

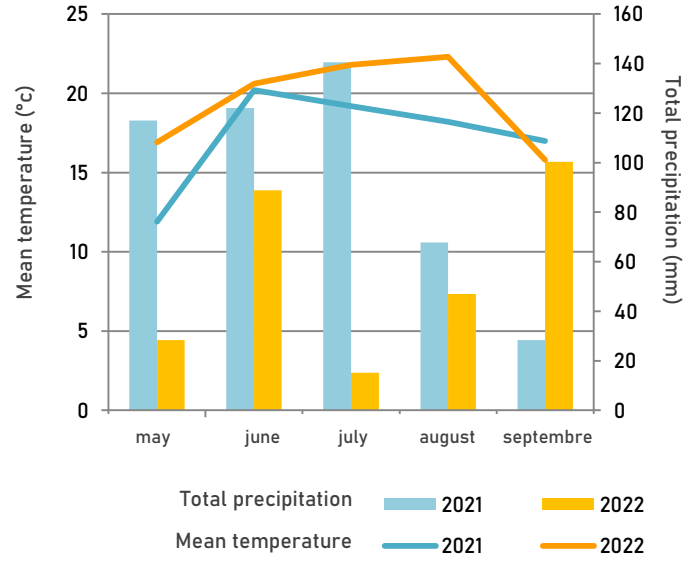
# 2021 and 2022: two extreme years for silage maize



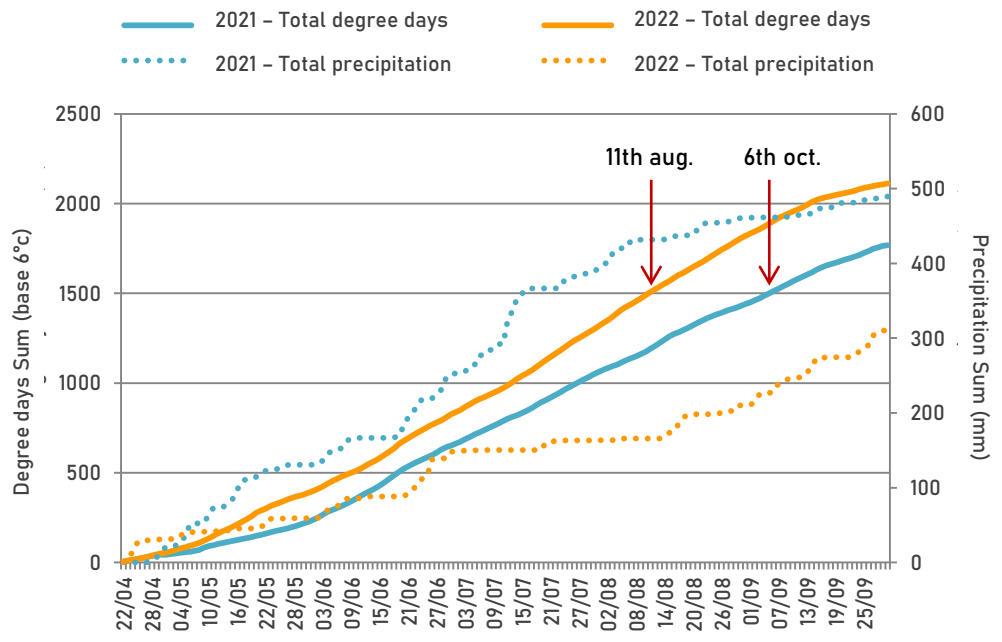
## Two scenarios for harvest dates

In terms of weather conditions for the silage maize season, 2021 and 2022 were on opposite sides of the spectrum. While 2021 was cold and very wet, the summer of 2022 was scorching hot and very dry.

The 1500 degree days needed to achieve a dry matter (DM) content of 32% for semi-late varieties were reached on 6 October in 2021 and on 11 August in 2022, i.e. 26 days earlier.



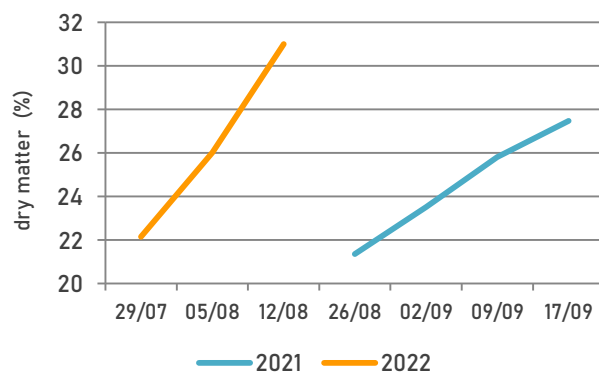
▲ Average climate data for the Upper Rhine area.



▲ Sum of degree days (base 6°C) and precipitation from 22th April (sowing date) to 31th October for the years 2021 and 2022 in the Upper Rhine area.

## Two-speed desiccation

Weekly monitoring of dry matter (DM) rates in the silage maize plots enables us to estimate changes in maturity and the forecast harvest dates for each season. The year 2022 saw very rapid drying, with an average weekly gain of 4.5 dry matter points. Historically, the dry matter monitoring carried out by the Alsace Chamber of Agriculture had never recorded such drying kinetics, even in a warm year (such as 2018). In contrast, in 2021, the development of silage maize maturity was even slower than in historically cold years, with an average weekly gain of just 2.4 points.



▲ Weekly change in average dry matter (DM) content. Source : CAA.

	2021	2022	Historical references	
			Hot year (like 2018)	Cold year (like 2011)
Average weekly DM gain	2,4	4,5	3,9	2,6
Time needed to earn 12 DM points	35 days	19 days	22 days	32 days
Range of silage dates	September - october	2nd half of August		

▲ Benchmarks of desiccation kinetics for different climate scenarios. Source: CAA.

## Silage quality

Different climatic scenarios mean different forage qualities.

2021 :

- green, luxuriant plants, large sizes, beautiful, full spikes every.
- few over-ripe crops.
- rather average nutritional values linked to the length of a very long vegetation : the digestibility of the vegetative parts decreases with the length of vegetation.
- very high whole plant yields.

2022 :

- dry maize, poor in grain due to a high water deficit and with a rather average feed value.
- whole-plant yields affected, as the cob "normally" accounts for more than 50% of DM yield.
- with maize with a lower grain content, densities can fall below 200 kg DM/m<sup>3</sup>: less starch and less dry matter.
- the starch content of silage is often reduced and can limit UFL values.

