

# Late Sowing Recommendations in 2020

The late harvest this year will delay the coming sowing season on many farms. However, deviations from the optimum sowing date will always pose a risk to the farmer. In this article we will give you some tips to help you to determine your individual, latest sowing date and some recommendations regarding the crop management.

Optimum sowing dates must be determined year- and location-specific, but there are some factors we can use for guidance. The first important factors are soil temperature and soil moisture. Rapeseed germinates best at soil temperatures of around 20 °C. Too high temperatures harm the seedling, lower temperatures slow down growth and development in this sensitive stage. Unfortunately, late sowings often pose the risk of lower temperatures (slower root growth) and decreasing day lengths (reduced root depth) before winter, which limit the yield in most years. The aim should be therefore to get a fast emergence, which is why an adaption of sowing depth to local conditions as well as higher sowing densities (45-50 (max 60) seeds/m<sup>2</sup>) can be useful. In this way potential plant losses can be compensated. As late sowing is often linked to wet conditions and rapeseed reacts sensitively to wetness during youth development, soil and seedbed preparation should focus on preserving large and medium pores so that surplus water can drain away more easily. Oxygen must be present in the soil and root development should be promoted, why recompaction is not recommended under wet conditions. The situation is different under very dry conditions: Here shallow tillage should only break the capillarity at the soil surface to avoid useless water losses. After sowing a good recompaction is necessary to get the best possible grain-soil contact!

The next important factors regarding late sowing are the right choice of variety as well as the vegetation period (temperature sum) before winter. It is essential to ensure an adequate plant development in autumn. This includes at least 8 leaves as well as a root neck diameter of 1 cm and a root depth of around 20 cm. The speed of development depends mainly on the temperature as well as on the variety-specific vigor. Based on this vigor temperature sums of at least 600 - 900 °C until end of vegetation are required to achieve the mentioned target figures. With the regional temperature sum before winter and the vigor of the variety in mind, everyone can determine their own local, latest sowing date. Hybrids and especially TuYV-resistant hybrids underline their advantage in tough conditions. Their higher vigor in autumn and the additional biomass boost of TuYV-hybrids fit well to the often-unfavorable conditions connected to late sowing dates.

**Table: Optimum weather for winter rapeseed in autumn**

Autumn		Vegetation days	Medium optimum day temp. °C	Tsum* > 0°C	DM dt/ha	Precipitation mm/m <sup>2</sup>
<b>Germination</b>		4 - 15	20 (soil temperature)	80 - 90	0,1	germination moisture
<b>1. – 6. leaf</b>	Long day	45	12	420	0,8	20
<b>6. – 10. leaf</b>	Short day	45	6	680	12	50
<b>Total Autumn</b>		80 - 100		Ca. 900	20	70 - 100

\*Tsum = Sum(average daily temperature >0° until end of vegetation)

Source: based on Alpmann (DSV) and Schönberger (2012): Rapsanbau

The table presents reference values regarding the optimum rapeseed development in autumn, based on the regional weather conditions (temperature, precipitation, transition between long and short day). In case of late sowing there is less time for crop development, but in a warm autumn missed growth time will be compensated, for example: sowing on 06.09. and 10 days at 15 °C (= 150 °C) plus 14 days at 12 °C (= 170 °C) corresponds to 320 °C in September. Further 30 days in October with an average of 9° C

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correspond to further 270 °C and 10 days at 6° C in November mean additional 60 °C. Thus, in a warm autumn temperature sums of about 650 °C are possible!

Finally, attention should be paid to some points of crop management: weeds and pests should be controlled timely to keep resource competition low and prevent plant damage. If necessary, herbicides can be applied in post-emergence. In case of plant nutrition late sown rapeseed benefits from a simultaneous fertilization to ensure a sufficient autumn development. An early fertilization of 30-40 kg N/ha via DAP (Diammonium phosphate) for example can be useful in such a case as we know very late sowing dates have usually a lower N utilization due to a reduced growth. A further option is a target-oriented fertilization with NPK (+S) products during BBCH 12 – 19, which will support the growth and the biomass development before winter and therefore also improve the winter hardiness and the yield potential of late sown rapeseed. But the right fertilization strategy should base always on an individual valuation. Planned actions should be combined: Boron, Epsom salt (MgSO<sub>4</sub>) + some AHL (10 - 15 kg N/ha) with later fungicide measures (no growth regulator!).

The RAPOOL portfolio includes a broad range of different hybrids with various characteristics for the different conditions like late sowing. To find the right variety for your location-specific requirements, we recommend to contact our regional sales colleagues.

## Portfolio and sowing suitability RAP INTERNATIONAL (to update for other varieties/countries)

Sowing date	VERY EARLY	EARLY	OPTIMUM		LATE
			Beginning	End	
Recommended plant density	35-40 plants/m <sup>2</sup>	35-40 plants/m <sup>2</sup>	40-50 plants/m <sup>2</sup>	45-55 plants/m <sup>2</sup>	50-60 plants/m <sup>2</sup>
TEMPTATION			[Yellow bar]		
DARIOT			[Yellow bar]		
MERCEDES			[Yellow bar]		
ATORA			[Yellow bar]		
CROME			[Yellow bar]		
DYNAMIC			[Yellow bar]		
DUKE			[Yellow bar]		
PHOENIX CL		[Yellow bar]			
KUGA		[Yellow bar]			
DOMINATOR		[Yellow bar]	[Yellow bar]		

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