.5 cm tip-to-tip]
Square to octagonal leaves
Leaves grow 45 to 60 cm (18 to 24 inches) after flowers bloom
Some varieties perform well, others don't
Variety with the best scent is Jeannine

Ink spot develops at end of growing season
Pests: slugs [re: flowers], hares (Holland), small animals [re: bulbs]

50,000,000 bulbs are sold annually

Species

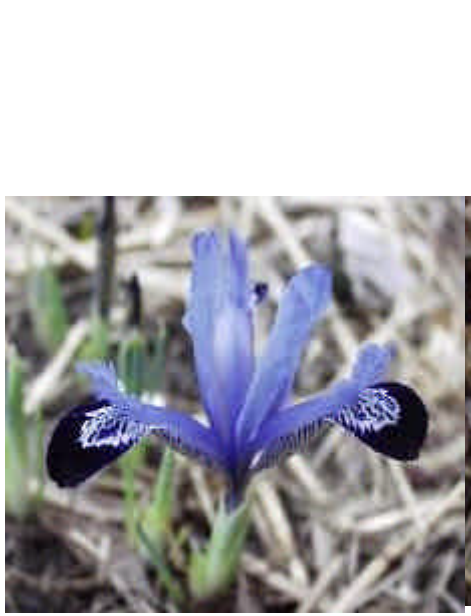
2n = 20	
bakeriana	Blue bicolor with velvety dark blue fall blade, and orange pollen. Leaf cross section is octagonal.
hyrcana	Blue with white pollen
histrio	Pale blue with darker spots and white pollen
reticulata	Variable colour. Wild collected forms have olive, orange, or yellow pollen
pamphylica	Brown and blue with orange pollen. Only crosses with itself
vartanii	Blue, occasionally white, with white pollen. Tender
kolpakowskiana	Blue, purple & white, with white pollen. Distinct from other Retics
winklerii	Blue, purple & white, with white pollen. Description speaks of cherry red
2n = 16	✍ Produce large bulblets
histrioides	Blue with large flower parts and white pollen
winogradowii	Pale yellow with white pollen. (Different chromosomes from *histrioides*)
2n = 18	✍ Produce bulblets
Çat species	Purple with white pollen. Yellow or orange ridge on fall.
danfordiae (diploid)	Lemon yellow flowers with green spots. White pollen. The commercial form is a triploid (3n = 27) and therefore sterile.
sophenensis	Blue with white pollen

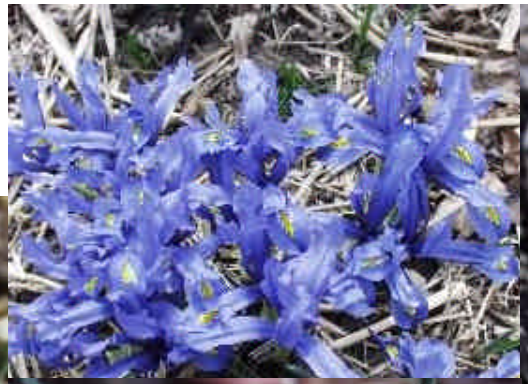
<u>"In The Wild"</u>

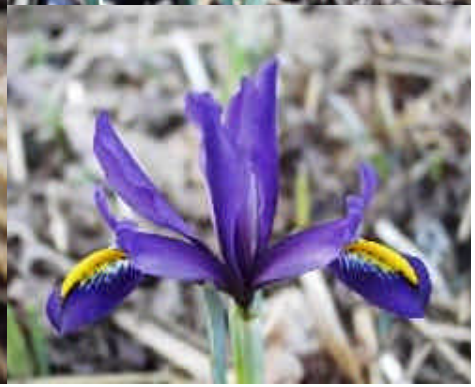
Species 2n = 20

2n = 20

bakeriana	Turkey [and Iran]. Mathew suggests forms in Iran look similar to *reticulata*
hyrcana	Georgia. This may simply be a form of Iris *reticulata*
histrio	Syria. Slightly tender
reticulata	Turkey, Georgia, Iran, Iraq. The forms we know of are only the tip of the iceberg. The richest untapped area is Iran. Not all forms have narrow flower parts.





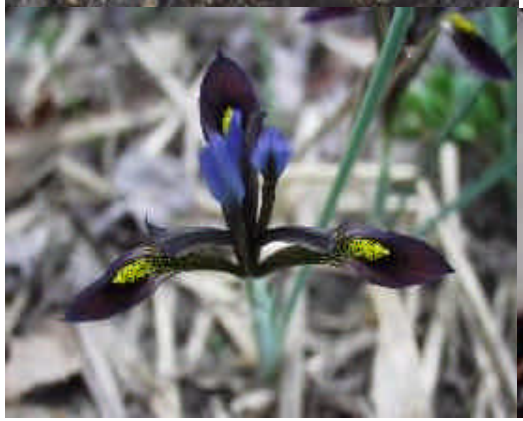
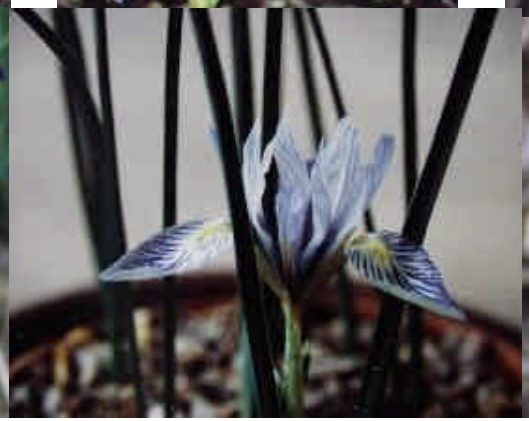



Species - Misc

2n = 20

pamphylica	Turkey. Nice but not showy because of its dark colours and the fact its leaves are well up when it blooms.
vartanii	Israel. No longer grown commercially in Holland.
kolpakowskiana	Central Asia. Foothills of north and western Tien Shan mountains
winklerii	Central Asia. Seems to be quite like *kolpakowskiana*. Still very much a mystery plant. Collected in 1997 by Janis Ruksans & Arnis Seimens.



Species 2n = 16

2n = 16 ✍ Produce large bulblets

histrioides Turkey. Mid season

winogradowii Georgia from Alpine Meadows. Needs a bit of moisture in the summer. Late season

Species 2n = 18

2n = 18 ✍ Produce bulblets

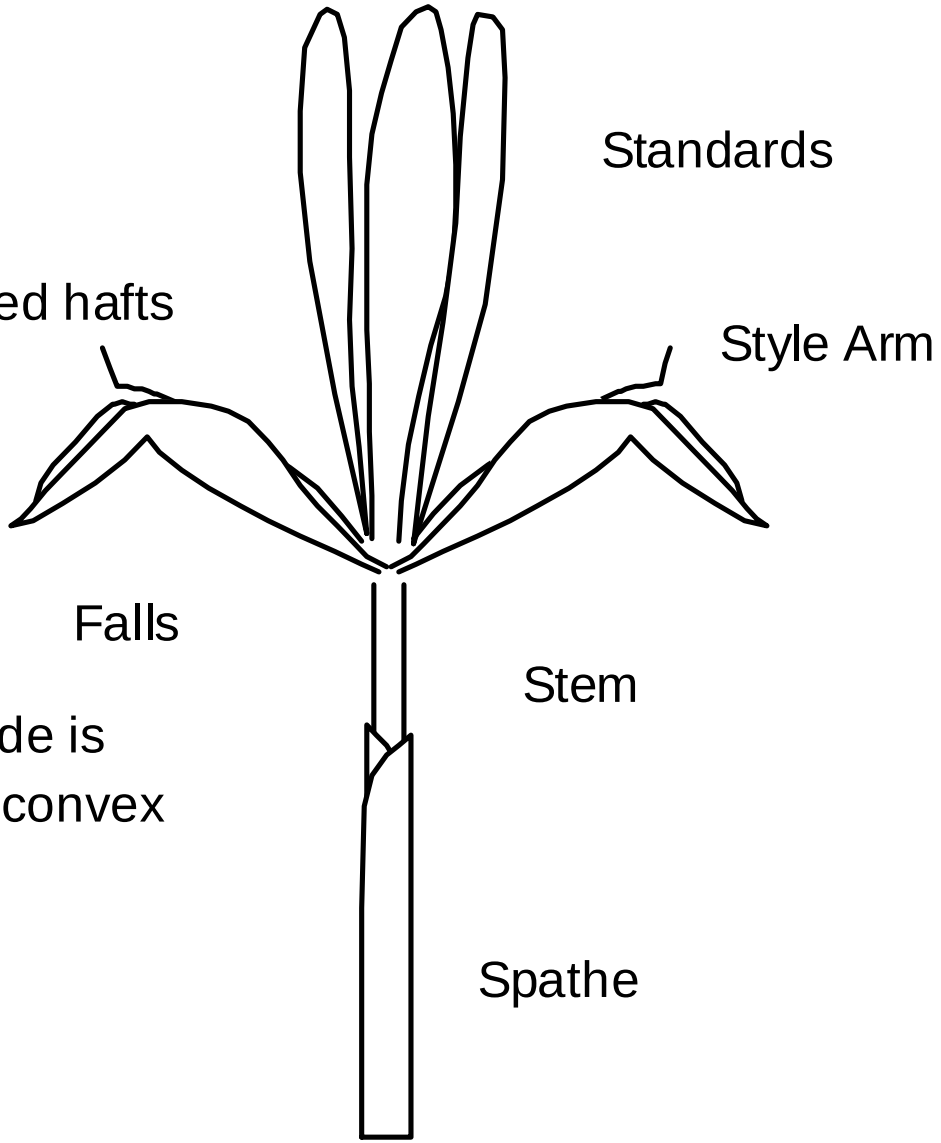
Çat species	Turkey. Small flowers
danfordiae	Turkey. Standards have been reduced to a short bristle. Can have small
(diploid)	flowers. Early season.
sophenensis	Turkey. Mid seasom.

Hybrids Available Commercially

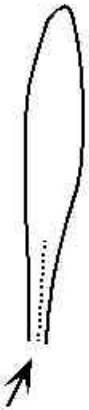
Name	Overall Colour	Registered	By	Pod Parent	Pollen Parent	Sterile Or Fertile	Pollen Colour*
'Alida'	light blue	199?	?	sport of 'Harmony'		sterile	?
'Blue Veil'	blue	1955	C.J.H. Hoog	*reticulata*	*histrioides* 'Major'	sterile	yellow
'Cantab'	light blue	1914	E.A. Bowles	?	?	fertile	orange
'Clairette'	blue	<1953	C.J.H. Hoog	*reticulata*	*bakeriana*	fertile	orange
'Edward'	blue	1973	William van Eeden	'Cantab'	?	fertile	yellow
'Frank Elder'	blue & pale yellow	<1978	Mr & Mrs H.F.D. Elder	*histrioides* 'Major'	*winogradowii*	sterile	white
'George'	dark wine red	1973	William van Eeden	*histrioides* 'Major'	'J.S. Dijt'	sterile	yellow
'Gordon'	blue	1971	William van Eeden	*bakeriana*	'Cantab'	fertile	orange
'Harmony'	blue	?	C.J.H. Hoog	*reticulata*	*histrioides* 'Major'	sterile	yellow
'Hercules'	"red black"	<1933	A. Van Der Berg Gzn	*histrioides*	*reticulata*	poor	yellow
'Ida'	blue	1973	William van Eeden	'Gordon'?	?	fertile	orange
'J.S. Dijt'	wine red	<1938	J.S.Dijt	(supposedly *reticulata* x *histrioides*)		fertile	yellow
'Jeannine'	violet	1958	Van Tubergen	?	?	fertile	yellow
'Joyce'	blue	<1943	C.J.H. Hoog	*reticulata*	*histrioides* 'Major'	sterile	yellow
'Katharine Hodgkin'	blue & pale yellow	1960	E.B. Anderson	*histrioides* 'Major'	*winogradowii*	sterile	white
'Marguerita'	blue	199?	?	sport of 'Clairette' with variegated leaves		fertile	?
'Michael'	dark blue	1973	William van Eeden	'Springtime'?	?	fertile	orange
'Natascha'	almost white	1973	William van Eeden	'Cantab'	self	fertile	orange
'Pauline'	wine red	<1953	C.J.H. Hoog	*reticulata*	*bakeriana*	fertile	orange
'Pixie'	dark blue	199?	?	Sport of 'Harmony'		sterile	?
'Purple Gem'	wine red	1952	Van Tubergen	*bakeriana*	?	fertile	orange
'Royal Blue'	blue	<1936	Miss A.L. Hutley	?	?	sterile	yellow
'Springtime'	blue	1950	C.J.H. Hoog	*reticulata*	*bakeriana*	fertile	orange
'Violet Beauty'	violet	<1953	C.J.H. Hoog	*reticulata*	*histrioides* 'Major'	sterile	yellow

* Pollen colour can be separated into essentially three groups: white, orange/yellow and olive green. There is a clear tendency for parents with white pollen crossed with orange ones to give progeny with somewhat yellow pollen; a diluting effect so-to-speak. Note: some sterile varieties have essentially no pollen (i.e. no complete pollen grains). In these cases the colour is of the pollen grain "garbage".

Profile


Standards
Semi-winged hafts
Style Arm
Ridge
Falls
Stem
Fall blade is
slightly convex
Spathe

Flower Parts

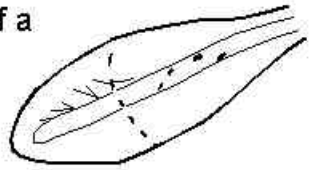


On a few standards there is dull yellow stripe about 12 cells wide

Arch point

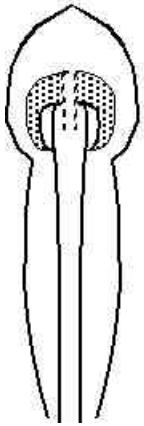
Yellow ridge

Veins of a darker colour



Blotches: some cells at the edge of each blotch are lighter in colour, but to the naked eye they appear solidly coloured, and sharply focused

Top view of a flattened fall



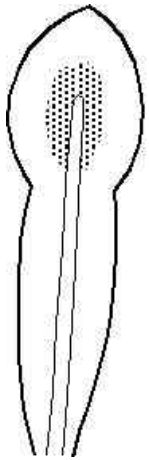
Blue-purple

Physical ridge

Light blue

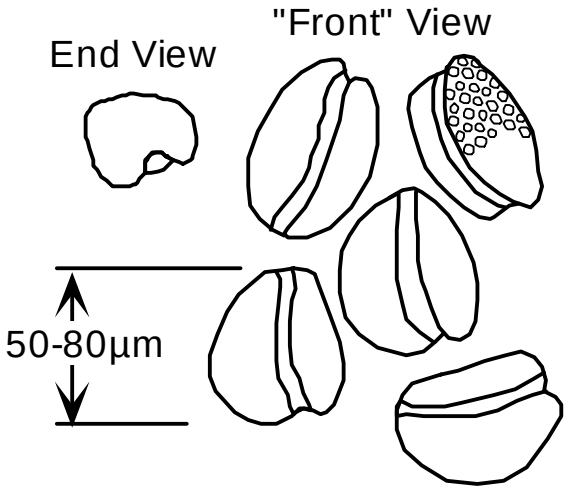
White

Yellow

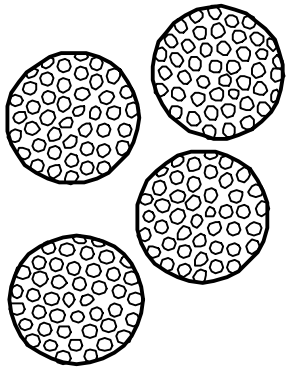


Velvety region

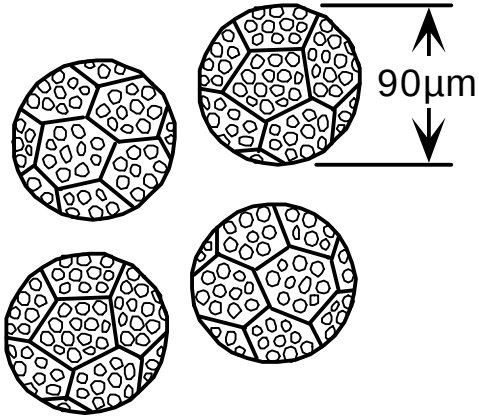
Pollen Grains



All Other Reticulatas

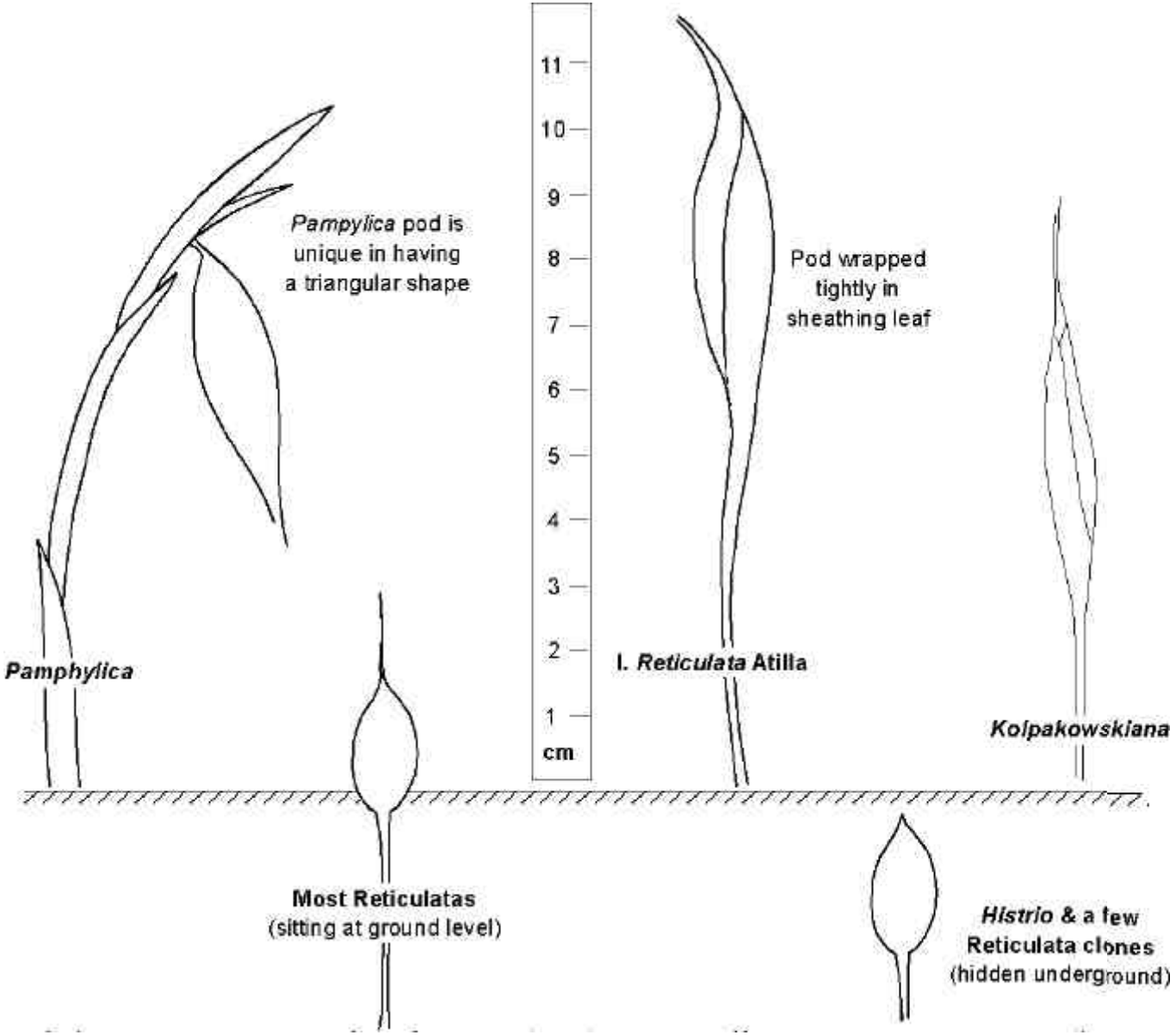


I. *Kolpakowskiana*

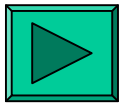


Juno *Nicolai*

Reticulata Pods



»» slide show - how to hybridize



Hybridizing Goals

Hardy hybrids that resist disease and strange weather
Consistent bloom year after year
Good increase (for commercial sales)
New colours
New patterns
Tri-colour flowers: standards, styles, and falls all different
Large, showy flowers e.g. wider flower parts
Thick substance to withstand pounding raindrops
Long lasting flowers
Strong stems so flowers don’t fall over in the wind
Flowers that open fully and falls that don’t curl under
Two flowers per bulb in an average garden
Scented flowers: noticeable, but not too strong
New characteristics such as ruffled standards & styles
Variegated leaves

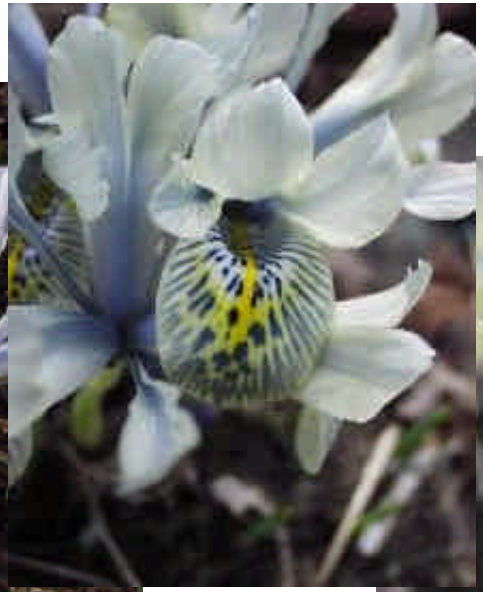
histrioides x *winogradowii*

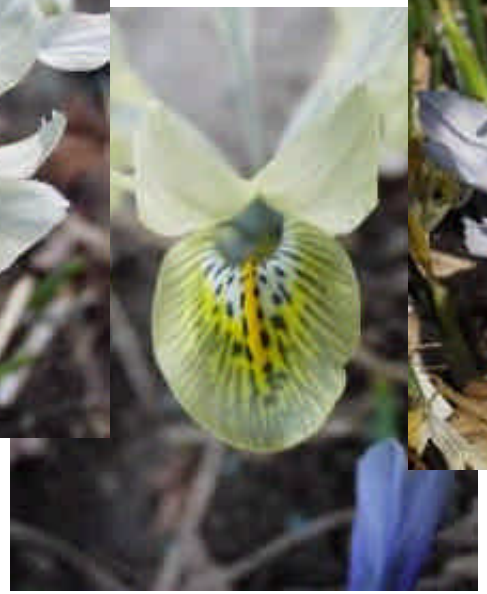
Katharine Hodgkin

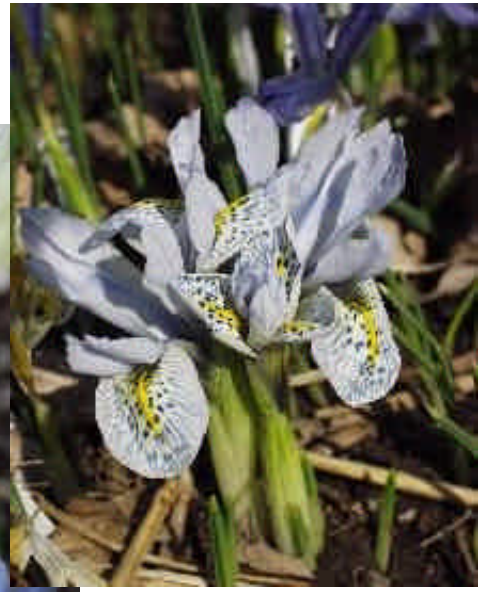
Frank Elder

Sheila Ann Germany

histrioides x *winogradowii*







Other *winogradowii* Hybrids

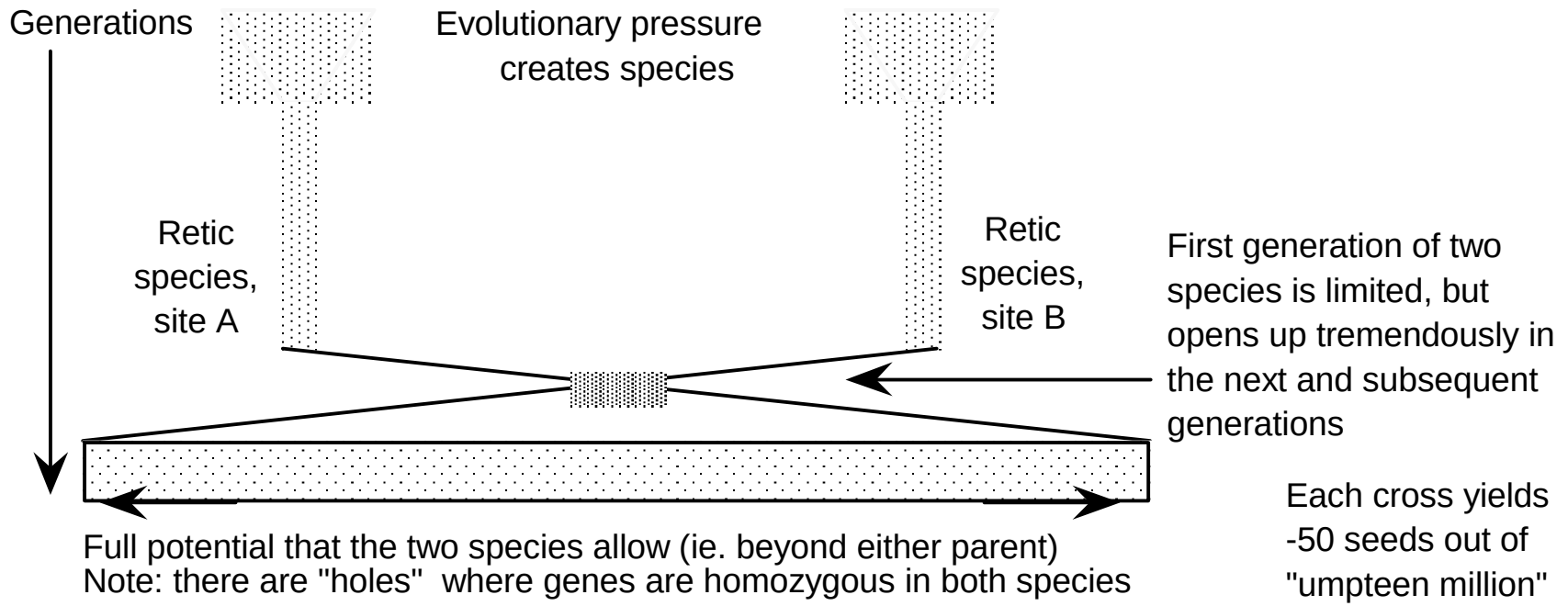
winogradowii

Polly
I. *reticulata* hort. x *winogradowii*

"*winogradowii* Alba" hort.

92-FB-1 Cantab x *winogradowii*

Crossing Two Species



Çat, *danfordiae, sophenensis*

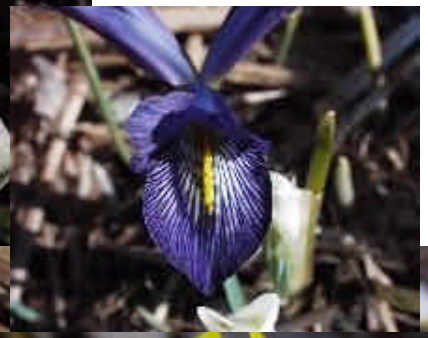
4 clones / 1 cross / 1988

56 clones / 8 crosses / 1989-94

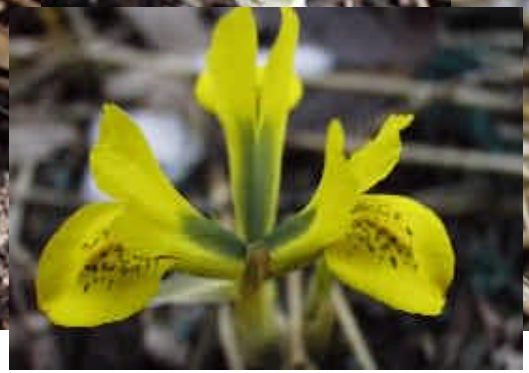
Çat, *danfordiae, sophenensis*









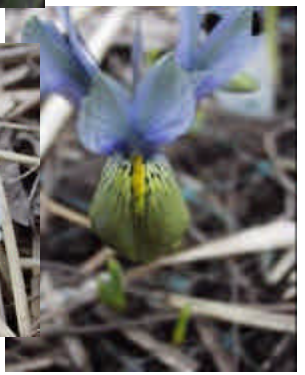



Çat, *danfordiae, sophenensis*

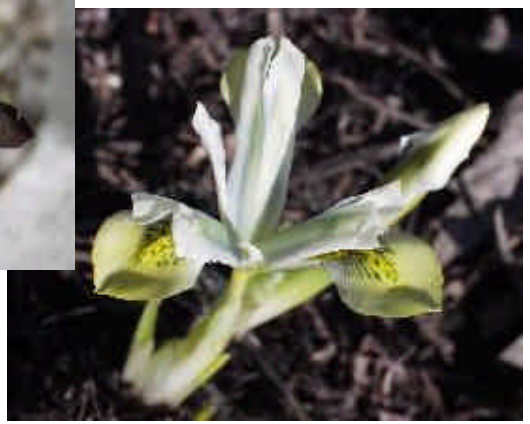




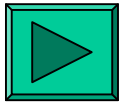






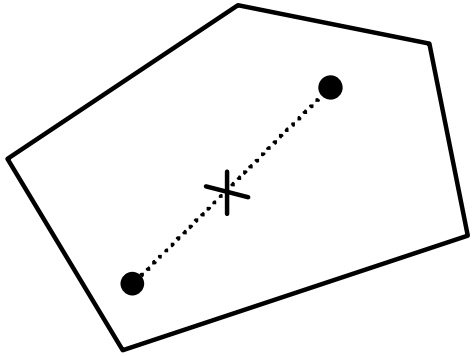


»» slide shows

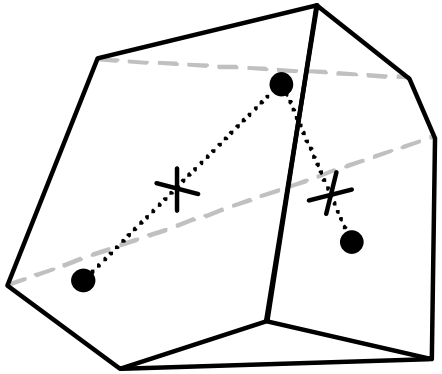


F2 sxd Hybrids - with Çat
- whites

Hybridizing Potential



Two Species



Three Species

Wishful Thinking

'J.S. Dijt' x *danfordiae*
bakeriana x *danfordiae*

winogradowii x *danfordiae*
sophenensis x *danfordiae*

- Wine red crossed with bright yellow
- Possibly greenish stds. with *bakeriana*'s dark velvety blue on the blade of the fall
- Possibly an "improved" yellow
- Possibly bright yellow with blue stripes. Brighter than 'Katharine Hodgkin', and with a different form.

Frank Elder
sterile

96-BN-1 F2 sxd
fertile

Overall Hybridizing Results

Year	Tried	Successful			Seeds	#/Pod
1983	78	19	(24%)	gave	106	5.6
1984	249	97	(39%)	gave	1751	18.1
1985	290	130	(45%)	gave	1452	11.2
1986	170	75	(44%)	gave	564	7.5
1987	271	96	(35%)	gave	1162	12.1
1988	295	63	(21%)	gave	1280	20.3
1989	175	64	(37%)	gave	997	15.6
1990	245	93	(38%)	gave	945	10.2
1991	281	123	(44%)	gave	1965	16.0
1992	495	265	(54%)	gave	3952	14.9
1993	480	278	(58%)	gave	3978	14.3
1994	639	371	(58%)	gave	5943	16.0
1995	538	297	(55%)	gave	3528	11.9
1996	823	486	(59%)	gave	6242	12.8
1997	895	400	(45%)	gave	5116	12.8
1998	845	564	(67%)	gave	9062	16.1
1999	1120	721	(64%)	gave	9864	13.7
2000	957	517	(54%)	gave	6336	12.3
2001	1099	575	(52%)	gave	8860	15.4
2002	1325	518	(39%)	gave	7476	14.4
2003	1197	496	(41%)	gave	6428	13.0
Total	12,476	6248	(50%)	gave	87,007	

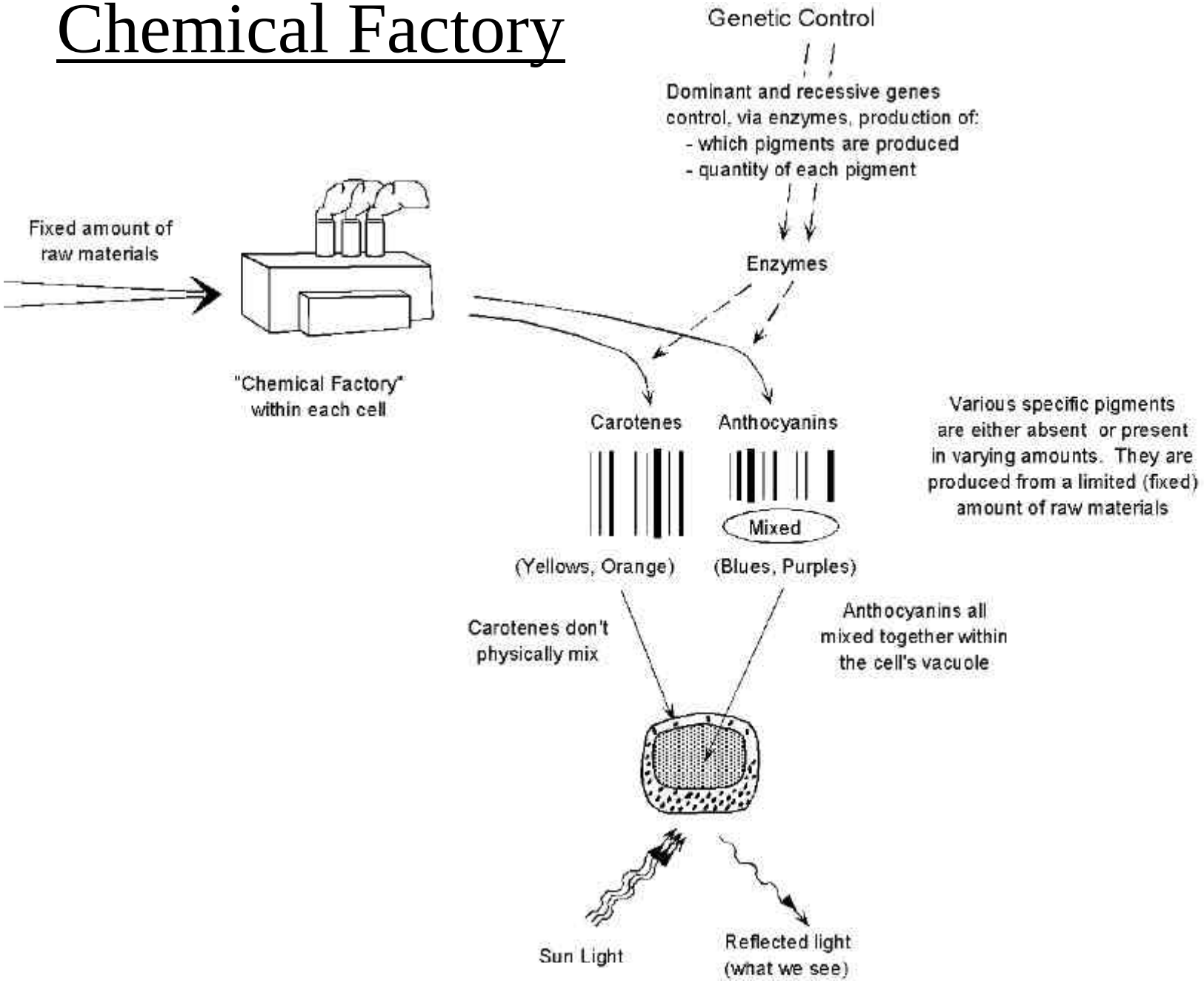
Bee Seed

Pods		Seeds	#/Pod
241	gave	3022	12.5
210	gave	2586	12.3
419	gave	5642	13.5
473	gave	6647	14.1
	(none!)		
	(none!)		
1343	gave	17,897	

Germination Rate & Losses

		1989	1990	1991	1992	Losses 1989-92
	1987	25%	28%	29%	30%	5%
Year	1988	0%	22%	26%	33%	8%
Planted	1989	-	0%	29%	35%	3%
	1990	-	-	0%	21%	N/A
	1991	-	-	-	0%	-

Chemical Factory



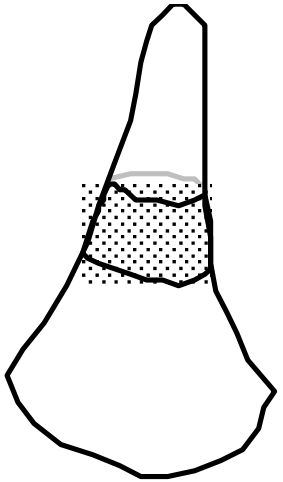
Cell

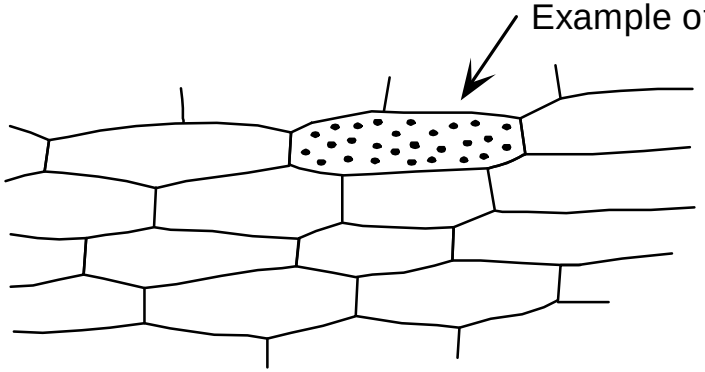
1 2 3

1 - Violet flower

2 - Yellow flower with colourless cell sap and yellow plastids

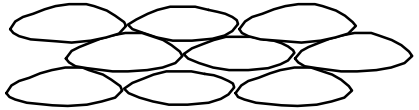
3 - Brown flower with violet coloured cell sap and yellow plastids



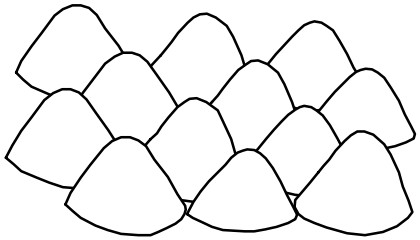


Cells on fall under style arm, as well as cells on the lower centre portion of the standard. One cell is illustrated as having carotenes.

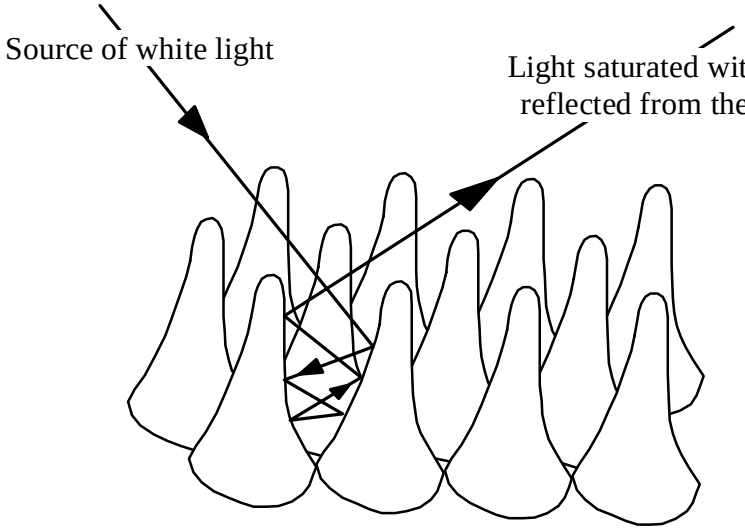
Cell Structure



"Cobblestone"
This is the most common structure. It is found on the back of falls as well as on standards.



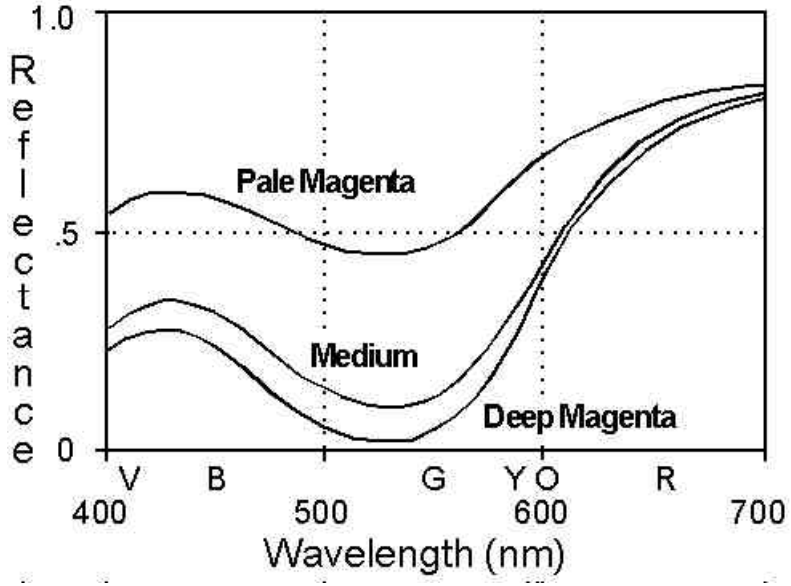
"Hills"
These cells are higher than the "cobblestones." They are found on the front of a fall's blade, and make the colours look more "alive." This "alive" look can be seen by comparing with the back of the blade which has a "cobble stone" surface.

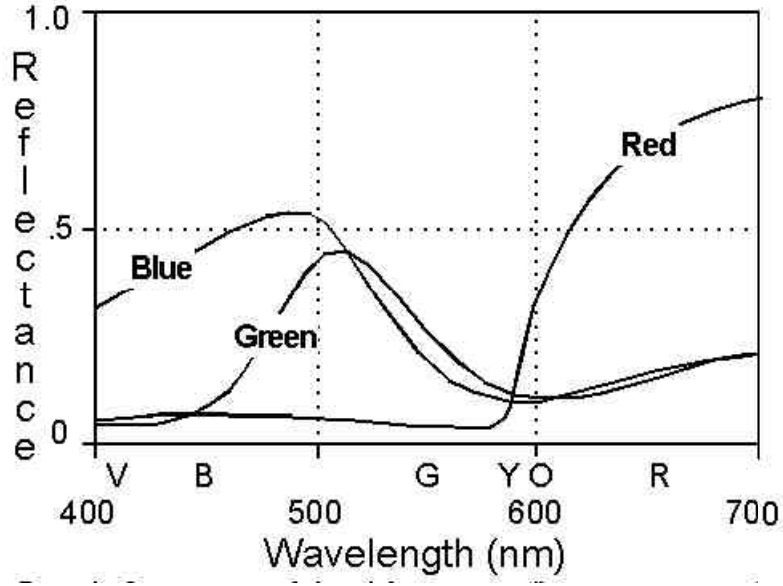


Papilla-shaped cells
They are prevalent on fall blades, particularly on and around the end of the ridge. As a group they give the velvety appearance and texture to varieties like *bakeriana*, 'Violet Beauty,' etc. In these examples the whole blade's surface is made up of papilla-shaped structures. This velvety effect is not really noticeable with light colours.
Papilla-shaped structures are actually multicelled (~up to 3)

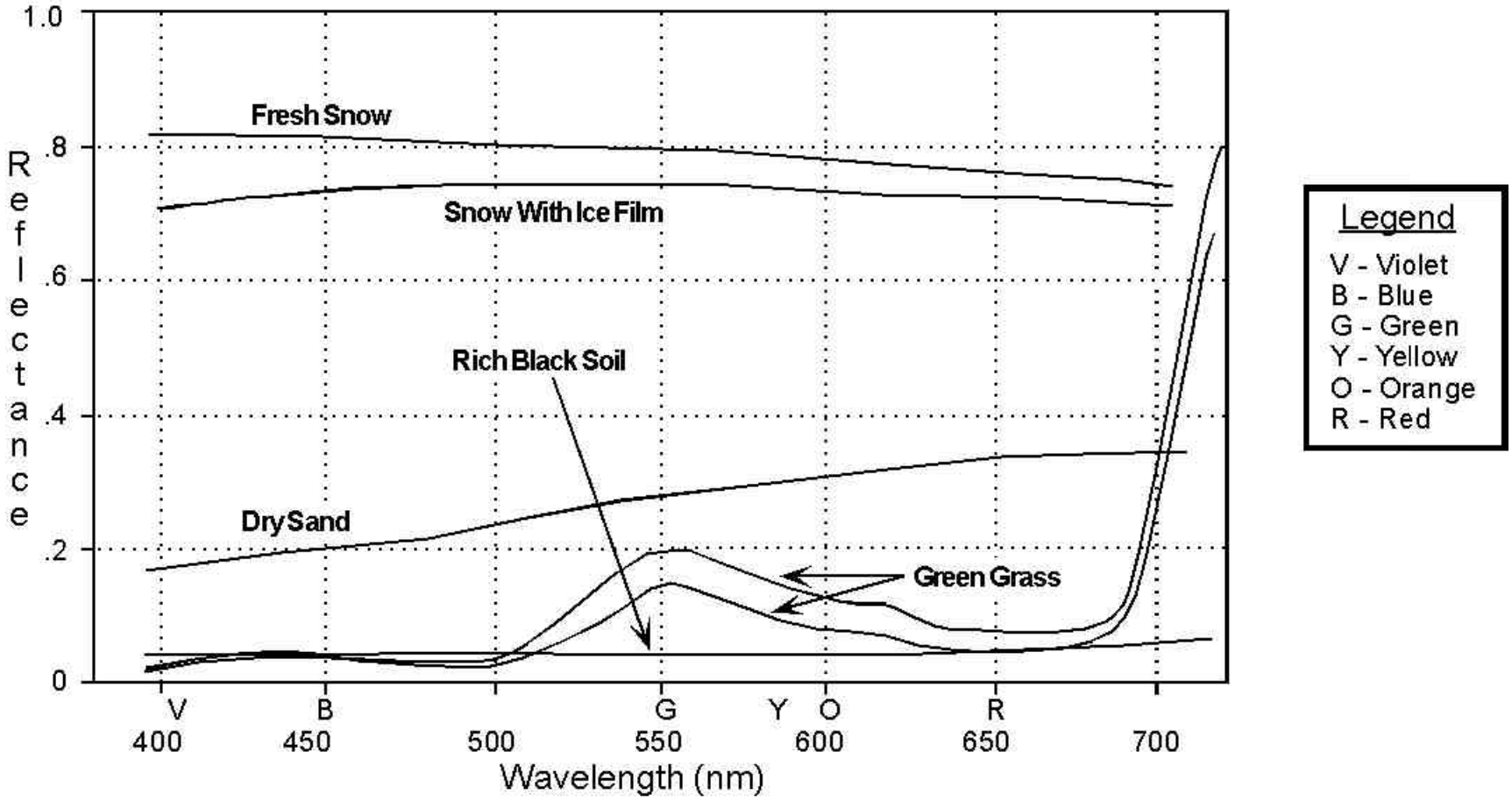
Figure 3 Cell Structures

Reflecting Light

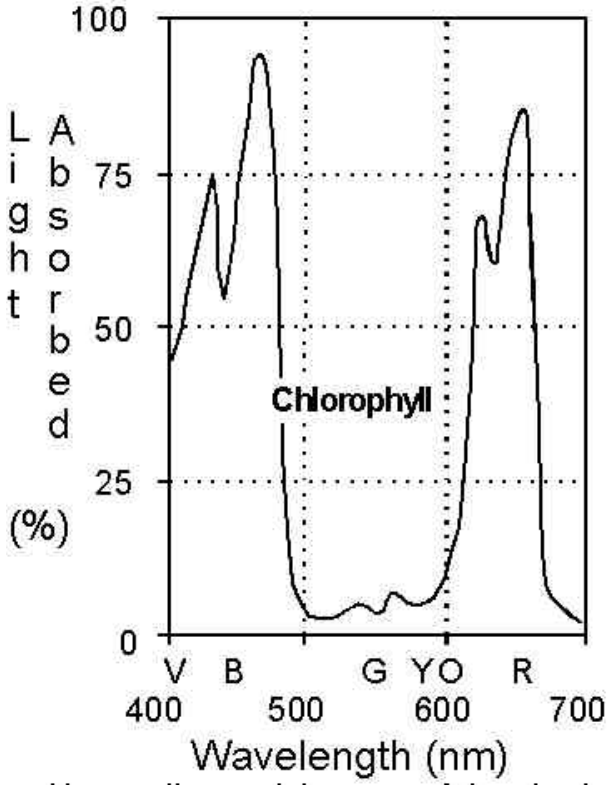


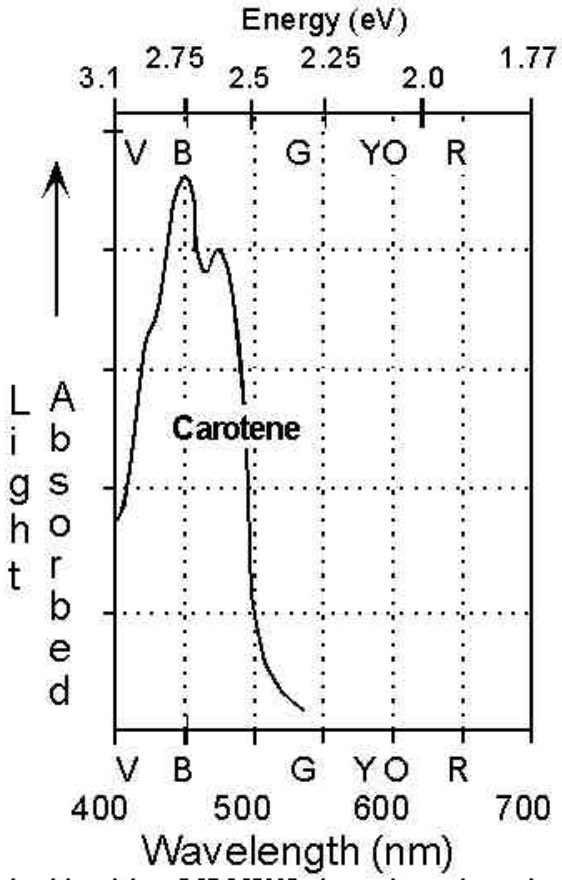


Wavelengths Of Light Making Up The Colours We See

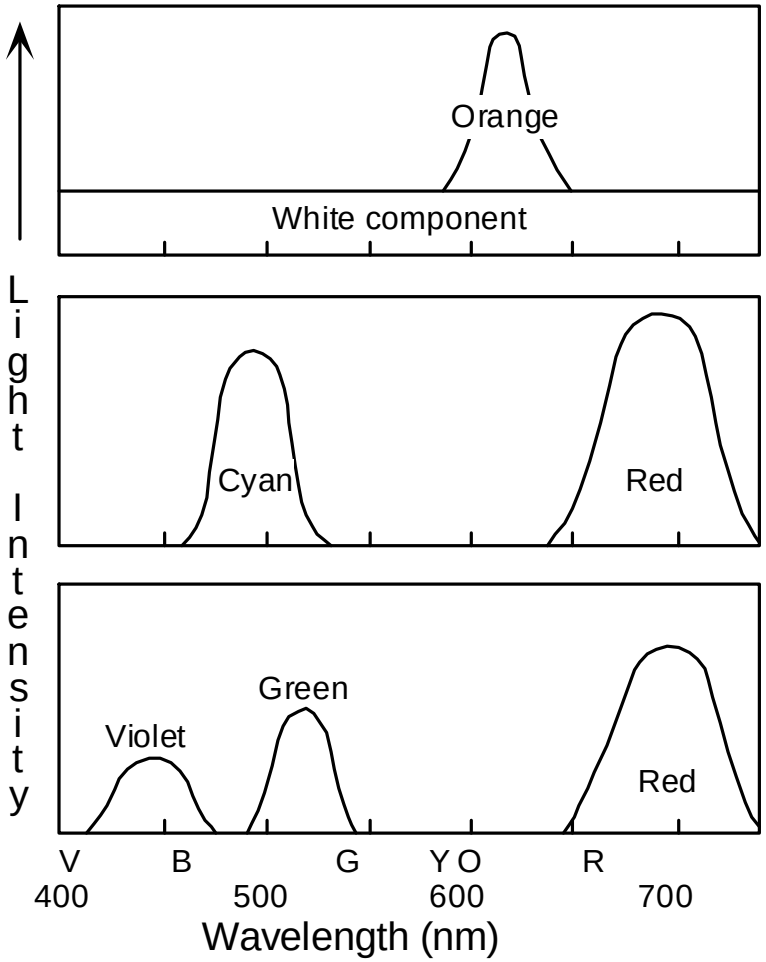


Light Absorption





The Colour Pink



Mix of 25% pure 620 nm orange light with 75% of white light.

Mix of red light and cyan (cyan is a blue-green colour).

Mix of red, green, and a small amount of violet light.

Different ways of obtaining metameric beams of pink light (i.e. to our eye they appear to yield the same pink).

Legend

V - Violet
B - Blue
G - Green
Y - Yellow
O - Orange
R - Red

Second Generation Hybrids Involving *sophenensis*, *danfordiae*, and the Çat Reticulata

	Blue	**White**	**Yellow-Blue**	**"Spotted Light Blue-Green"**	**Yellow**
F1 x F1	20	16	8	0	5
F1 x *danfordiae* involving Çat	3	19	13	6	17
	4	4	6	0	4
Total to-date:	**27**	**39**	**27**	**6**	**26**

To-date many of the yellows have been ***danfordiae***-like. Only this year's 97-CN-2, and 98-MN-1, which I've included in the yellow category, weren't.

Analyzing Yellow

	Blue	White	Yellow-Blue	"Spotted Light Blue-Green"	Yellow
F1 x F1	20	16	8	0	5
F1 x *danfordiae*	3	19	13	6	17
involving Çat	4	4	6	0	4
Total to-date:	**27**	**39**	**27**	**6**	**26**

danfordiae (yellow)
yy

F1 "Just Blues"
~~Y~~y

sophenensis (blue)
~~YY~~

	~~Y~~	y
~~Y~~	~~YY~~	~~Y~~y
y	~~Y~~	yy

F1 x F1 = 25% Yellow

	y
~~Y~~	~~Y~~y
y	yy

F1 x *danfordiae* = 50% Yellow

$\frac{8 + 5}{49} = 27\%$

$\frac{13 + 17}{58} = 52\%$

Analyzing Blue

	Blue	White	Yellow-Blue	"Spotted Light Blue-Green"	Yellow
F1 x F1	20	16	8	0	5
F1 x *danfordiae*	3	19	13	6	17
involving Çat	4	4	6	0	4
Total to-date:	**27**	**39**	**27**	**6**	**26**

danfordiae (yellow)
b_1b_1 b_2b_2

F1 "Just Blues"
B_1b_1 B_2b_2

sophenensis (blue)
B_1B_1 B_2B_2

	B_1B_2	B_1b_2	b_1B_2	b_1b_2
B_1B_2	$B_1B_1B_2B_2$	$B_1B_1B_2b_2$	$B_1b_1B_2B_2$	$B_1b_1B_2b_2$
B_1b_2	$B_1B_1B_2b_2$	$B_1B_1b_2b_2$	$B_1b_1B_2b_2$	$B_1b_1b_2b_2$
b_1B_2	$B_1b_1B_2B_2$	$B_1b_1B_2b_2$	$b_1b_1B_2B_2$	$b_1b_1B_2b_2$
b_1b_2	$B_1b_1B_2b_2$	$B_1b_1b_2b_2$	$b_1b_1B_2b_2$	$b_1b_1b_2b_2$

F1 x F1 = 9/16 Blue (56%)

	b_1b_2
B_1B_2	$B_1b_1B_2b_2$
B_1b_2	$B_1b_1b_2b_2$
b_1B_2	$b_1b_1B_2b_2$
b_1b_2	$b_1b_1b_2b_2$

F1 x *danfordiae* = 25% Blue

$$\frac{20 + 8}{49} = 57\%$$

$$\frac{3 + 13}{58} = 28\%$$

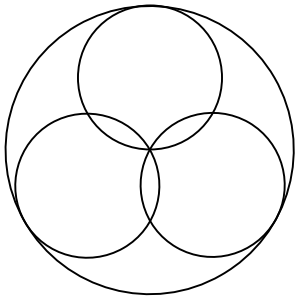
Conclusion

	Blue	White	Yellow-Blue	"Spotted Light Blue-Green"	Yellow
F1 x F1	20	16	8	0	5
F1 x *danfordiae*	3	19	13	6	17
involving Çat	4	4	6	0	4
Total to-date:	**27**	**39**	**27**	**6**	**26**

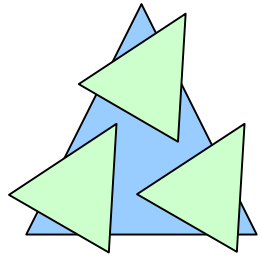
danfordiae (yellow)
b_1b_1 b_2b_2 yy

sophenensis (blue)
B_1B_1 B_2B_2 ~~YY~~

At this point it looks like -- 2 dominant genes are required to turn blue on
-- a recessive gene is required to turn yellow on



Flower Measurements



38 mm = 1½"
51 mm = 2"
62 mm = 2½"
71 mm = 3"
89 mm = 3½"

	Çat ANM2175	danfordiae ANM2325	danfordiae hort.	sophenensis	histrioides - collected	winogradowii	J.S. Dijt	White Caucasus	87-BB-1	94-HW-1 (Starlight)	97-CQ-1 (Sea Green)	97-BG-1	97-DZ-8	97-DG-4	97-EQ-3	98-MN-1	98-NP-4	98-NP-10 (Chameleon)	98-OK-1 (Green Ice)	98-OO-1
Diameter tip to tip	38	33	45	70	68	70	50	60	70	60	50	50	47	60	85	45	55	50	47	45
Standard - width	6	-	0.5	9	10	14	8	7	10	0.5	<0.5	4	<0.5	10	15	3	8	5	<0.5	-
Standard - length	30	-	5	55	43	45	45	30	45	15	20	32	7	45	50	25	30	33	10	-
Style lobe width	8	11	17	15	12	20	10	10		15	13	15	20	13	20	15	16	9	20	13
Style arm length	30	25	35	43	35	40	38	35	40	40	35	40	35	35	45	31	35	35	36	27
Fall blade width	9	11	13	15	16	21	12	13	16	19	14	13	16	13	20	15	17	14	16	10
Fall length	35	29	35	51	43	53	45	40	45	45	38	45	40	43	55	32	45	42	36	30
Flower - highest point	90	75	95	110	100	115	140	85	150	80	85	60	110	125	120	85	100	95	100	65
Flower - base	58	50	60	65	60	55	95	55	100	50	55	85	80	80	75	55	65	60	65	35
Leaf (longest)	60	25	20	55	50	70	80	100	120	45	30	45	75	95	125	45	55	90	50	25

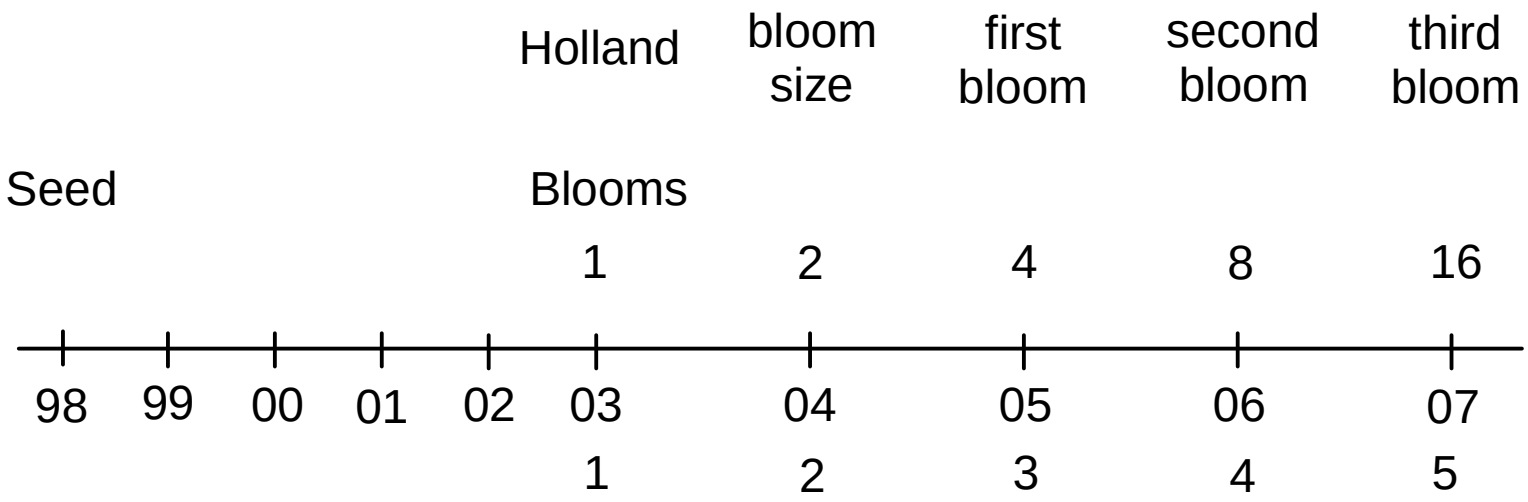
Uphill Battle

Creating unique, distinctly new hybrids, is only the beginning of a long uphill battle to getting them introduced.

Unique Hybrid

- **Testing**
- **Commercial Agreement**
- **Build Up Stock**
- **Begin Introduction**

Time Line



Blooms		Year
1	1	2003
2	2	2004
4	3	2005
8	4	2006
16	5	2007
32	6	2008
64	7	2009
128	8	2010

Blooms		Year
256	9	2011
512	10	2012
1024	11	2013
2048	12	2014
4096	13	2015
8192	14	2016
16384	15	2017
32768	16	2018

Seedling Bulb Size

Year	# Bulbs	Depth	Narrowest Diameter	Height
1st:	1	25 mm	5 mm	8 to 10 mm
2nd:	1	37 mm	6 to 8 mm	13 to 15 mm
3rd:	typically 2	50 mm	10 to 13 mm 5 to 6 mm	19 to 24 mm 13 to 15 mm
4th:	typically 4 (min. 2; max. 6)	typ. 70 mm	2 of: 14 to 20 mm 2 of: 5 to 13 mm	24 to 40 mm 13 to 24 mm

Note: Seeds typically germinate after their 2nd Winter.
Bulbs were measured at the end of the growing season.

Rate of Increase

	End of	Toronto					To Holland		
Hybrid	Year	main	small	bulblet	Total		main	small	bulblet
98-NP-1	02	3	4	18	25		-1	-1	
	03	4	20	31	55			-8	
98-NP-2	02	3	3	41	47			-2	
	03	7	45	43	95			-10	
98-NP-3	02	2	2	19	23			-2	
	03	3	17	10	30			-10	
98-NP-4	02	1	2	12	15			-2	
	03	2	11	11	24			-6	
98-NP-5	02	1		7	8				
	03	2	8	6	16		-1	-4	

Rate of Increase

End of		Toronto					To Holland		
Hybrid	Year	main	small	bulblet	Total		main	small	bulblet
98-NP-6	02	1	1	12	14			-1	
	03	2	11	13	26			-7	
98-NP-7	02	1	1	12	14			-1	
	03	2	8	16	26			-5	
98-NP-8	02	1		4	5				
	03	2	4	9	15			-4	
98-NP-9	02	1	1	11	13			-1	
	03	2	11	18	31			-8	
98-NP-10	02	1	2	11	14			-1	
	03	2	12	29	43			-6	

94-HW-1 Increase

	End of	Toronto					To Holland		
Hybrid	Year	main	small	bulblet	Total	main	small	bulblet	Total
94-HW-1	99	3	9	10	22		-2		
	00	7	12	25	44				
	01	13	18	24	55				
	02	20	43	81	144				
	03	17	60	79	156	-3	-50	-11	
Lab	03						200?		200
Holland	02					6	9	20	35
	03					10	54	35	99

Rate of Increase

	End of	Toronto					To Holland		
Hybrid	Year	main	small	bulblet	Total		main	small	bulblet
97-BG-1	02	1	7	16	24				
	03	3	22	49	74			-11	
97-BG-2	02	1	4	29	34				
	03	3	22	29	54				
97-CQ-1	02	3	13	22	38		-1	-2	
	03	3	28	22	53		-1	-20	-12
97-CQ-2	03	2	5	7	14				
97-CQ-3	03	1	3	15	19				

Rate of Increase

	End of	Toronto					To Holland		
Hybrid	Year	main	small	bulblet	Total		main	small	bulblet
97-DZ-8	02	1	2	6	9			-2	
	03	2	4	8	14			-3	
97-VS-1	02	1	1	6	8			-1	
	03	1	4	3	8				
97-VS-2	02		2	5	7				
	03	1	5	1	7				
98-MN-1	03	1	1	5	7			-1	-2
98-MN-2	03	1		10	11				-4
98-MN-3	03	1	1	8	10				
98-OK-1	02	1	2	1	4			-2	
	03	2	4	9	15			-4	

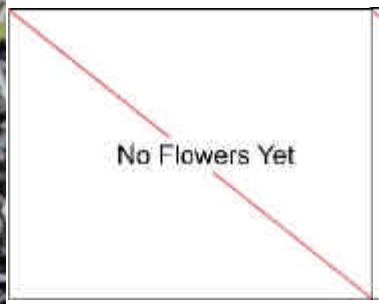


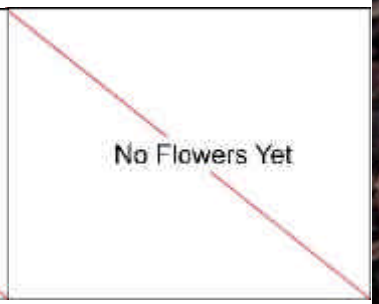


Rate of Increase

	End of	Toronto					To Holland		
Hybrid	Year	main	small	bulblet	Total		main	small	bulblet
97-CZ-1	02	1	2	20	23				
	03	1	15	16	32				
97-CZ-2	02	1	11	11	23				
	03	3	21	62	86		-1	-11	
97-CZ-3	02		5	7	12				
	03		11	4	15				
97-CZ-4	02		1	4	5				
	03	1	4	13	18				
97-CZ-5	02	2		13	15				
	03	3	15	29	47			-6	







Holland vs. Toronto

End of:	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bloom-sized	3	7	12	25	108	268	825	2,437	7,077	20,950
1 year away	4	5	13	83	160	557	1,612	4,640	13,873	40,493
2 years away	5	13	83	160	557	1,612	4,640	13,873	40,493	119,185
3 years away	10	76	148	532	1,504	4,372	13,048	38,056	112,108	329,572
Total:	22	101	256	800	2,329	6,809	20,125	59,006	173,551	510,200
Doubling:	2	4	8	16	32	64	128	256	512	1024

Projected Increase If Grown In Toronto

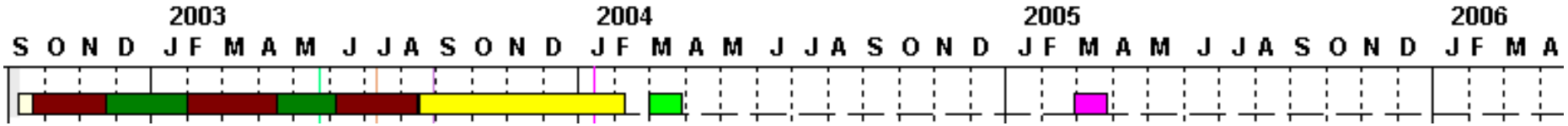
End of:	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bloom-sized	3	15	47	195	741	2,989	11,679	46,515	183,221	726,405
1 year away	4	10	76	228	1,084	3,876	16,292	62,220	251,228	981,764
2 years away	5	7	25	123	423	1,825	6,865	27,971	108,735	434,449
3 years away	10	76	228	1,084	3,876	16,292	62,220	251,228	981,764	3,910,532
Total:	22	108	376	1,630	6,124	24,982	97,056	387,934	1,524,948	6,053,150

Projected Increase If Grown In Holland

Lab Results

	89-A-3		94-HW-1		96-BN-1		96-BN-3		96-DZ-1		97-VS-1	
2002-38	3		3		3		1		3		3	
2002-48	6	2.00	2	0.67	2	0.67	3	3.00	6	2.00	1	0.33
2003-05	20	3.33	9	4.50	5	2.50	8	2.67	24	4.00	6	6.00
2003-16	88	4.40	45	5.00	9	1.80	21	2.63	93	3.88	32	5.33
2003-23	208	2.36	160	3.56	35	3.89	96	4.57	240	2.58	96	3.00
2003-30			320	2.00								
	30%	62	60%	192	100%	35	80%	77	20%	48	20%	19

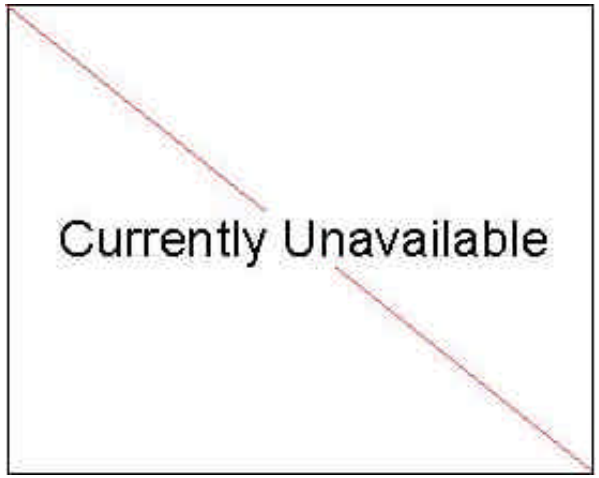
	96-AC-1		Retic Iran		97-CQ-1		95-CL-1		White Caucasus	
2002-38	1		1				3			
2002-48	3	3.00	1	1.00	8		6	2.00	4	
2003-05	8	2.67	2	2.00	6	0.75	3	0.50	9	2.25
2003-16	14	1.75	2	1.00	14	2.33	19	6.33	18	2.00
2003-23	64	4.57	7	3.50	Contaminate		96	5.05	60	3.33
2003-30									200	3.33
	80%	51	30%	2			20%	19	100%	200



“Go Through With”

97-DQ-1

White Caucasus



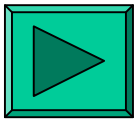
98-AU-1

Starlight (94-HW-1)

How Do You Like Your White?

97-CQ-1

»» slide show - replanting



Cultivation Suggestions

? Well-drained soil (e.g. sandy loam / sandy topsoil), with lots of moisture in the early Spring (i.e. snow melt).
? To prevent ink spot soil should be fairly dry around the time the leaves are starting to turn brown.
? Should have at least half a day of sun.

? Replant every two years or so
? Best if it's into a new spot in the garden.
? In Holland they are treated as crops, and only planted in the same area every 10 years.

? Plant several varieties both where snow first melts, and in a shaded area where it's the last to leave.

? Remember, the bulbs need to regenerate, so the last thing you want to do is disturb them while they're in growth.
? Wait until the leaves start to turn brown, then do what you will. Otherwise you're only ruining next year's bloom!

? A little bit of low nitrogen fertilizer at the beginning of the bloom season is good for bulb regeneration.

Milestones

1985/86: successful bulb collecting expeditions to Turkey, in particular to collect a diploid form of Iris *danfordiae*

1990: purchased a larger form of diploid *danfordiae* from Ahmet Atilla in Turkey

1993: first of eventually three hybrids bloom from a 1988 cross (88-AX) of Çat ANM2175 x *danfordiae* ANM2325

1994: sixteen F1 *sophenensis* x *danfordiae* (sxd) hybrids bloom from four crosses made in 1989

1997: first Dutch bulb grower begins testing my hybrids

1999: first F2 sxd bloom: the remarkable Starlight (94-HW-1)

2000: two more Dutch bulb growers begin testing

2002: a 4th Dutch tester starts; now have access to a lab in Holland

2003: Wim de Goede declares there are 4 Reticulata clones he wants to go through with; a 5th grower added (mainly interested in Junos)

In Summary

I have opened up a whole new world for Reticulata Irises.

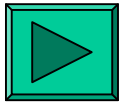
1) used clones from the wild to bring in additional characteristics
2) discovered *sophenensis* & *danfordiae* are fertile
3) plus, brought Çat into the mix

The words “success is a combination of good luck, knowing what you’re doing, and a lot of hard work,” are just as true today as they were when I wrote them in 2000.

Visit www.Reticulatas.com

Which are your favourites?

»» slide shows



- Other Hybrids
- Review

Hectares

			1990	1998	1999	2000	2001
Alida	light blue	sterile	--	0.02			
Cantab	light blue	fertile	0.32	0.79			
Clairette	blue	fertile	--	0.04			
danfordiae	yellow	fertile	10.50	7.10	7.74	9.48	10.70
George	purple	sterile	0.55	7.26	7.12	6.26	6.34
Gordon	blue	fertile	0.18	0.22			
Harmony	blue	sterile	3.66	9.49	10.17	11.66	11.79
histrioides	blue	fertile	--	0.01			
Ida	blue	fertile	--	0.09			
I. *reticulata* hort.	dark blue	fertile	10.12	6.07	6.26	6.00	5.79
J.S. Dijt	wine red	fertile	0.41	1.41			
Joyce	blue	sterile	0.56	1.29			
Katharine Hodgkin	blue & pale yellow	sterile	--	0.03	0.05	0.10	0.21
Marguerita	blue	fertile		0.01			
Natascha	almost white	fertile	--	0.17	0.16	0.12	0.16
Pauline	wine red	fertile	0.54	1.06	0.91	1.00	1.23
Purple Gem	wine red	fertile	0.29	2.46	2.55	2.14	2.18
Spring Time	blue	fertile	--	0.12	0.23	0.23	0.25
Violet Beauty	violet	sterile	--	0.08	0.12	0.08	0.08
Miscellaneous			0.16	0.55	4.5	4.5	4.5
			27.29	38.27	39.81	41.57	43.23