

potential therapeutics capable of repairing errant mRNA transcripts that are associated with certain inherited diseases [27].

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Letter

A reason to be optimistic about biodiesel: seed meal as a valuable soil amendment

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In his Opinion article ‘Confessions of a bioenergy advocate’, H.R. Bungay splashes buckets of cold realism onto some of the extravagant claims and projections made regarding the potential of biomass refining [1]. However, for one aspect of this article that we are familiar with, omission of some facts might have led readers to an overly pessimistic view.

Specifically, Bungay correctly notes that the price of biodiesel is linked to the cost of alcohol (a reactant in the transesterification process) and the price obtained for glycerol, a by-product of the process. However, the importance of the price obtained for the seed meal by-product in determining the competitiveness of biodiesels derived from seed oils was not mentioned [2]. At present the cost of producing biodiesel from rapeseed (*Brassica napus*) is only slightly offset by returns from the

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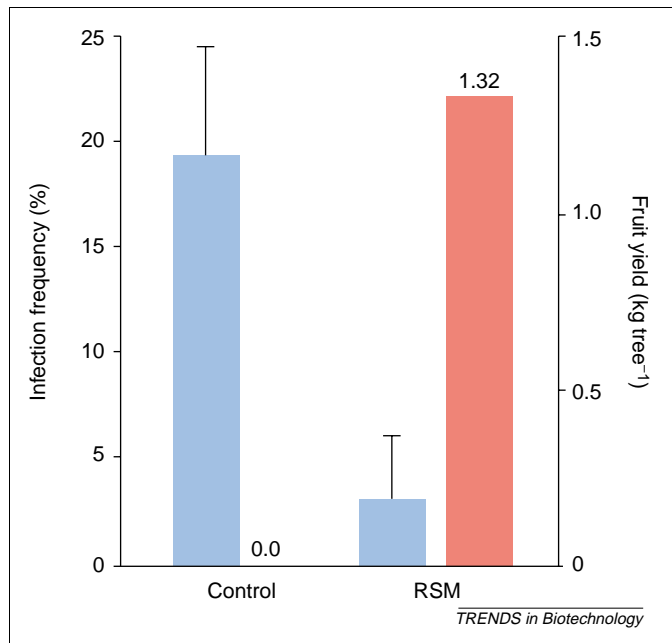


Figure 1. Impact of *Brassica napus* seed meal (RSM) amendment on *Rhizoctonia solani* root infection and yields for apple trees (Gala/M26) planted on an old orchard site. Trees were established in May 2002 in non-treated soils (control) or soils that had been amended with 0.3% RSM six weeks before planting. Blue bars, percentage *R. solani* root infection as of October 2002 ($P < 0.05$). Red bars, fruit yields obtained from the initial harvest in August 2003. Means are based on eight trees from each of four replicates for each treatment ($P < 0.0001$).

meal. Although seed meals derived from plants such as canola are used as animal feed, the high erucic acid content of rapeseed seed meal makes it unsuitable for this purpose. However, the results of recent experiments suggest that rapeseed meal might soon be of high value as a soil amendment. Because of its high nitrogen content,

B. napus seed meal has been used in plant production systems as an alternative to conventional mineral fertilizers. In addition, we have demonstrated that rapeseed meal incorporated into orchard soil causes dramatic decreases in the incidence of root diseases impacting newly planted apple trees, which might be linked to the observed >100-fold amplification in soil and rhizosphere populations of resident *Streptomyces* spp. [3,4]. Increased fruit yield was also demonstrated in these cases (Figure 1). Demand for biologically sustainable treatments for the effective control of soilborne plant pathogens and parasites is expected to increase with the impending phase-out of the broad-spectrum fumigant methyl bromide. Preliminary reports of disease suppression in potato crops achieved with rapeseed meal indicate that this treatment could have wide applicability, and these findings have even led one investigator to speculate that rapeseed meal will soon be considered more valuable than the oil (<http://www.newswise.com/p/articles/view/24683/>).

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