



## Spring oats sown in autumn? Yes, but do it right!

**Contact:** Steffen Beuch, Oat breeder/Head of breeding station,  
Nordsaat Saatzucht GmbH, Zuchtstation Granskevitz,  
Granskevitz 3, 18569 Schaprode, Germany.

Original article from: <https://www.praxisnah.de/index.cfm/article/12243.html?longversion>

### (Translation from German)

Because of progressive climate change, sowing spring cereals in autumn is becoming more practical and less risky. After spring wheat and spring barley, spring oats are now also being noticed by growers. However, the requirements for variety selection are more strict and, in some cases, different than for normal spring sowing. Dr. Steffen Beuch of Nordsaat Saatzucht GmbH can work with sound trial results.

About two decades ago, the development of "wechselweizen" varieties (spring wheats for autumn sowing) led to new approaches for the late sowing of winter wheat in autumn.

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### More and more summer grains are being sown in autumn

Sowing spring barley in autumn is now common practice in many regions. The aim is to achieve economic advantages by selecting high-quality malting barley varieties from spring barley breeding programs. Prices for certain spring barley varieties are generally higher than those for winter barley varieties. Therefore, with the same grain yield, an economic advantage can be gained by sowing spring barley in autumn. According to current figures from the German Malting Barley Association, malting barley was produced on approximately 390,000 hectares in Germany in 2025. Of this, about 34,000 hectares were dedicated to the cultivation of spring barley sown in autumn, while "true" winter malting barley was cultivated on a slightly smaller area of around 30,000 hectares.

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### Europe-wide experience with summer oats in autumn sowing

*Around the Mediterranean:* In other European regions, sowing spring oats in autumn is already a common practice. Around the Mediterranean (Spain, Italy, and North Africa), this method of oat cultivation can even be the only way to achieve satisfactory yields and quality. Early onset of drought and heat each year, combined with scarce rainfall, necessitate an adapted oat phenology, which, in practical cultivation, is primarily achieved through the use of the darker-hulled oat species *Avena byzantina* (Mediterranean oat, red oat). Compared to our cultivated oat, *Avena sativa*, *A. byzantina* is characterized by significantly lower yields, earlier juvenile development, and earlier maturity.

*Ireland:* The situation in Ireland is somewhat different. Water and temperature conditions there are generally close to optimal for oat cultivation, resulting in some of the highest oat yields in

the world. Depending on the specific sowing conditions, oats are sown in both autumn and spring. The Irish agricultural authority, Teagasc, states that approximately 10,000 hectares of oats are sown annually in Ireland in autumn and approximately 14,000 hectares in spring. Even if sowing conditions would allow it, no cereals are normally sown in Ireland between mid-November and mid- to late-January because of limiting growing conditions. The entire Irish oat acreage is planted exclusively with spring oat varieties, regardless of whether the sowing date is in autumn or spring. For many years, the early-maturing, very robust, and consistently high-yielding spring oat variety ‘Husky’ has been cultivated on two-thirds of the acreage in Ireland.

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*(A photo of ‘Husky’ oats is included with the original article.)*

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### **Spring oats have faster juvenile development**

Naturally, a spring cereal variety's winter hardiness and ability to compensate for cold weather are the primary factors determining its potential for autumn sowing. Compared to true winter oats, the faster juvenile development of spring oats is immediately noticeable when sown in autumn (see image in original article). Generally speaking, plant vigour and leaf mass are also significantly higher in spring oats than in winter oats. This increases the risk that, without snow cover, spring oats are more susceptible to damage from frost than winter oats. However, spring oats are somewhat cold-tolerant (more so than, for example, spring barley). Furthermore, true winter oats have the lowest frost hardiness of all native winter cereals. As a result of the risk of winterkill, specially bred winter oats have so far only achieved widespread cultivation in Great Britain and France.

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*(A photo showing the faster juvenile development of spring oats when sown in autumn is included with the original article.)*

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### **CROPDIVA: International Sowing Time Trial**

In the European collaborative project CROPDIVA (<https://www.cropdiva.eu/>), the suitability of a wide range of current and older spring oat varieties for autumn sowing was investigated in field trials in 2022 and 2023. The trial sites were located in typical winter oat growing regions (Wales-ABU) and transitional areas for its cultivation (Switzerland-WBF, Austria-BOKU, Central Germany-DH, Northeast Germany-NORD). Winterkill differentiating varieties occurred in one-third of all trials (only in Austria and Northeast Germany). One trial (Northeast Germany) suffered a complete winterkill.

Interestingly, many spring oat plants compensated for frost damage with good tillering. Ultimately, this resulted in a 25% yield increase for spring oats sown in autumn compared to those sown in spring, across all varieties and locations. Autumn sowing of spring oats led to earlier panicle emergence (13 days), earlier maturity (5–20 days earlier), slightly less powdery mildew infestation, plants that were 15 cm taller, and a higher tendency to lodge. In addition to the higher yields, the external grain quality of the oat varieties sown in autumn was generally



better than that of the varieties sown in spring. The hectoliter weight increased by 13%, the kernel percentage by 9%, and the dehullability by 1% (see Tables 1 and 2, both found in the original article).

(A photo of the spring oat varieties 'Karl' and 'Delfin' in field trials sown in autumn is included with the original article.)

Karl	Delfin
Yield: 74.4 dt/ha*	Yield: 90.8 dt/ha*
Score after winter**: 4.9	Score after winter: 3.4**

\*LSD 5% = 11.1 dt/ha

\*\*Ratings between 1 (completely green, no plant losses) and 9 (wintered out) for the condition after winter, LSD 5% = 1.0

### Note the differences between varieties

Researchers from the CROPDIVA consortium recommend managing spring oats sown in autumn by adjusting crop management to account for the increased risk of lodging and potential *Fusarium* infection (preceding crop: maize without plowing). Lodging-prone, very low-growing spring oat varieties (negative interaction with *Fusarium* tolerance; see also [www.praxisnah.de/202015](http://www.praxisnah.de/202015) and [www.praxisnah.de/202346](http://www.praxisnah.de/202346)) are, therefore, unsuitable for autumn sowing. The varieties 'Scotty' and 'Delfin' are particularly well-suited for autumn sowing, but 'Waran' and 'Lion' also performed well in various trials.

### Conclusion

These results are highly motivating for further research into the topic of sowing spring oats in autumn. The existing varietal differences in suitability for autumn sowing should be exploited with care.

-D.

December 18, 2025