

Zeitschrift:	Veröffentlichungen des Geobotanischen Institutes der Eidg. Tech. Hochschule, Stiftung Rübel, in Zürich
Herausgeber:	Geobotanisches Institut, Stiftung Rübel (Zürich)
Band:	103 (1989)
Artikel:	Ligningehalt und andere Merkmale des Schilfhalms ("Phragmites australis" [Cav.] Trin. ex Steudel) in Beziehung zur Röhrichtbewirtschaftung = Content of lignin and other characteristics of reed stalks ("Phragmites australis" [Cav.] Trin. ex Steudel) depending on management
Autor:	Guntli, Albert P.
Kapitel:	Summary
DOI:	https://doi.org/10.5169/seals-308912

Nutzungsbedingungen

Die ETH-Bibliothek ist die Anbieterin der digitalisierten Zeitschriften auf E-Periodica. Sie besitzt keine Urheberrechte an den Zeitschriften und ist nicht verantwortlich für deren Inhalte. Die Rechte liegen in der Regel bei den Herausgebern beziehungsweise den externen Rechteinhabern. Das Veröffentlichen von Bildern in Print- und Online-Publikationen sowie auf Social Media-Kanälen oder Webseiten ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. [Mehr erfahren](#)

Conditions d'utilisation

L'ETH Library est le fournisseur des revues numérisées. Elle ne détient aucun droit d'auteur sur les revues et n'est pas responsable de leur contenu. En règle générale, les droits sont détenus par les éditeurs ou les détenteurs de droits externes. La reproduction d'images dans des publications imprimées ou en ligne ainsi que sur des canaux de médias sociaux ou des sites web n'est autorisée qu'avec l'accord préalable des détenteurs des droits. [En savoir plus](#)

Terms of use

The ETH Library is the provider of the digitised journals. It does not own any copyrights to the journals and is not responsible for their content. The rights usually lie with the publishers or the external rights holders. Publishing images in print and online publications, as well as on social media channels or websites, is only permitted with the prior consent of the rights holders. [Find out more](#)

Download PDF: 27.08.2025

ETH-Bibliothek Zürich, E-Periodica, <https://www.e-periodica.ch>

6. Der Ligninanteil in den untersten sechs Internodien ist leicht höher als in den Internodien 7-13. Die starken mechanischen Belastungen durch Wellen und Wind wirken sich demnach positiv auf die Verholzung im Halm aus.
7. Die Ligninanteile variieren leicht mit der Jahreszeit. Während des Sommers (Juni bis September) nimmt die Ligninmenge zu, bleibt im Herbst (September bis November) stabil und wird nachher wieder abgebaut.

SUMMARY

1. On the Bodensee (Lake of Constance) experiments were carried out on reeds in various beds that had been treated differently (mowing, burning or no treatment): the lignin was measured, the reed morphology and some aspects of the infection with harmful insects were investigated.
2. To measure the lignin a new preparation technique was developed: by grinding a reed thinly several smooth sections of 40 micrometres could be obtained simultaneously. After a process of dyeing with phloroglucine/hydrochloric acid the lignin could be optically determined as an element of stability.
3. The height, diameter and number of nodes of the reeds are bigger in untouched areas than in burned or mown beds; the dry substance and the number of reeds, however, are the smallest in untouched areas; the biggest amounts of the latter are found in mown areas.
The infection of reeds with harmful insects (the formation of "cigars" around their panicles) amounts to 52% in untouched areas, 39% in mown and 24% in burned ones.
4. The optical measurements of the content of lignin were made on reeds which had grown in more or less eutrophic and oligotrophic places, as well as in differently treated areas of reed.
The amount of lignin in reeds was the same approximately, regardless of "eutrophic" or "oligotrophic" soil. Its quantities in untouched areas are slightly bigger than in mown or burned beds; in burned reed they are the smallest.
Consequently, the burning of reed areas may have a negative effect on the stability of the stalks.
5. The cross-sectional analyses showed differing quantities of lignin depending on the direction of the compass: they were the biggest in the southern sector of the stalk, the second biggest in the eastern and the smallest in the western part.
Generally, there is less lignin in both wind-directions West and North (according to the movements of the waves and the wind) than in the corresponding "leeward" directions East and South.
6. The amount of lignin in the lowest six internodes is somewhat bigger than in internodes 7 to 13. The strong mechanical pressure of waves and wind therefore has a positive effect on the woodiness of the stalks.
7. According to the season the quantities of lignin vary a little. During summer (June to September) the amount increases; it remains stable in autumn (September to November) and afterwards it is reduced.