United States Patent [19]

Lounsbury, Sr. et al.

[11] **Patent Number: Plant 7,644**

[45] **Date of Patent: Sep. 10, 1991**

[54] **GRAPVINE NAMED KAT.E.LIN**

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[21] Appl. No.: **406,921**

[22] Filed: **Sep. 1, 1989**

[51] **Int. Cl.**[5] **A01H 5/00**

[52] **U.S. Cl.** **Plt./47**

[58] **Field of Search** ..... Plt. 47

[56] **References Cited**

U.S. PATENT DOCUMENTS

P.P. 42	11/1932	Wiederkehr	Plt. 47
P.P. 1,895	1/1960	Thornburg	Plt. 47
P.P. 4,787	11/1981	Olmo et al.	Plt. 47
P.P. 6,464	12/1988	Karniel	Plt. 47

OTHER PUBLICATIONS

Hedrick, U. P., "617 Concord", *Systematic Pomology*, The MacMillan Co., N.Y., 1925, pp. 401 and 402.

Primary Examiner—James R. Feyrer
Attorney, Agent, or Firm—Browdy & Neimark

[57] **ABSTRACT**

A new and distinct asexually reproduced grapevine variety, as illustrated and described, is vigorous and highly productive, ripens early before frost, withstands temperatures below −18° C., fruits in fairly large open bunches with large shoulders, the fruit being red to dark maroon/oxblood red with a heavy bloom and having one of the highest Brix or sugar test of any labrusca grape reported in the Grape and Wine Research Summary for 1984 published by the Horticultural Research Institute of Ontario, Vineland Station, Ontario, Canada. The plant is resistant to mildew and does not require thinning. The fruit has a long shelf life and has proven to be excellent for jam, jelly and sweet, dessert wine.

6 Drawing Sheets

The present invention relates to a new and distinct variety of grapevine, named "Kat.E.Lin", which was discovered by us as a mutant of the Concord (Labrusca) variety, said discovery having occurred in our vineyard at Smithville, Ontario, Canada.

This new grape is characterized by early ripening fruit which matures well before frost in Ontario, Canada; by its ability to withstand temperatures below −18° C.; by its large open bunches of fruit which are easily sprayed and mechanically harvested; by its fruit colour which is dark maroon red with a heavy bloom; by its large shouldered bunches; by its very high sugar content; and by its excellent rating for sweet dessert wine, jelly and table use.

THE DRAWINGS

FIG. **1** is a drawing of a leaf showing the various parts measured and angles calculated for the numerical comparison of leaf shapes as outlined in the detailed description of the foliage (reference: Cépages et Vignobles de France, Tome I - Les Vignes Américaines; Imprimerie Charles Déhan, Paris, 1988).

FIG. **2***a* is a tracing of the petiolar sinus of type leaves of Kat.E.Lin.

FIG. **2***b* is a tracing of the petiolar sinus of type leaves of Concord.

FIG. **3***a* is a tracing of the dentations of type leaves of Kat.E.Lin.

FIG. **3***b* is a tracing of the dentations of type leaves of Concord.

FIG. **4** is a photograph of the leaves of Kat.E.Lin and Concord to illustrate the range in leaf shape.

FIG. **5** is a photograph of the leaves of Kat.E.Lin and Concord to illustrate the colour and texture of both surfaces.

FIG. **6** is a photograph of leaves and canes of Kat.E.-Lin and Concord to illustrate the differences in colour and dimension.

FIG. **7** is a photograph of the clusters of Kat.E.Lin and Concord to illustrate the range in shape and the differences in colour.

FIG. **8** is a photograph of the clusters of Kat.E.Lin and Concord to illustrate the differences in colour.

FIG. **9** is a photograph of the seeds of Kat.E.Lin and Concord to illustrate the differences in colour, size and shape.

DETAILED DESCRIPTION

The present mutant was discovered in our own vineyard at Smithville, Ontario, Canada in the 1960 growin season among twenty-five acres of Concord grapes which had been planted in the year 1925. It took three years for the original vine to bear fruit. Cuttings were taken in the fall of 1960, planted in 1961 and bore fruit in 1964. Propagation was carried out by taking two or three node cuttings in February, bundling in 10's and burying upsidedown in the ground, covered by two inches of soil. Cuttings were replanted in a nursery row eight weeks later.

Comparison With A Standard (Concord) Grown at the Same Relative Location

All colour references are from The Royal Horticultural Society Colour Charts (The Royal Horticultural Society, London. copyright 1966), henceforth called R.H.S.C.C.

All foliage measurements and description are based on 10 leaves from the mid-section of a mature cane and foolow the ampelographic definitions of Galet (P. Galet, Cépages et Vignobles de France, Tome I - Les Vignes Américaines; Imprimerie Charles Déhan, Paris, 1988). See FIG. **1** for general terms of reference.

KAT.E.LIN	CONCORD
	VINE:
General	
large, vigorous	vigorous
1.5 kg/vine 1 yr wood	1.2 kg/vine
trained to 6-cane Kniffin	6-cane Kniffin
production 7–8 kg/vine	7–8 kg/vin
Bark - dark brown (RHSCC 200A)	dark brown (RHSCC 200A)
	CANES:
Colour	
light Almond Shell (RHSCC 165A,B)	light Squirrel, Hazelnut Brown (RHSCC 166A,B,C)
Size (See Figure 6)	
width at node	
12 mm	10 mm
width at internode	
9 mm	7 mm
Size	
length of internode	
12 cm	10 cm
average can length	
2.5–3 m	2–2.5 m
Fruitfulness position	
clusters on each shoot after node 1 from base	after node 1 from from the base
3–4 clusters/shoot	2–3 clusters/shoot rarely 4
	TENDRILS:
Length	
11–13 cm	11–13 cm
Thickness	
5–6 mm	5–6 mm
Colour	
same brown as the mature cane (RHSCC 165A,B)	same brown as the mature cane (RHSCC 166A,B,C)
	FOLIAGE:
Hairiness (See Figure 5)	
Upper surface	
smooth, glabrous	smooth, glabrous
Lower surface	
dense matted felty white/grey	dense matted felty rufous
Mature leaf (See Figure 4)	
Shape	
cuneo-truncate (length = width) (σ = 98.6°)	cuneiform (length > width) (σ = 84.4°)
Size	
generally large (>400 cm^2)	medium-large (>300 cm^2)
Lobes	
generally two shallow superior lobes (SS > 0.7 < 0.8, SI > 0.9)	generally entire (SS = SI > 0.85)
Petiolar sinus (see Fig. 2A,B)	
non-parallel, acute V-shaped (Σ = 153°)	non-parallel, flattened (Σ = 132°)
Surface	
smooth, slightly bullate	smooth, slightly bullate
Contour	
flat	slightly convex
Teeth (see Fig. 3A,B)	
coarse, pointed to slightly concave with vein extension beyond the lamine red	pointed, shallow, tip of vein beyond the lamina green
uneven size but generally wide (length/width:0.3–0.5)	regular, average size (length/width:0.5–0.7)
Colour (See Fig. 4,5)	
dark yellow green RHSCC 137A,B with veins contrasting at RHSCC 151A,B	dark green RHSCC 139 A,B with veins contrasting at RHSCC 139D
	FLOWERS:
Bloom	
June 18–20	June 18–20
Position	

-continued

KAT.E.LIN	CONCORD
nodes 2–8 on 1 yr cane	nodes 2–8
3–4 bunches/shoot	2–3 bunches/shoot
Quality	
hermaphroditic self fertile	hermaphroditic self fertile
	FRUIT:
Peduncle	
medium 3–4 mm diameter	medium to heavy 4–5 mm in diameter
bright green (RHSCC 144A,B)	green (RHSCC 136B,C)
Cluster	
Size (See Fig. 8)	
small to medium	small to medium
14–18 cm	12–16 cm
Shape (See Fig. 7)	
winged with shoulder occasionally equal to half length of main cluster	winged with shoulder occasionally equal to ¼ to ½ length of main cluster
2♂, 3♂ clusters usually conical	2♂, 3♂ clusters usually conical
Weight	
125–250 g	125–250 g
Density	
loose	full but not tight
Berries	
Size	
medium 16 mm diameter	medium 17 mm diameter
Weight	
medium 2.7 g	medium 3.4 g
Shape (See Figure 7,8)	
round to oblate	round to oblate
Flesh texture	
non-adherent slipskin firmer than Concord gelatinous, green seeds separate relatively easily from flesh	non-adherent slipskin typical of slipskin gelatinous, pale green seeds separate with difficulty
Flesh Quality	
21.8°Brix Sept. 27, 1988 20.8°Brix Oct. 4, 1989 19.0°Brix Sept. 30, 1990	18.5°Brix/1988 16.2°Brix/1989 15.5°Brix/1990
Skin	
firm but edible	tough
Brush	
white medium 3–4 mm	white short 2–3 mm
Attachment	
does not shatter easily at maturity detaches with a wet scar but usually with the skin intact	tends to shatter after full maturity detaches roughly, often leaving torn skin and always a wet scar
Flavour/Bouquet	
mildly foxy, pleasant mildly aromatic	strong but pleasant intensely aromatic, pungent (used as type specimen for labrusca flavour/aroma)
Colour (See Figure 7,8)	
Oxblood/maroon RHSCC 187A,B heavy waxy bloom	blue black RHSCC 103A heavy waxy bloom
Maturity	
September 25–Oct. 2	September 30–Oct. 7
	SEEDS:
Size	
7 × 4 mm	6 × 4 mm
Frequency	
2–3/berry	4/berry
Shape	
elongated, gently tapering	stocky, bulky
Surface markings (See Figure 9)	
ventral	

-continued

KAT.E.LIN	CONCORD
beige with yellow brown	beige with grey brown
perimeter not distinct	perimeter quite distinct
distinct raised keel	keel not so prominent, almost flattened
Surface markings dorsal	
yellow brown (RHSCC 199A)	grey brown (RHSCC 197A)
gently rounded shoulders	heavy rounded
no distinct dorsal groove	shoulders, club shaped with distinct dorsal groove
gradual tapering to beak	distinct neck to beak
dark red/brown at basal	beak uniformly
tip of beak (RHSCC 200B)	coloured

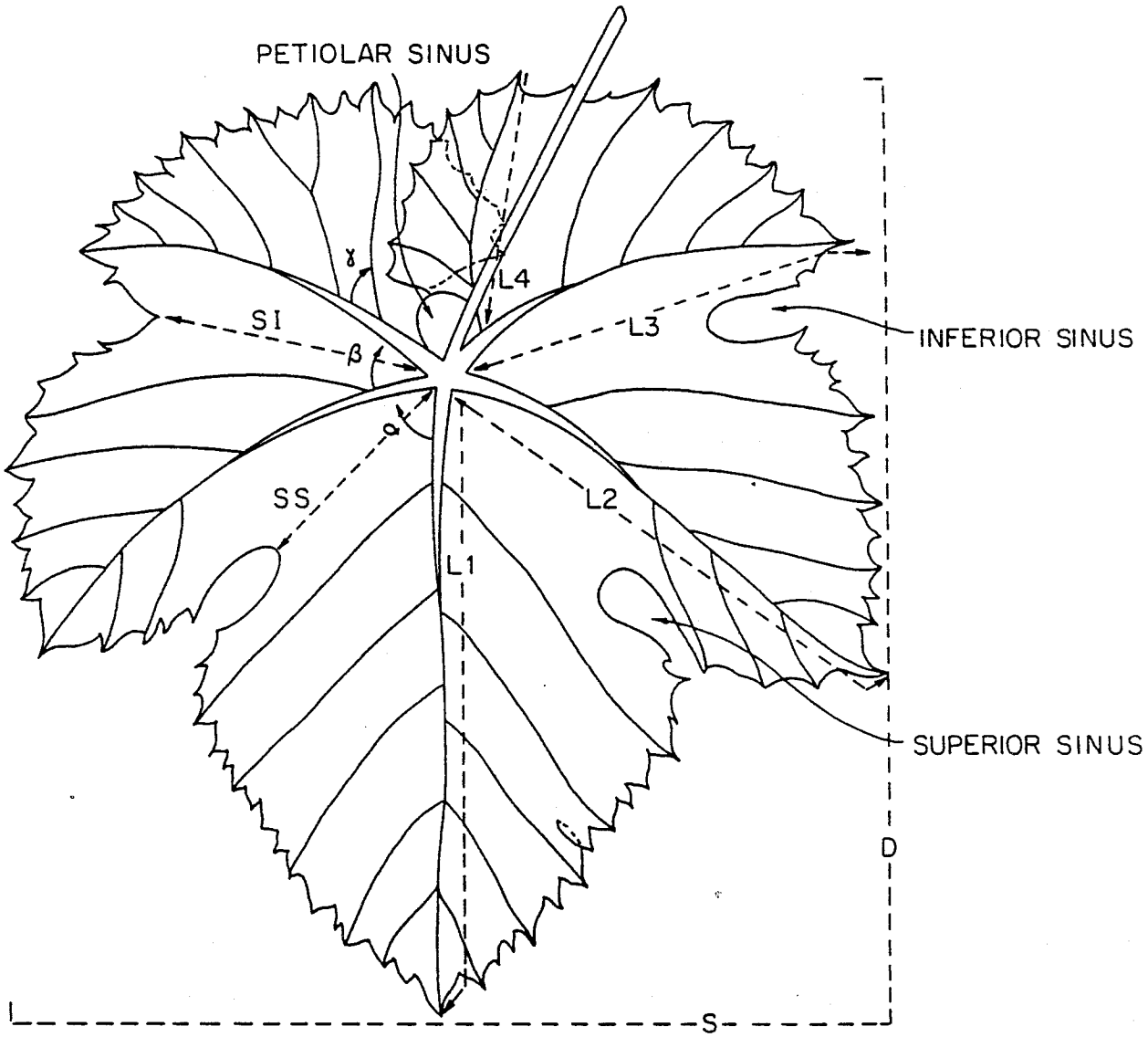
The new mutant is vigorous and productive and ripens well before frost. Fruiting wood withstands temperatures below −18° C. It produces fairly large open bunches with large shoulders. The fruit is red to dark maroon/oxblood red. It has high dissolved solids (Brix readings), exceeding those of many varieties noted in the Grape and Wine Research Summary for the year 1984, published by the Horticultural Research Institute of Ontario, Vineland Station, Ontario. The plant is resistant to mildew and does not require thinning to attain commercially acceptable berry size or fruit quality. The fruit has a long shelf life and has proven an excellent product for jam, jelly and sweet dessert wine.

We claim:

1. A new and distinct variety of grapevine, substantially as herein shown and described, characterized by excellent vigor and producitvity, early ripening, hardiness to below −18° C. temperatures, mildew resistant, long shelf life and high sugar content.

* * * * *

FIG. 1



α = ANGLE OF L1 TO L2
β = ANGLE OF L2 TO L3
γ = ANGLE OF L3 TO L4
Σ = SUM OF α + β + γ
σ = SUM OF α + β
r = D × S
SI = si / L3
SS = ss / L2

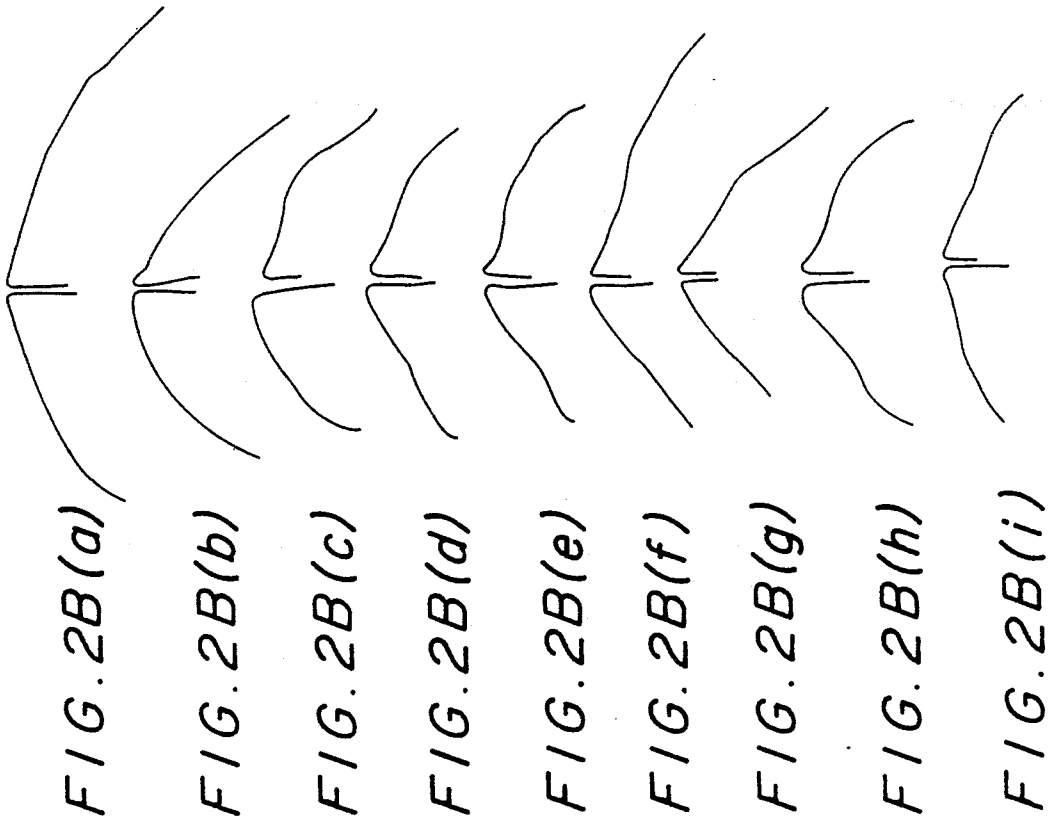


FIG. 2B(a)
FIG. 2B(b)
FIG. 2B(c)
FIG. 2B(d)
FIG. 2B(e)
FIG. 2B(f)
FIG. 2B(g)
FIG. 2B(h)
FIG. 2B(i)

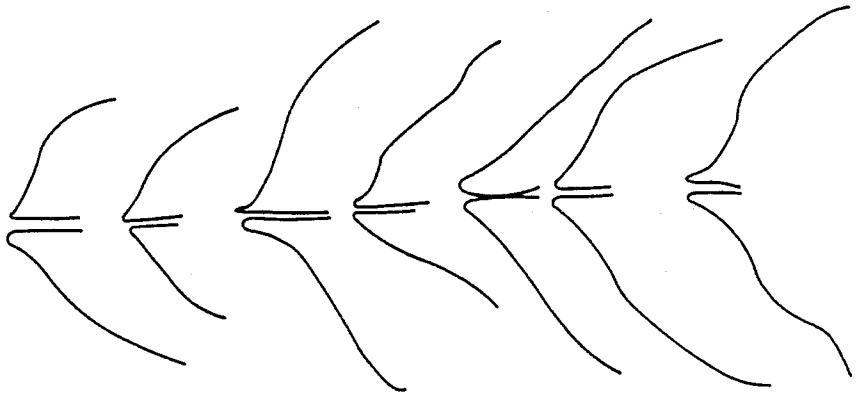


FIG. 2A (a)
FIG. 2A(b)
FIG. 2A(c)
FIG. 2A(d)
FIG. 2A(e)
FIG. 2A(f)
FIG. 2A(g)

FIG. 3A (a)

FIG. 3A (b)

FIG. 3A (c)

FIG. 3A (d)

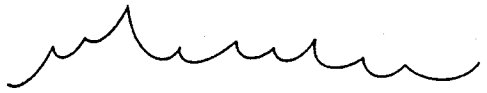


FIG. 3A (e)

FIG. 3A (f)

FIG. 3A (g)

FIG. 3B (a)

FIG. 3B (b)

FIG. 3B (c)

FIG. 3B (d)

FIG. 3B (e)

FIG. 3B (f)

FIG. 3B (g)

FIG. 3B (h)

FIG. 3B (i)

FIG. 4

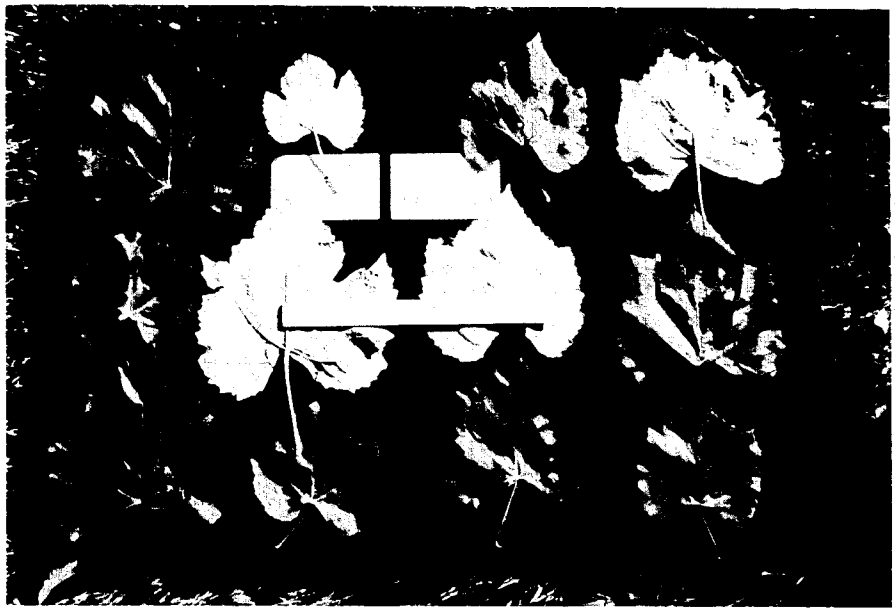


FIG. 6

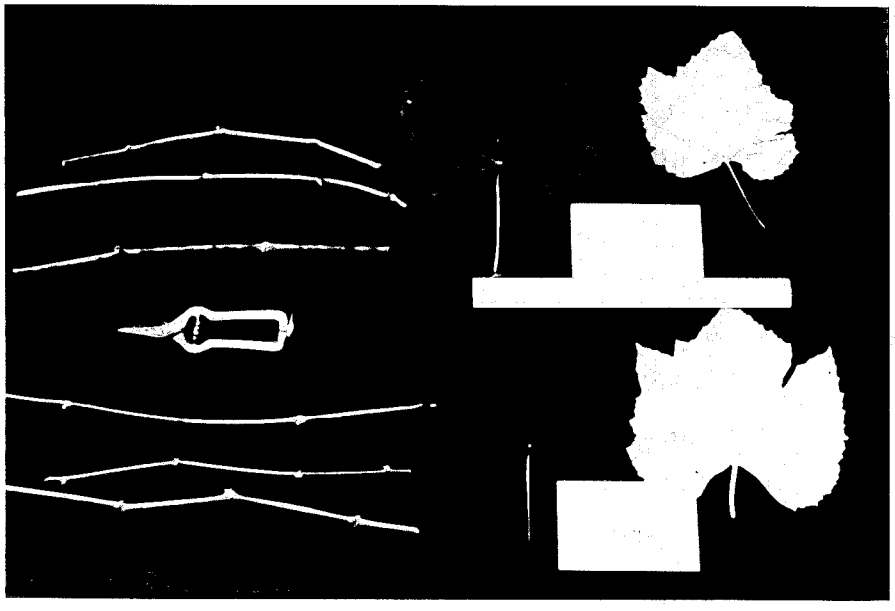


FIG. 8

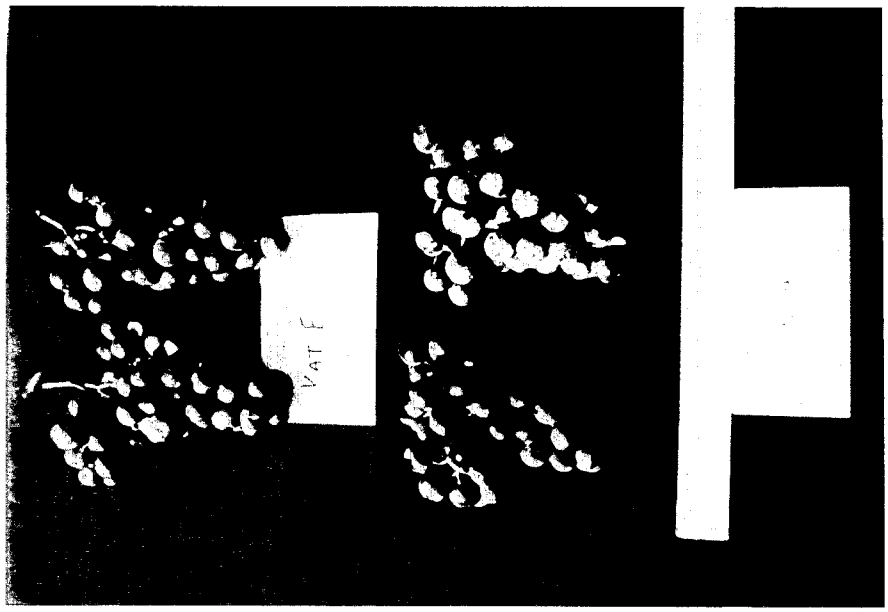


FIG. 5

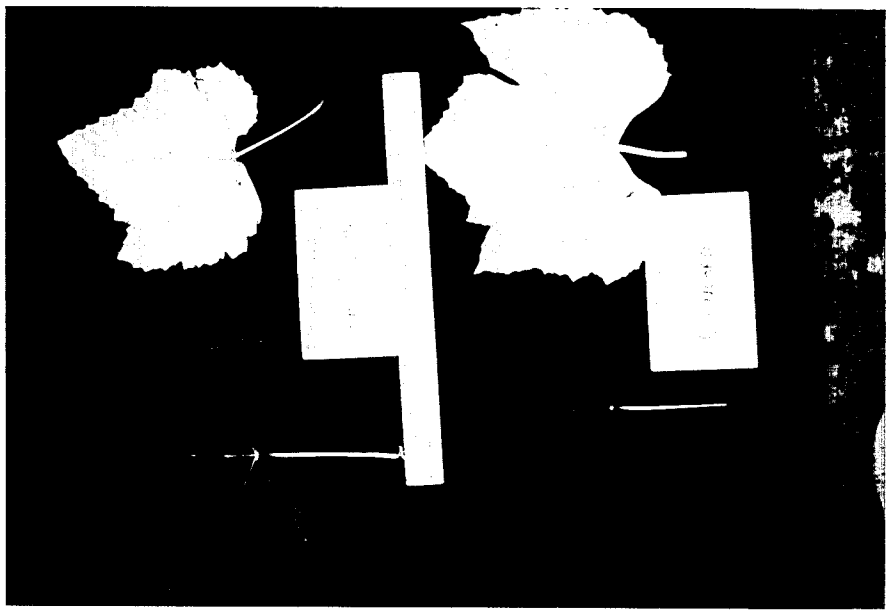


FIG. 7

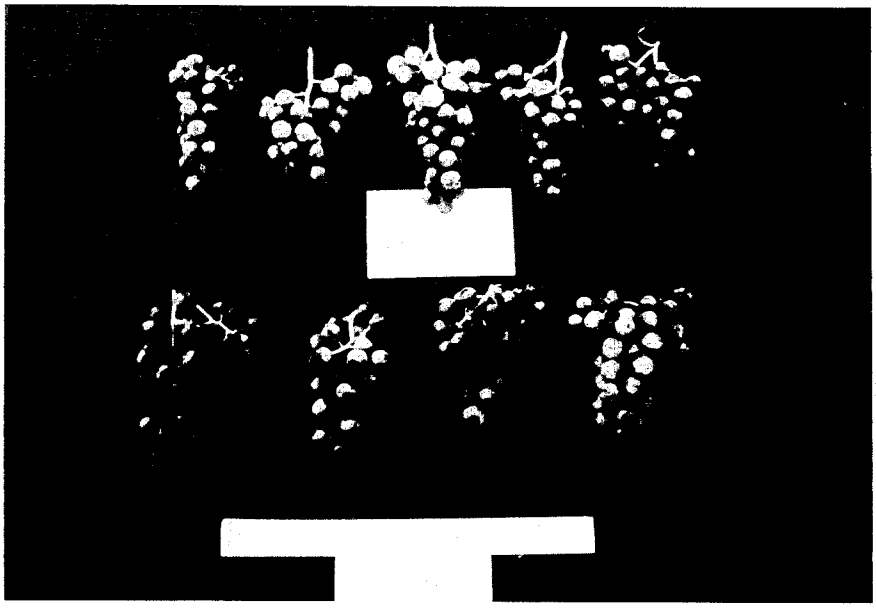
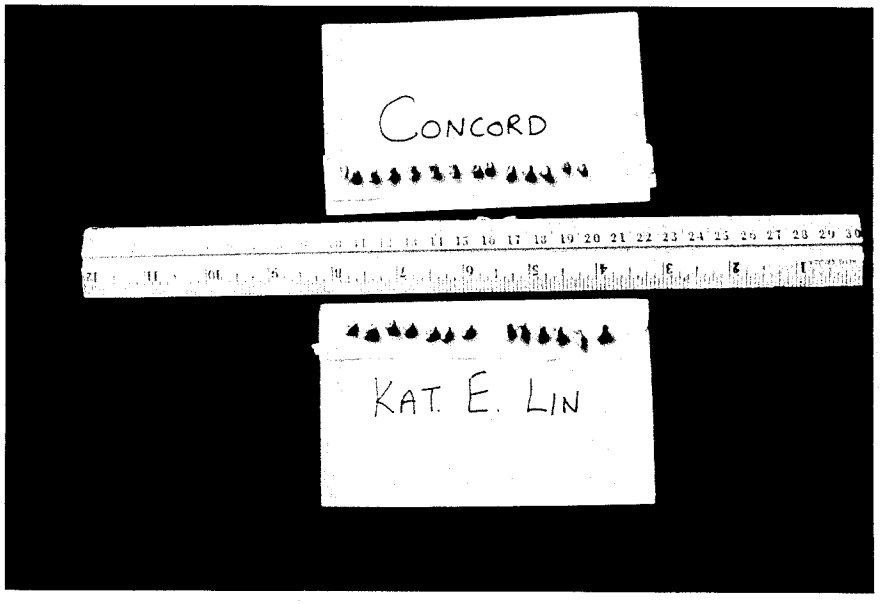


FIG. 9



UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : Plant 7,644

DATED : September 10, 1991

INVENTOR(S) : LOUNSBURY, SR. et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 2, line 15	Delete "growin", insert therefor -- growing --
Column 2, line 35	Delete "foolow", insert therefor -- follow --

On title page:

[54] Delete "GRAPVINE", insert therefor -- GRAPEVINE --

Signed and Sealed this

Twenty-second Day of June, 1993

Attest:

Michael K. Kirk

MICHAEL K. KIRK

Attesting Officer

Acting Commissioner of Patents and Trademarks