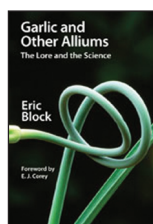


# The appeal of alliums

## Biochemistry



**Garlic and other Alliums: the Lore and the Science**  
Eric Block

**Publisher:** RSC  
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What would our meals be like without garlic and onions? World cuisine would be much poorer, and chemists would have missed out on a fascinating array of organic sulphur compounds. For these vegetables are not shy members of the food chain. Their immediately recognisable odours evoke memories and can make a pungent statement that is rarely welcome if the garlic from a romantic evening meal lingers on the breath.

Indeed, applying the word 'vegetable', with its connotation of quiet passivity, seems almost inappropriate. The alliums, including garlic, onion, leeks, chives and spring onions, have international roles. They are big agribusiness, with onions alone covering 2.7m ha in over 175 countries. In a bizarre twist, import quotas to protect European garlic farmers against the dominant world producer, China, have resulted in lucrative garlic smuggling. Onions have provided the name for cultural icons, including the domes of Russian Orthodox churches and a web-based satirical magazine, the *Onion*. Finally, I am sure that no one has escaped recommendation of onion soup or garlic capsules as the 'guaranteed' cure for all manner of ailments.

This book by Eric Block is a



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**Garlic: a much-loved allium that is important across the cultural, culinary and chemical landscapes**

synthesis of his four decades of distinguished work with alliums. Having started his career as a natural products chemist in the 1960s, his research into organic sulphur chemistry – the basis of the smells – led him to these plants. Once garlic or onion tissue is damaged, enzymes act on odourless chemical precursors to yield the first of hundreds of volatile odour compounds.

These include the eye-watering lachrymatory factor from onions, as well as zwiebelanes, cepaenes, ajoene and others. Their diversity, and the fact that many contain exotic and unstable chemical

configurations, has provided decades of scientific enquiry exploiting every new development in analytical technology. Block's account of this ever-increasing knowledge is accessible and will even entertain readers without a deep knowledge of chemistry.

However, he does not stop there. Around two thirds of the book is devoted to other aspects, from cultural to medical. There are plenty of well-chosen, high quality colour illustrations, ranging from onions painted by Renoir to the life-cycle of the leek moth. The numerous claims for health benefits get a thorough evaluation,

from the baseless recommendation of garlic juice as a treatment for tuberculosis to the tentative evidence that it may reduce the risk of stomach cancer and benefit those with cardiovascular disease. The natural roles for the volatile odours are in the constant war between the alliums and their pests and his account of this is truly fascinating. Block may look at the world through garlic-tinged lenses, but in this book he is very good at getting readers to see it his way.

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