

Seasonal Changes in Nature and in Agriculture

1. What occurs our natural surroundings?

- What changes in nature do you feel in your surroundings?
- What is the weather in the morning and in the evening?
- What is the length of the day? When does it get dark?
- Which plants and fruits typically sprout at this time of the year? (Cacti, guava, pomegranates, mandarins, dates)
- Which agricultural activities take place the end of summer and in fall? In plantations (date harvesting) in vineyards (harvesting ends) and in fields (cotton picking, plowing for a new season).

The Tishrei Period / Azaria Alon, Beit Hashita, Nov. 14, 1998

The Tishrei period – the name given in the Mishnah to the season of the year that we refer to today as Autumn.

The months of Tishrei, Cheshvan and Kislev are part of this season as it appears together with the three other season symbols – the period of Tevet, the period of Nissan and the Tammuz period – at the circumference the zodiac illustrations in the ancient synagogues of Beit Alpha and of Hammat, Tiberias. Thus, ostensibly, the Tishrei period is fixed and known, and can be expected in advance, yet it comes upon us every year suddenly, finds us unprepared, with the added adage that "we have never had such a year".

But this time I'm not going to talk about the things that got wet in the rain nor – about the roof that was not fixed on time, but about some nature changes that we ought to have gotten used to a long time ago, yet they seem to surprise us every year anew.

For starters, let's discuss with what was once called "Spring in Elul". Our summer is a season of a growth standstill in non-irrigated landscapes. This is a heat standstill, as





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we have a frost standstill in January and February. At this

time, as the days shorten, the heat subsides, and there is still no rain, a few of the trees and bushes awaken and bloom. Suddenly fresh leaves appear at the edge of branches, as if spring had arrived. The behavior of some plants and animals that had disappeared completely in the summer is astonishing – being hidden formerly in the depths of the ground, and suddenly appear at the surface. Of almost every one of them we ask:

What woke you up, the rain or the calendar? It is easy to point at the rain as being responsible for this, but often the argument is not valid. The most famous plant that contradicts this is the squill, which blooms long before the first drop of rain falls. It has been explained more than once that the squill flowers that sprout in Elul are actually last year's flowers: the leaves of the previous winter that had filled its onion and had prepared the inflorescence inside it. The difference between squills and other onion plants is that its sprouting does not occur at the time of its growth, but rather after a period of rest in the soil. This is how we can understand the phenomenon of dozens of species of flowers that emerge from the ground at or before the initial rains of the season: the existence of a biological clock in an inactive organ, seemingly operates like a clock that alerts the plant to its winter activity. In some cases, this clock is completely autonomous, and does not depend on any occurrences above the ground: neither drops in temperature, nor rainfall.

In other cases, a trigger is necessary: a drop in temperature, or a few drops of moisture, dew, or rain. And where do we know that in these cases there is a biological clock at all? Perhaps we wrong, and only the climate factor works as the stimulant? Let us consider what occurs where there are onions or tubers and also irrigation in the summer: you can water as much as you wish; The onions will not awaken until the internal clock alerts them. At the most, the dampness will effectuate the emergence of the flowers or leaves in the irrigated area a few days before their appearance in a dry area. I noticed an interesting phenomenon in my garden regarding the behavior of



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an animal – the cochlea, a species close to the field cochlea

that have been recently found in Israel. These snails are active in wet places in the winter, especially at night.

In the summer, the snail burrows in the ground, closes the opening with a stiff lid, and waits for the next winter. The garden is irrigated all summer, but the snail is not tempted to open the lid and exit. But one morning, before a drop of rain fell, I found two snails on the path that mistakenly thought that watering and falling temperatures were a sign of the winter. After a few hours they noticed their mistake and dug back into the ground until the real rain came. Much more familiar is the behavior of the so-called "rain precursors," almost 30 species of onion plants and a tuber whose flowers emerge with or before the first rain. It is quite clear that the small amount of water and short time transpiring from the rainfall to the blossoming could not have brought them out, but rather serve only as a stimulant to the flower that was already ready to sprout while still in the ground. That is how I came across the *Colchicum troodi*, or perhaps it was a *colchicum hierosolymitanum*, on the day before Sukkot, shining with its large pink flowers, in a woods in the Upper Galilee. Its relatives, *Colchicum tuviae*, have definitely blossomed earlier in the Negev, and another relative, the *colchicum stevenii*, shall wait around until the first rain. Alongside the *Colchicum troodi* we have encountered the sea daffodil that totally disregards the rain and blooms only by calendar. The *Sternbergia* – an attractive yellow flower, whose areas of existence are progressively becoming known to us, behaves in a similar way. We ought therefore not to be surprised to find blossoming cyclamens that were aroused only by dewy nights, together with the *muscari parviflorum* and the autumn squill.



Shir Tishrei

Lyrics: Rachel Shapira/Melody: Dani Amihud

The sky is changing,

As the farmers are watching

The neighbors are preparing,

For the Days of Awe.

What shall happen and what shall pass?

All the journalists have asked,

While along the coastline road,

Squalls stand stately in a row

Somebody thinks of you

And writes down whatever you do.

Come home and do get in

Come along with the cool wind

So, what's in the evening news

In the headlines - the first rows

Come home and do get in

Come along with the cool wind

As the mandarins ripen

In the orchard quite on time

The teachers get busy coughing,

And go to bed ahead of time

I've already seen a wagtail,

and perhaps it's just a vision

Yesterday a heat wave broke,

And so did the summer vacation.

- Mark all expressions associated with nature in the poem.
- What can we learn about the month of Tishrei as it is reflected in nature - from the poem?

Harvesting, Grape Harvesting, Date Harvesting Game:

Agricultural Harvesting Activities: A matching game, may be played in groups or by the entire class as a matching game or a memory game, or may be handed out as individual worksheets to be filled.

Plant-Fruit	Cultivated in	Harvesting Term	Season	Picture
Date	orchard	Date harvesting	Autumn (Elul – Tishrei)	
Grapes	vineyard	Grape harvesting	End of Summer (Av – Elul)	
Olives	vineyard	Olive picking	Beginning of Winter (Kislev)	
Mandarine	orchard	Fruit picking	Autumn (Tishrei)	
Cotton	field	Picking	Autumn (Tishrei)	
Fig	orchard	Figs picking	Summer (Tamuz – Elul)	
Wheat	field	Harvesting	Beginning of Summer (Sivan)	