

Brodiaea volubilis

25/12/63 First plant $7\frac{3}{8}$ " high. $\frac{1}{4}$ " of tips turned brown.

Second plant $1\frac{11}{16}$ " high

29/12/63 First plant $7\frac{15}{16}$ high, $\frac{5}{16}$ tips brown, Second plant $1\frac{13}{16}$ high

1/1/64 " " $8\frac{1}{8}$ " $\frac{5}{16}$ " " " " $1\frac{7}{8}$ "

7/1/64 " " $8\frac{7}{16}$ " $\frac{1}{2}$ " " " " $1\frac{15}{16}$ "

14/1/64 " " $8\frac{9}{16}$ " $\frac{13}{16}$ " " " " $1\frac{15}{16}$ " $\frac{1}{8}$ " brown

Both plants have stopped growing

20/1/64 First plant green to $7\frac{9}{16}$ "; Second plant green to $1\frac{3}{4}$ "

27/1/64 " " " " $7\frac{5}{16}$ " " " " $1\frac{5}{8}$

3/2/64 " " " " $7\frac{1}{16}$ " " " " $1\frac{5}{16}$

11/2/64 " " " " $6\frac{5}{8}$ " " " " $1\frac{1}{16}$

13/2/64 " " " " - " " " " $\frac{3}{8}$

16/2/64 " " " " $6\frac{1}{2}$ " " " " 0

The pot was allowed to go dry on 14th + 15th. This hastened drying up of second plant. It was dug up & saved on 16/2/64.

23/2/64 First plant green to $6\frac{1}{8}$ "

1/3/64 " " " " $5\frac{15}{16}$

7/3/64 " " " " $5\frac{7}{8}$

15/3/64 " " " " $5\frac{3}{8}$

19/3/64 " " " " $4\frac{1}{2}$

22/3/64 " " " " $3\frac{3}{4}$

26/3/64 " " " " $1\frac{5}{8}$

29/3/64 " " " " $\frac{3}{8}$ "

2/4/64 " " " " $\frac{1}{8}$ "

20/4/64 Dug up & took photos. First bulb now quite large

16/6/64 Weighed 1st bulb 348.9mg.; 2nd bulb 16.4mg.

Growth in one year about 20 times weight.

Brodiaea Volubilis

- 15/10/63 Cleared out the two pots. Washed and sieved top inch of material. Got out
5 bulbs left to right
4 bulbs right to left.
also a lot of stone & grit yet to be sorted after drying.
- 18/10/63 Made a mixture of half fine sand and half soil. Made soaking wet. Planted the bulbs at about $\frac{5}{8}$ " in from edge of pot at pencil marks on rim. Put 5th bulb in center. The left to right bulbs are a larger better lot, also sprinkled on the dubious left to right seed salvaged on 24/1/63.
- 22/10/63 Examined all refuse without finding more bulbs. Quite a few defunct, hollow seeds were present, still no signs of sprouts in pots planted on 18/10/63.
- 28/10/63 Sprout about $\frac{1}{8}$ " high in center of pot left to right.
- 31/10/63 Sprout about $\frac{1}{4}$ " high. No others. Put pots in glass house.
- 3/11/63 Sprout now $\frac{1}{2}$ " high. Took it home for better care.
- 12/11/63 Sprout now $1\frac{1}{8}$ " high. Took photo. Left with Len Barker
- 22/11/63 " " $2\frac{3}{4}$ " " . Took photo. Returned it to Flat.
- 1/12/63 Sprout $4\frac{5}{16}$ " high. A second plant has started a sprout $\frac{3}{8}$ " high.
- 2/12/63 Discontinued the pot with right to left bulbs as none came up. Used this pot for *Dioscorea villosa*.
- 9/12/63 First sprout (leaf) $5\frac{1}{4}$ " high. Second plant $\frac{5}{8}$ " high. Took photo.
- 18/12/63 First plant $6\frac{1}{4}$ " high. Second plant $1\frac{3}{16}$ " high
- 22/12/63 First plant $6\frac{15}{16}$ " high. Top $\frac{3}{16}$ " of leaf turning brown as tho reaching maturity. Second plant $1\frac{1}{2}$ " high.

Brodiaea Volubilis

1964-65

20/10/64 Watered both pots to saturation.
Left on bench in office.

29/10/64 Large bulb seems to have small sprout at top.

2/11/64 " bulb has shoot $\frac{1}{4}$ " above ground. window

5/11/64 " " " " $\frac{3}{4}$ " Took to flat; put in east

7/11 $1\frac{3}{16}$ " 23/11 5"

8/11 $1\frac{1}{2}$ " 24/11 $5\frac{1}{8}$

9/11 $1\frac{7}{8}$ " 25/11 $5\frac{1}{2}$

10/11 $2\frac{1}{4}$ " 26/11 $5\frac{11}{16}$

11/11 $2\frac{7}{16}$ " 27/11 $5\frac{7}{8}$

12/11 $2\frac{1}{16}$ " 28/11 $6\frac{1}{16}$

Top $\frac{1}{2}$ " green, all
rest purple.

13/11 3" 29/11 $6\frac{1}{4}$

14/11 $3\frac{1}{4}$ " 30/11 $6\frac{5}{16}$

15/11 $3\frac{1}{2}$ " 1/12 $6\frac{9}{16}$

16/11 $3\frac{11}{16}$ " 2/12 $6\frac{3}{4}$

17/11 4" 3/12 $6\frac{15}{16}$

18/11 $4\frac{1}{4}$ " 4/12 $7\frac{1}{16}$

19/11 $4\frac{3}{8}$ "

20/11 $4\frac{5}{8}$ "

21/11 $4\frac{13}{16}$ "

22/11 $4\frac{15}{16}$ "

a cylindrical sheath
is around base of leaf.

Leaf is purple at base.

This leaf has a crescent cross-section like a lily.
Last year it was cylindrical like onion.

Beginning to
dry at tip.

Bottom 1" purple.

Sheath higher.

7/12 $7\frac{9}{16}$

8/12 $7\frac{11}{16}$

9/11 Dug up small bulb.
Still hard & smooth just like
when planted.

16/11 Put in 80°F room,

26/11 Dug up. Rotten

9/12 $7\frac{7}{8}$ " ^{Green} 23/12 $10\frac{1}{8}, 9\frac{7}{8}$

10/12 $8\frac{7}{16}$ " 24/12 $10\frac{1}{4}, 10$

11/12 $8\frac{1}{8}, 8$ 25/12 $10\frac{3}{8}, 10\frac{1}{8}$

12/12 $8\frac{5}{16}, 8\frac{1}{8}$ 26/12 $10\frac{7}{16}, 10\frac{3}{16}$

13/12 $8\frac{7}{16}, 8\frac{1}{4}$ 27/12 $10\frac{1}{2}, 10\frac{1}{4}$

14/12 $8\frac{5}{8}, 8\frac{7}{16}$ 28/12 $10\frac{9}{16}, 10\frac{5}{16}$

15/12 $8\frac{7}{8}, 8\frac{11}{16}$ 29/12 $10\frac{9}{8}, 10\frac{7}{8}$

16/12 $9\frac{1}{16}, 8\frac{7}{8}$ 30/12 " "

17/12 $9\frac{3}{16}, 9$ Sheath $\frac{3}{16}$ " high.

18/12 $9\frac{3}{8}, 9\frac{3}{16}$ Only trace of purple
remains on leaf.

19/12 $9\frac{1}{2}, 9\frac{5}{16}$ 31/12 $10\frac{11}{16}, 10\frac{3}{8}$

20/12 $9\frac{5}{8}, 9\frac{7}{16}$ 1964 end 1965 start

21/12 $9\frac{3}{4}, 9\frac{9}{16}$ 1/1 $10\frac{3}{4}, 10\frac{7}{16}$

22/12 $10, 9\frac{3}{4}$ 2/1 " "

3/1 $10\frac{3}{4}, 10\frac{3}{8}$ Sheath $\frac{1}{4}$ " high.

Beginning to dry
(over)

Date	Green	Total
4/1	10 ³ / ₈	10 ³ / ₄
5/1	"	"
6/1	10 ⁵ / ₁₆	"
7/1	10 ³ / ₈	10 ¹³ / ₁₆
8/1	10 ⁹ / ₁₆	"
9/1	10 ⁵ / ₁₆	10 ⁷ / ₈
10/1	"	"
11/1	10 ¹ / ₄	"
12/1	"	"
13/1	"	"
14/1	"	"
15/1	10 ³ / ₁₆	"
16/1	"	"
17/1	10 ¹ / ₈	"
18/1	10 ¹ / ₁₆	"
19/1	"	"
20/1	"	"
21/1	10	"
22/1	"	"
23/1	"	"
24/1	"	"
25/1	9 ¹⁵ / ₁₆	"
26/1	9 ⁷ / ₈	"
27/1	"	"
28/1	"	"
7/2	9"	"

Date	Green	Total
9/2	8 ¹ / ₂ "	"
11/2	8"	"
12/2	6"	"
13/2	5"	"
14/2	3"	"

The leaf has been yellow down to base for more than a week. During night it collapsed. When I straightened it up the leaf came out of sheath at base. End of this years cycle.

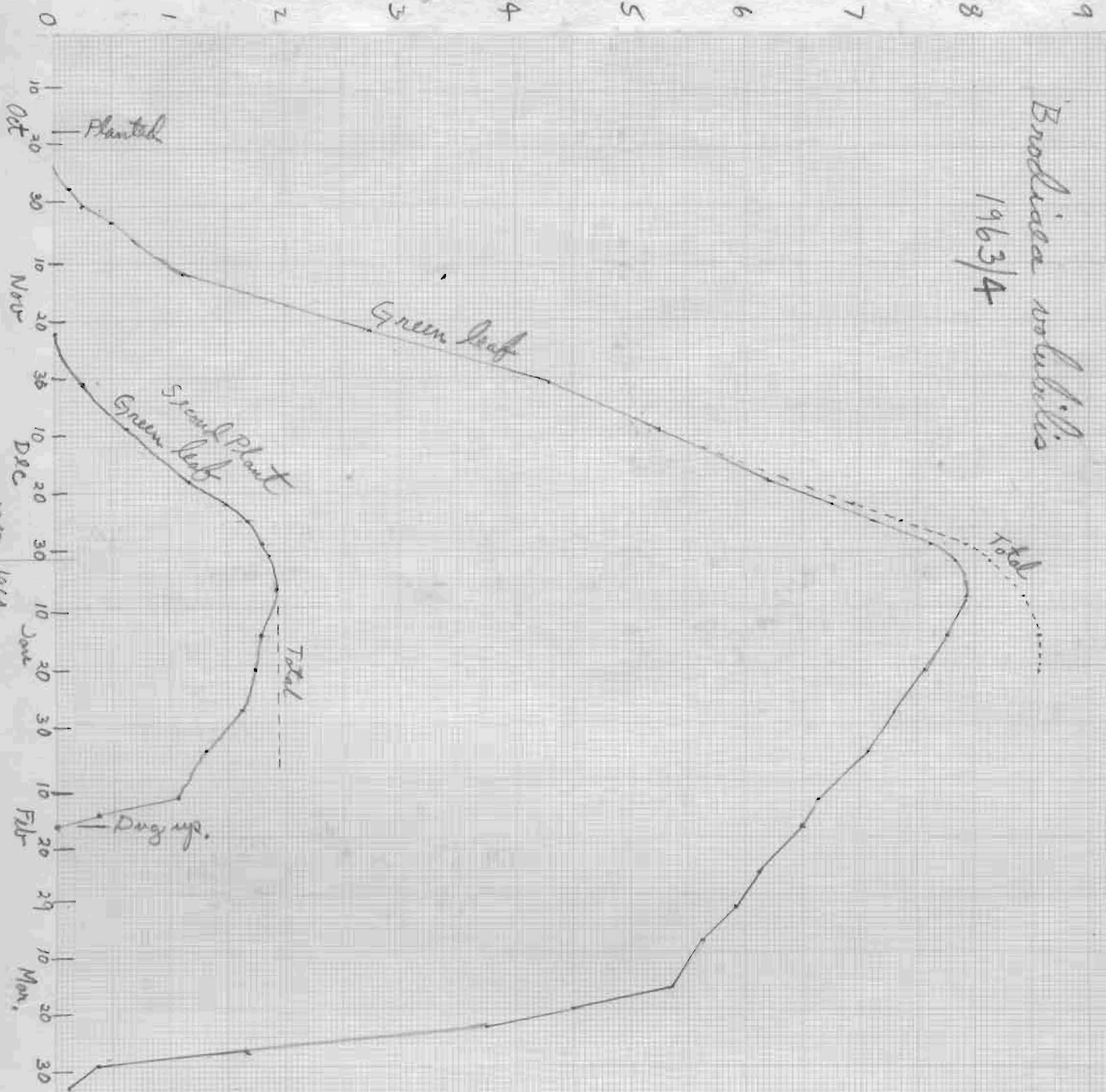
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Brodiaea volubilis

2/7/64 Replanted both bulbs in same kind of soil as before but about $\frac{1}{2}$ more sand added to loosen it up. Put on a bit of water to give small amount of moisture

First Plant leaf height in inches

Brassica oleracea
1963/4



Brodiaea Volubilis

1965/6

2nd August. Put some water on pot and set on shelf.

12th August. Green shoot $\frac{7}{16}$ " high

16 " $\frac{3}{4}$ "

17 " $1\frac{5}{16}$ "

18 " $1\frac{1}{16}$ "

20 " $1\frac{1}{2}$ Two more shoots

23 " 2"

25 " $2\frac{1}{2}$ "

26 " $2\frac{7}{8}$ "

One more shoot (4 total) Took photo.

27 ~~$3\frac{1}{4}$~~

30 4

31 $4\frac{7}{16}$

2/9 $4\frac{7}{8}$

3/9 $5\frac{1}{16}$

6/9 $5\frac{1}{2}$

7/9 $5\frac{7}{8}$

9/9 $6\frac{3}{16}$

10/9 $6\frac{1}{2}$

13/9 $6\frac{7}{8}$

14/9 $7\frac{1}{16}$

16/9 $7\frac{1}{4}$

17/9 7⁷/₁₆ Tip only 2nd + 3rd stalks dried ³/₄"

20/9 7³/₄ 25 14¹/₈ 11¹/₄

21/9 7³/₄ 26 14¹/₄ 11³/₈

23/9 7⁷/₈ 30 14¹/₂ 10¹/₄

24/9 7¹²/₁₆ 11/11 " 9¹/₂

27/9 8³/₈ Took foto 3 " 7¹/₂

28/9 8¹¹/₁₆ 5 " 7

30/9 8⁷/₈ 8 " 6

1/10 9¹/₈ 9 " 3

4/10 9⁷/₁₆ 12 " 1¹/₂

5/10 9¹¹/₁₆ 15 " 1¹/₂

9/10 9¹/₂ 18 " "

7/10 10¹/₈ 9¹³/₁₆

8/10 10⁹/₈ 10³/₁₆

11/10 11⁵/₁₆ 10³/₄

12/10 11⁹/₁₆ 10¹³/₁₆

14/10 12 11¹/₄

15/10 12¹/₄ 11¹/₄

Took 2 fotos

19/10 13 11¹/₂

21 13⁷/₁₆ 11¹/₄

22 13³/₄ 11¹/₄ 3 small stalks entirely dry

22 0" Placed in cool dry office
17/12/65 dug up bulb. Weighs 165 gms.
Has 7 small bulblets at sides.
Took 3 fotos + replanted bulb in pot
to keep from drying out.

Brodiaea volubilis

7/3/66 Removed small bulbs from sides of large bulb. Made up four plastic pots and three plastic tumblers with half and half mixture of sandy soil and perlite. Put one small bulb in center of each of these seven. Put large bulb in clay pot with same soil used last year. Watered all thoroughly before putting bulbs into ground and again afterwards.

21/3 No visible activity. Decided to let lay out.

10/5 Dug all up. Large bulb OK, 1.06 grams. Of seven small bulbs ^{only} recovered two rotten remains of husks and two probably OK at 0.039 gm and 0.011 gm. Put all three in an envelope.

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16/9/66 The three bulbs were taken from envelope and weighed. They were respectively 0.7993, 0.0216, 0.0066 gram. They had dried considerably from 10/5/66 when weights were 1.06, 0.039, 0.011 gram. The large bulb has a shoot $\frac{1}{4}$ " long coming out top at a 45° angle. Apparently, bulb has been lying on side in drawer. No sign of roots. Planted three bulbs in moist soil in centers of respectively; clay pot, red plastic pot, grey plastic pot.

19/9 The large bulb shoot now $\frac{1}{2}$ " above surface.

21/11 Plants have ceased growing. The small shoot was a dud as it quit growing after one week. All are now drying at tips. Plant material is going down into bulb now, as this seasons life cycle is nearing completion. Took both plants from glass house and brought into office window again. They were put into glass house to receive more light on about 17/10/66.

15/12 The leaves have completely withered and become detached at base. Only center shoot still fastened to bulb. Obviously this is end of life cycle this year.

19/12 Put large bulb into bottom cupboard, still in pot. Dormant.

27/12 Shoot on small bulb now loose at base. Put it into bottom of cupboard also, Dormant.
End of cycle for this year.

Brodiaea Volubilis

The green runner
came up very fast.
It appeared as if by
magic over weekend
4th to 7th.

Date	Large Height	Small Height	Date	Large	Small			
19/9	$\frac{1}{8}$ "		28/10	$14\frac{1}{16}$	$6\frac{2}{16}$			
20/9	$\frac{1}{4}$ "	-	31/10	$15\frac{1}{4}$	$7\frac{3}{8}$			
22/9	$\frac{1}{2}$ "	$\frac{1}{8}$	1/11	$15\frac{3}{4}$	$7\frac{1}{16}$			
23/9	$1\frac{1}{16}$	$\frac{3}{16}$	3/11	$16\frac{1}{2}$	$8\frac{1}{8}$			
26/9	$1\frac{3}{8}$	$\frac{7}{16}$	4/11 Green	Total				
27/9	$1\frac{9}{16}$	$\frac{1}{2}$	4/11	$16\frac{3}{4}$	$16\frac{7}{8}$	Runner	Green	Total
29/9	$2\frac{7}{16}$	$\frac{3}{4}$	7/11	18	$18\frac{1}{4}$	$2\frac{1}{4}$	$8\frac{1}{2}$	$8\frac{11}{16}$
30/9	3	$10\frac{1}{16}$	8/11	$18\frac{1}{8}$	$18\frac{3}{8}$	$2\frac{3}{4}$	$8\frac{5}{8}$	$8\frac{7}{8}$
1/10	$3\frac{7}{8}$	$1\frac{1}{8}$	10/11	$18\frac{1}{4}$	$18\frac{13}{16}$	$3\frac{1}{16}$	$8\frac{13}{16}$	$9\frac{1}{16}$
3/10	$4\frac{1}{2}$	$1\frac{3}{8}$	Gave runner a piece of string.					
4/10	$4\frac{3}{8}$	$1\frac{1}{2}$	11/11	$18\frac{5}{16}$	19	$3\frac{1}{8}$	$8\frac{7}{8}$	$9\frac{1}{4}$
5/10	$5\frac{1}{8}$	$1\frac{5}{8}$	14/11	$18\frac{1}{2}$	$19\frac{5}{8}$	$3\frac{3}{16}$	$9\frac{3}{16}$	$9\frac{9}{16}$
6/10	$5\frac{11}{16}$	$1\frac{3}{4}$ "	15/11	$18\frac{5}{8}$	$19\frac{3}{4}$	$3\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{3}{4}$
7/10	$6\frac{1}{16}$	$1\frac{7}{8}$ "	17/11	$18\frac{1}{2}$	20	$3\frac{1}{4}$	$9\frac{1}{4}$	$9\frac{3}{4}$
10/10	$6\frac{3}{4}$	$2\frac{1}{8}$ "	18/11	$18\frac{1}{4}$	$20\frac{1}{8}$	$3\frac{1}{4}$	$9\frac{1}{8}$	$9\frac{7}{8}$
11/10	$7\frac{1}{4}$	$2\frac{5}{16}$	21/11	$16\frac{1}{2}$	$20\frac{1}{8}$	$3\frac{1}{4}$	$9\frac{1}{4}$	10
12/10	$7\frac{5}{8}$	$2\frac{1}{2}$	5/12	$6\frac{3}{4}$	"	all dry	4	"
13/10	8	$2\frac{3}{4}$	15/12	all dry			$3\frac{1}{2}$	"
14/10	$8\frac{5}{8}$	3	19/12				3"	
17/10	10	$3\frac{5}{8}$	27/12				all dry	
18/10	$10\frac{1}{2}$	$3\frac{15}{16}$						
19/10	$11\frac{1}{16}$	$4\frac{3}{16}$						
20/10	$11\frac{5}{8}$	$4\frac{1}{2}$						
21/10	12	$4\frac{13}{16}$						
24/10	$12\frac{1}{2}$	$5\frac{7}{10}$						
25/10	$13\frac{1}{8}$	$5\frac{7}{8}$						