The Bulb in the Glass

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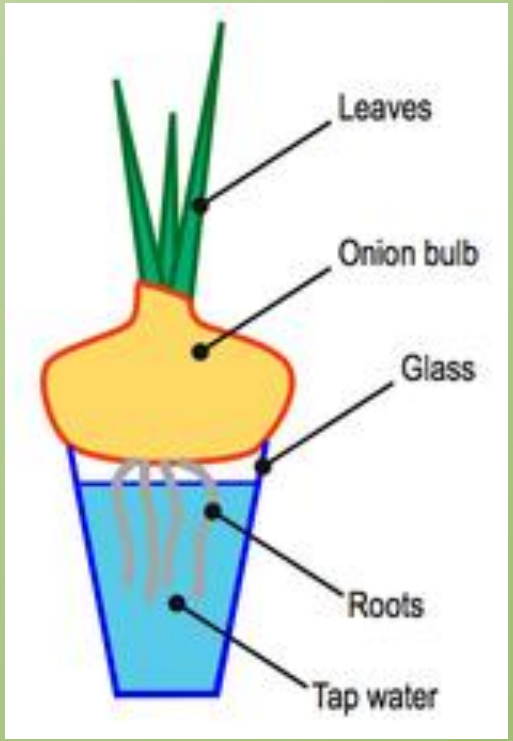
Task

There is a popular way to force onions in glass, filled with water. The bulb gives roots and leaves, and at the same time the volume of water in the glass decreases. What factors can influence the speed of water uptake?



General Information

Experiment

1st bulb

- No evaporating surface
- Light surroundings

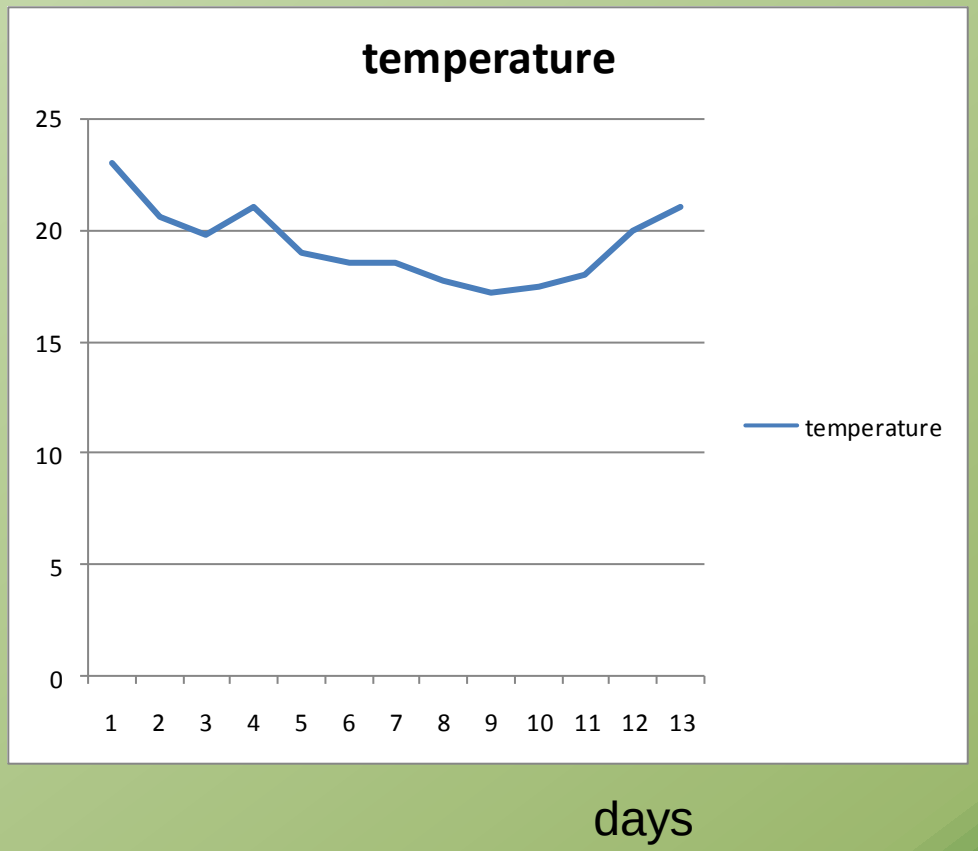
2nd bulb
• Light surroundings

3rd bulb
•Dark surroundings

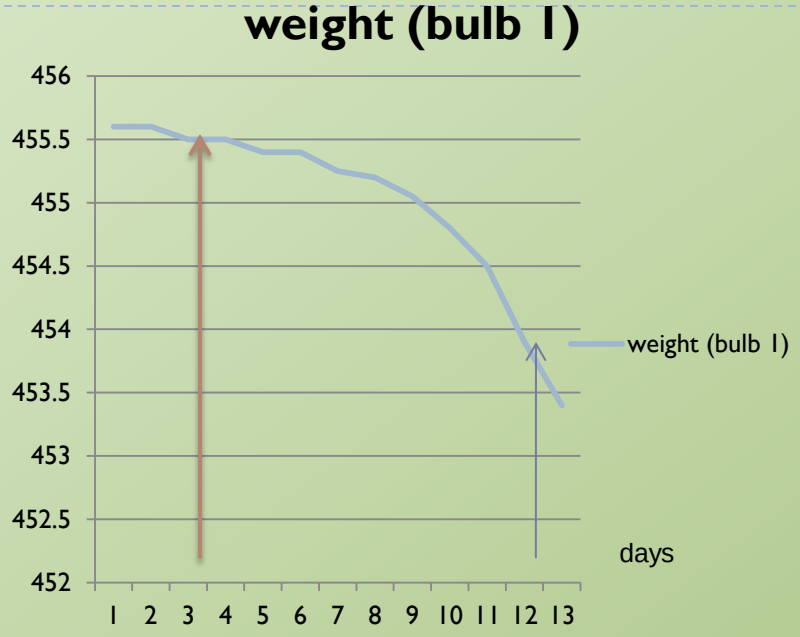
Experimental setting

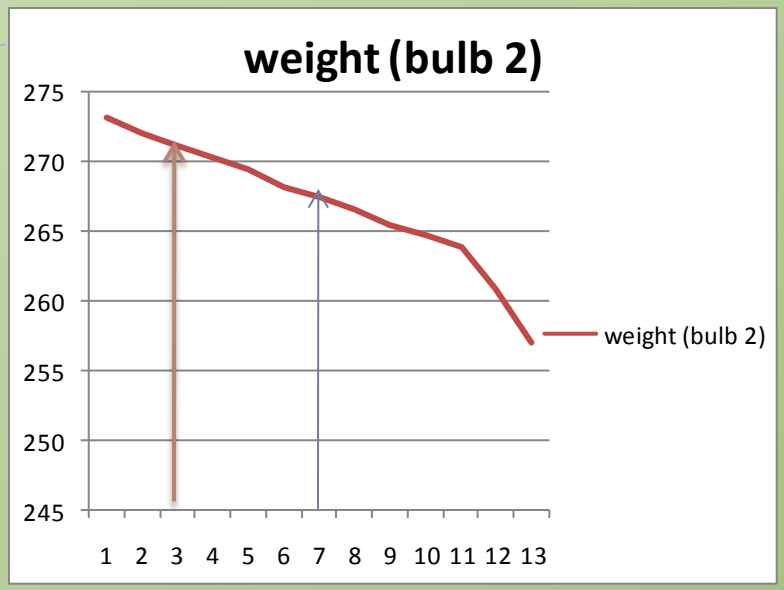
Change of temperature

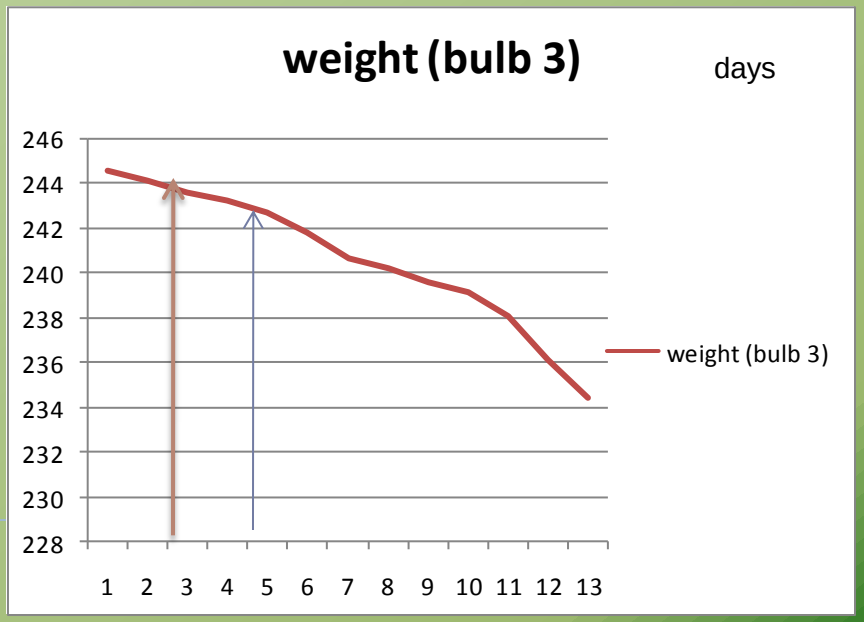
17°C - 23°C



Change of total weight







days

Bulb 1

20.03.13

22.03.13

31.03. 13

02.04.13

Bulb 2

20.03.13

22.03.13

26.03.13

02.04.13

Bulb 3

20.03.13

22.03.13

31.03. 13

02.04.13

Results

weight : (g)	Bulb 1		Bulb 2		Bulb 3	
	in the beginning	in the end	in the beginning	in the end	in the beginning	in the end
glass + water	370,8	351,3	206,1	165,3	196,6	152
total weight	455,6	453,4	273,1	257	256,5	246,3
bulb	84,7	101,6	67	89,3	59,9	93,4
leaves	x	3,7	x	10,2	x	22,8
roots	x	3,3	x	4,1	x	7,8
△total weight	-2,2		-16,1		-10,2	
△ bulb	16,9		22,3		33,5	
△ water	-19,5		-40,8		-44,6	

Conclusion

Factors that influence the speed of the water uptake :

- Osmosis
- Root pressure
- Transpiration
- Photosynthesis

References :

- www.wikipedia.com
- Encyclopedia "Висши растения'
- Eencyclopedia "Фотосинтеза"

Thank you for the attention !