

2023. AUTUMN CAMPAIGN

**PRIMARY SCHOOL - VELI VRH PULA,
CROATIA**

N 44.8912

E 13.8480



GREEN – DOWN ACTIVITIES

ACTIVITY 1 – MY TREES

Tilia cordata



N 44.891109 E 13.847583 42.5m

Ficus carica



N 44.891996 E 13.846299 37.1m

Tilia cordata



Ficus carica



- Both trees are located next to the school
- We started observation on September 22, 2023.
- The current air temperature was 26.5 degrees, it was partly cloudy and the ground was muddy because it had rained the day before.

ACTIVITY 2 – COLOR CHANGE

Tilia cordata



The dominant color for both trees is 5GY 3/2

Ficus carica



OUR ACTIVITIES DURING A MONTH AND A HALF OF OBSERVATION

Tilia cordata



Ficus carica



Tilia cordata

Ficus carica

Green-down

Tree, Shrub, and Grass Green-Down Data Sheet

School Name: OS VESTI VRI PULA Study Site: LIPA
 Observer Names: JOEL, SARA, AMB, PARE, LINDA, VANESA, TAMARA
 Plant Scientific Name: Genus TILIA Species: (LIPA)
 Plant Common Name: LIPA - SMALL LEAVED LIME
 Green-Up Cycle: Year 2023

Tree, Shrub and Grass Green-down					
Date (day & month)	Leaf 1 (Color, fallen, or snow covered)	Leaf 2 (Color, fallen, or snow covered)	Leaf 3 (Color, fallen, or snow covered)	Leaf 4 (Color, fallen, or snow covered)	Data entry ✓
29.9.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
2.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
6.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
9.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
13.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
16.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
20.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
23.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
27.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
30.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
3.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
6.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
10.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
13.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
16.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
19.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
22.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
25.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
28.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
31.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
3.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
6.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
9.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
12.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
15.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
18.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
21.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
24.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
27.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
30.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
31.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓



We measured and observed the leaves twice a week.



Green-down

Tree, Shrub, and Grass Green-Down Data Sheet

School Name: OS VESTI VRI PULA Study Site: SHOKVA A
 Observer Names: JOEL, SARA, AMB, PARE, LINDA, VANESA, TAMARA
 Plant Scientific Name: Genus FICUS Species: (SHOKVA A)
 Plant Common Name: FIC (GARDEN)
 Green-Up Cycle: Year 2023

Tree, Shrub and Grass Green-down					
Date (day & month)	Leaf 1 (Color, fallen, or snow covered)	Leaf 2 (Color, fallen, or snow covered)	Leaf 3 (Color, fallen, or snow covered)	Leaf 4 (Color, fallen, or snow covered)	Data entry ✓
29.9.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
2.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
6.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
9.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
13.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
16.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
20.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
23.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
27.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
30.10.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
3.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
6.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
10.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
13.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
16.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
19.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
22.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
25.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
28.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
31.11.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
3.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
6.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
9.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
12.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
15.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
18.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
21.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
24.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
27.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
30.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓
31.12.23	56Y 3/2	56Y 3/2	56Y 3/2	56Y 3/2	✓

Check the last column in the green-down table to keep track of data submitted.

Comments (date each submitted):



ACTIVITY 3 – MY GREEN - DOWN DATA

Tilia cordata

School: OS Veli Vrh

Site: Fenologija - LIPA



Measurements

Data Counts

School Info

Site Info

Photos

Biosphere

Green-Down

Green-Down

Data Date Range: 2023-09-29 to 2023-11-20

Plant: Tilia / cordata

Predominate

Measured On: 2023-09-29

Greening Cycle Number: 1

Leaf Color List: 5GY:3/2 5GY:3/2 5GY:3/2 5GY:3/2

Number Of Leaves: 4

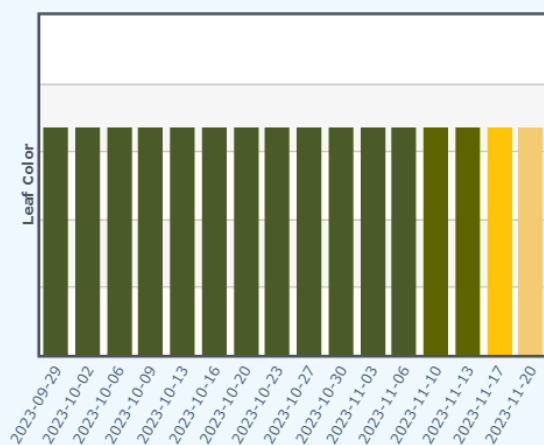
Leaf State: color change

Predominate Leaf Color: 5GY:3/2

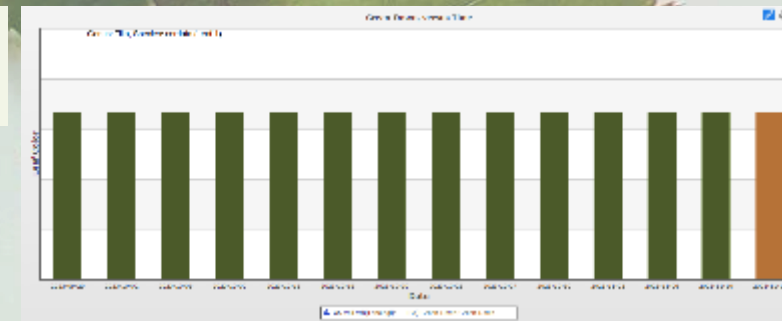
Number Of Same Plants: 1

Comments: Air temperature = 27.3 degrees, cloudless sky

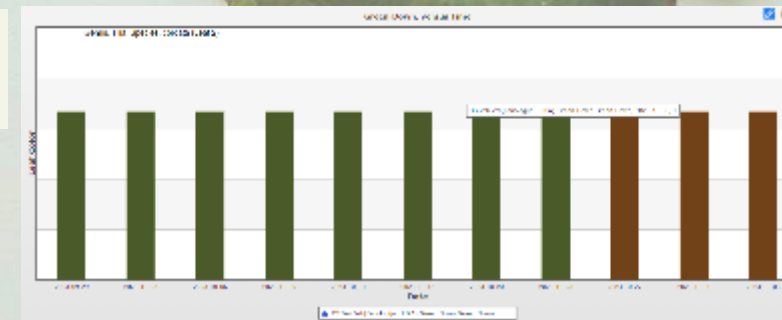
Measured On: 2023-10-02



Leaf 1 – fallen
17.11.2023



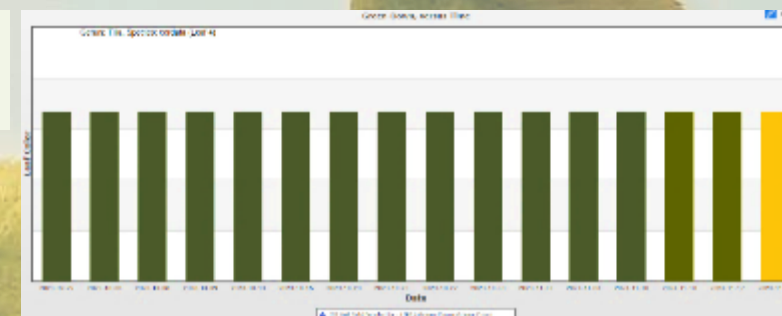
Leaf 2 – fallen
6.11.2023



Leaf 3 – fallen
24.11.2023



Leaf 4 – fallen
24.11.2023



The observation ended on November 24th because all the leaves from the branch we are observing have fallen.

- Since October 25, the weather has been very windy and rainy.

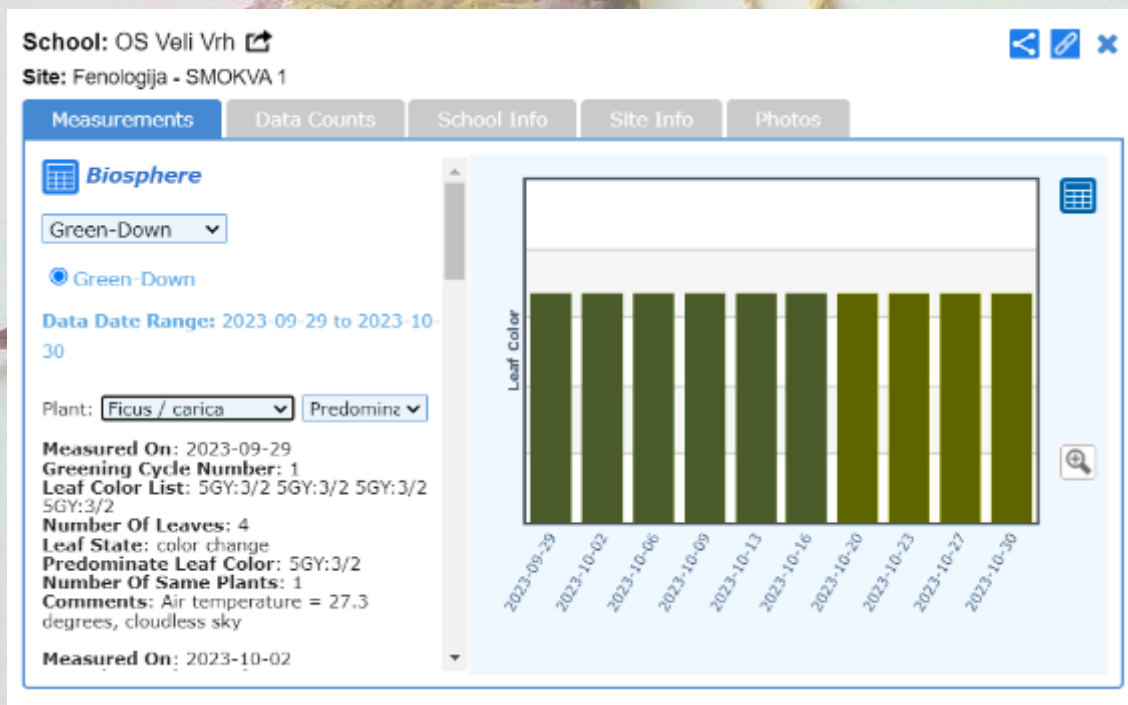
A close-up photograph of several autumn leaves, likely from a lime tree, showing a mix of deep red, brown, and yellow-green colors. The leaves are arranged on a light-colored, textured surface. A small, thin, light-colored stem is visible near the bottom right.

Video of lime tree change.

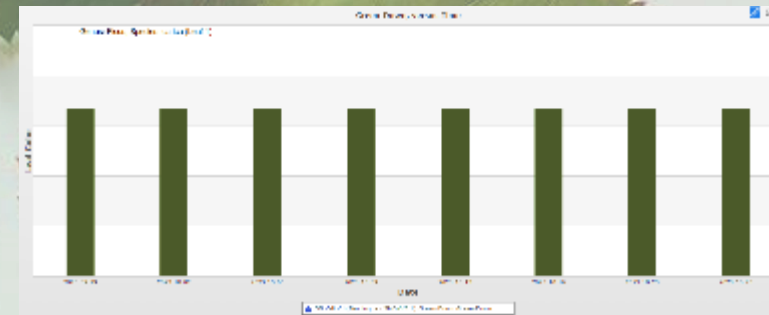


ACTIVITY 3 – MY GREEN - DOWN DATA

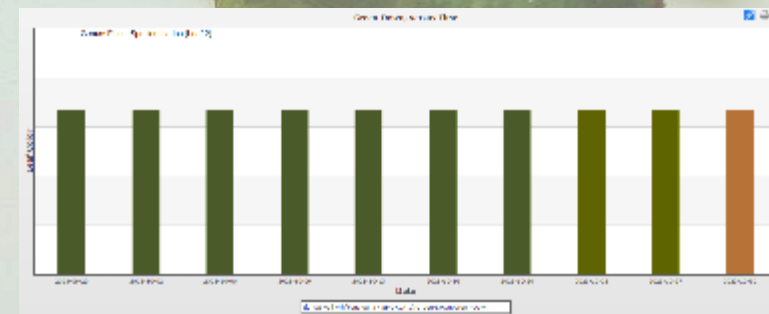
Ficus carica



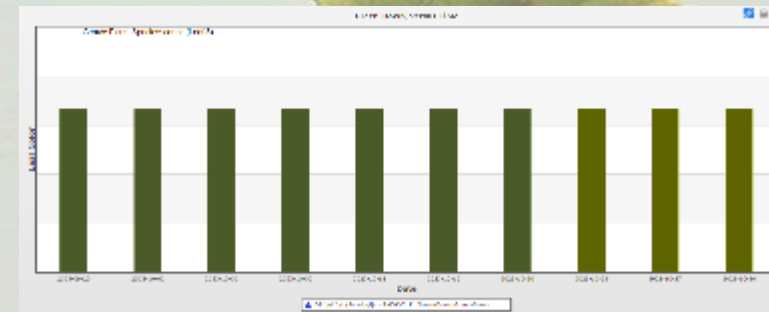
Leaf 1 – fallen
27.10.2023



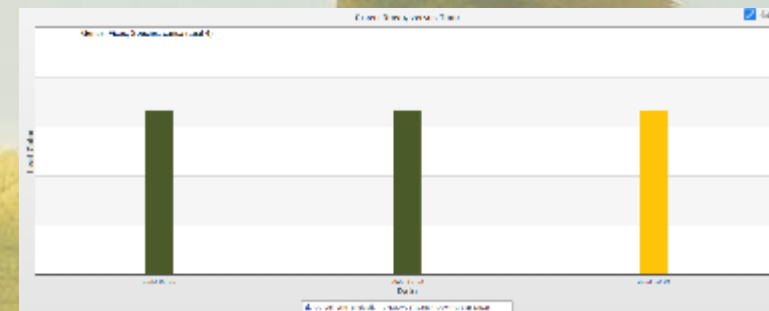
Leaf 2 – fallen
3.11.2023



Leaf 3 – fallen
3.11.2023



Leaf 2 – fallen
9.10.2023



The observation ended on November 3th because all the leaves from the branch we are observing have fallen. We concluded that the color of the fig leaves changed faster than the color of the lime tree leaves and that the fig lost its leaves much faster than the lime tree.

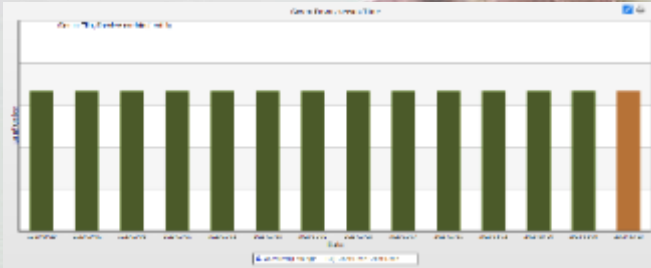
A close-up photograph of several fig leaves laid out on a light-colored, flat surface. The leaves are in various stages of autumn color change, with some showing deep red, others a mix of red and yellow, and some still green. The veins of the leaves are clearly visible. A small, thin, light-colored stem is also visible at the bottom right.

Video of fig change.

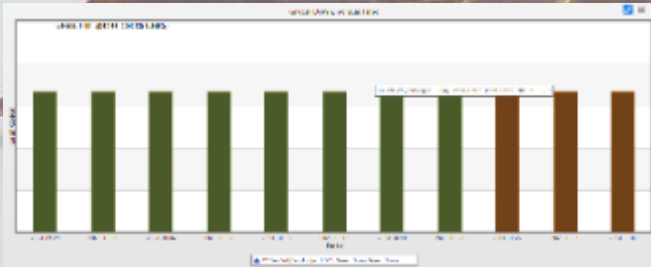


COLLABORATION WITH ELEMENTARY SCHOOL VLADIMIR NAZOR PAZIN - DISTRICT SCHOOL KAROJBA

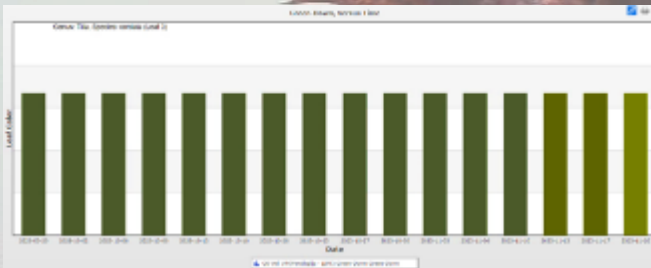
ELEMENTARY SCHOOL VELI VRH PULA, CROATIA



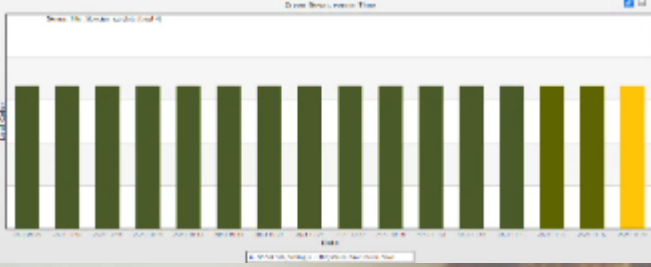
Leaf 1 – fallen
17.11.2023



Leaf 2 – fallen
6.11.2023



Leaf 3 – fallen
24.11.2023

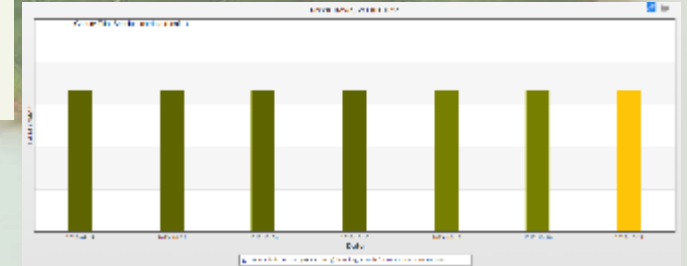


Leaf 4 – fallen
24.11.2023



ELEMENTARY SCHOOL VLADIMIR NAZOR PAZIN - DISTRICT SCHOOL KAROJBA, CROATIA

Leaf 1 – fallen
30.10.2023



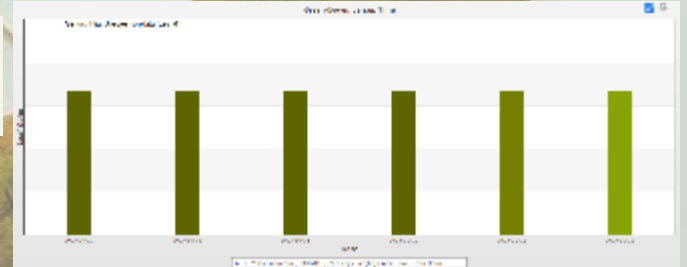
Leaf 2 – fallen
27.10.2023



Leaf 3 – fallen
27.10.2023



Leaf 4 – fallen
27.10.2023



LIME TREE

ELEMENTARY SCHOOL VELI VRH PULA, CROATIA



13.11.2023

- Pula - Mediterranean climate
- Karojba - sub-Mediterranean climate

The lime tree leaves in Karojba are lighter in color, change color much faster and fall off faster than the lime tree leaves in Pula.

ELEMENTARY SCHOOL VLADIMIR NAZOR PAZIN
- DISTRICT SCHOOL KAROJBA, CROATIA



14.11.2023

HOW TALL IS MY TREE?

Tilia cordata

Measured Date:	2023-09-22
Organization Name:	OS Veli Vrh
Site ID:	122717
Site Name:	33TVK090715
Latitude:	44.891109
Longitude:	13.847583
Elevation:	42.5m
Measured At:	2023-09-22T11:00:00
Leaves On Trees:	true
Tree Height Average:	7.88 m
Circumference:	90 cm
Muddy:	true
Data Source:	GLOBE Observer App



Ficus carica

Measured Date:	2023-09-25
Organization Name:	OS Veli Vrh
Site ID:	188129
Site Name:	33TVK089716
Latitude:	44.891996
Longitude:	13.846299
Elevation:	37.1m
Measured At:	2023-09-25T10:55:00
Leaves On Trees:	true
Tree Height Average:	4.5 m
Circumference:	170 cm
Dry Ground:	true
Data Source:	GLOBE Observer App

HOW LEAVES LOSE WEIGHT?

Tilia cordata

$m \text{ (green leaf)} = 0.63\text{g}$
$m \text{ (C in green leaf)} = 0.315\text{g}$
$\text{Area (green leaf)} = 0.008 \text{ m}^2$
$m \text{ (C in green leaf /m}^2\text{)} = 39.38\text{g}$
$m \text{ (yellow leaf)} = 0.55\text{g}$
$m \text{ (C in yellow leaf)} = 0.275\text{g}$
$m \text{ (C in yellow leaf /m}^2\text{)} = 34.38\text{g}$
$m \text{ (C in green leaf /m}^2\text{)} - m \text{ (C in yellow leaf /m}^2\text{)} = 5\text{g}$

Ficus carica

$m \text{ (green leaf)} = 3.95\text{g}$
$m \text{ (C in green leaf)} = 1.975\text{g}$
$\text{Area (green leaf)} = 0.02 \text{ m}^2$
$m \text{ (C in green leaf /m}^2\text{)} = 98.75\text{g}$
$m \text{ (yellow leaf)} = 3.42\text{g}$
$m \text{ (C in yellow leaf)} = 1.710\text{g}$
$m \text{ (C in yellow leaf /m}^2\text{)} = 85.50\text{g}$
$m \text{ (C in green leaf /m}^2\text{)} - m \text{ (C in yellow leaf /m}^2\text{)} = 13.25\text{g}$

The fig recycled from its leaves and stored more carbon for the winter than the lime tree.



THANK YOU FOR ATTENTION



GLOBE TEACHER: Nataša Trenčevska

STUDENTS: Dora, Saša, Maro, Amar, Lidia, Vanessa, Tamara