



Contaminants and microorganisms in Dutch organic food products: a comparison with conventional products

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Abstract

Organic products were analysed for the presence of contaminants, microorganisms and antibiotic resistance and compared with those from conventional products. No differences were observed in the *Fusarium* toxins deoxynivalenol and zearalenone in organic and conventional wheat, during both a dry period and a very wet period which promoted the production of these toxins. Nitrate levels in head lettuce produced organically in the open field were much lower than those in conventional products. In iceberg lettuce and head lettuce from the greenhouse, no differences were detected. Organically produced carrots contained higher nitrate levels than conventional products. Both organic and conventional products contained no residues of non-polar pesticides above the legal limits, although some were detected in conventional lettuce. Organic products contained no elevated levels of heavy metals. *Salmonella* was detected in 30% of pig faeces samples obtained from 30 organic farms, similar to the incidence at conventional farms. At farms that switched to organic production more than 6 years ago no *Salmonella* was detected, with the exception of one stable with young pigs recently purchased from another farm. No *Salmonella* was detected in faeces at the nine farms with organic broilers, and at one out of ten farms with laying hens. This is comparable with conventional farms where the incidence for *Salmonella* lies around 10%. *Campylobacter* was detected in faeces at all organic broiler farms, being much higher than at conventional farms. One of the most remarkable results was the fact that faeces from organic pigs and broilers showed a much lower incidence of antibiotic resistant bacteria, except for *Campylobacter* in broilers. It is concluded that the organic products investigated scored as equally well as conventional products with regard to food safety and at the same time show some promising features with respect to antibiotic resistance.