# Article information:

Identification of the candidate gene controlling tiller angle in common wheat through genome-wide association study and linkage analysis - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S2214514123000065>

# Article summary:

1. A genome-wide association study (GWAS) and linkage analysis were used to identify the candidate gene controlling tiller angle in common wheat.

2. 470 significant SNPs with 10.4%–28.8% phenotypic variance explained (PVE) were detected by GWAS, and 10 QTLs were identified by linkage mapping with the RIL population.

3. TraesCS4B02G049700 was identified as a potential candidate gene for controlling wheat tiller angle, which could be used to improve wheat plant architecture and yield traits.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article is generally reliable and trustworthy, as it provides detailed information about the methods used in the study, such as the use of a genome-wide association study (GWAS) and linkage analysis to identify the candidate gene controlling tiller angle in common wheat. The results of the study are also presented clearly, with 470 significant SNPs detected by GWAS and 10 QTLs identified by linkage mapping with the RIL population. Furthermore, TraesCS4B02G049700 was identified as a potential candidate gene for controlling wheat tiller angle, which could be used to improve wheat plant architecture and yield traits.

However, there are some points that should be considered when assessing the trustworthiness of this article. Firstly, it is not clear whether any other methods or techniques were used in addition to GWAS and linkage analysis to identify the candidate gene controlling tiller angle in common wheat; if so, these should have been mentioned in order to provide a more comprehensive overview of the research process. Secondly, while it is stated that TraesCS4B02G049700 was identified as a potential candidate gene for controlling wheat tiller angle, there is no mention of any further testing or validation that has been done on this gene; this would have provided additional evidence for its effectiveness in improving plant architecture and yield traits. Finally, there is no discussion of any possible risks associated with using this gene for improving plant architecture or yield traits; this should have been included in order to provide a balanced view of both potential benefits and drawbacks associated with its use.

# Topics for further research:

* Genome-wide association study (GWAS)
* Linkage analysis
* Candidate gene identification
* Wheat tiller angle
* Plant architecture improvement
* Yield trait improvement

# Report location:

<https://www.fullpicture.app/item/5eadfa7f3918370010d173f9997c8c01>