

THE IMPACT OF CHANGING MANAGEMENT PRACTICES

At AHDB's Strategic Farm South NIAB is managing an on-farm monitoring programme investigating the links between crop management, soil health, crop yield and nutritional value and other impacts, such as water quality.

A cover crop strip of oats and mustard at AHDB's Strategic Farm South

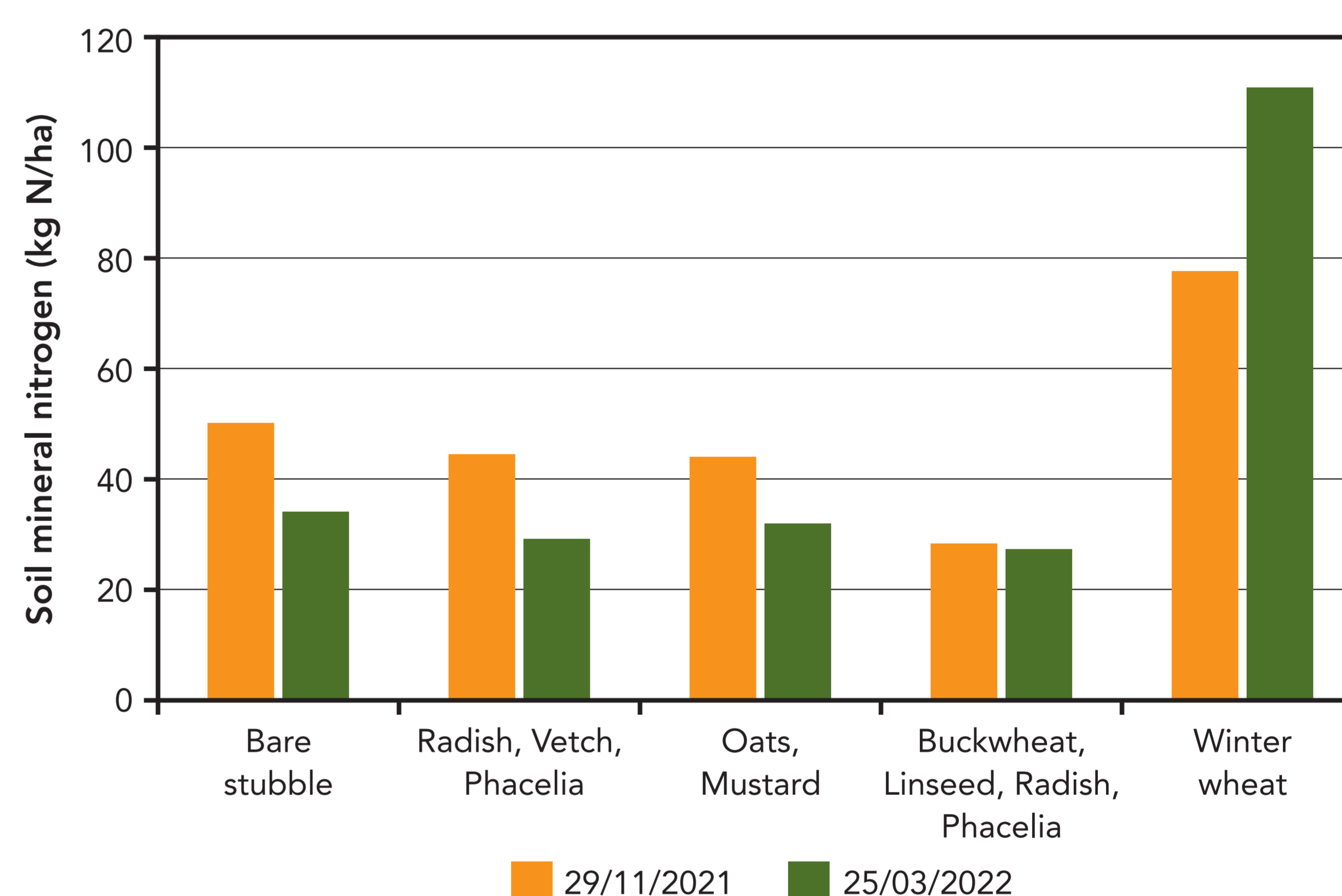


Cover crops and water quality

NIAB is investigating the interaction between the species mix of cover crops and soil health, as well as monitoring any implications for the following spring wheat crop.

Soil mineral nitrogen (SMN) was measured at the beginning and end of winter 2021/22 (Figure 1). The results showed a small but significant impact of cover crop in reducing N that might be lost by leaching. An adjacent field containing a winter wheat crop had over 80 kg N/ha SMN at both sampling times.

Figure 1. Soil mineral nitrogen levels in various cover crop mixes (two testing dates)



Early soil health at establishment

NIAB is measuring the impact of two seed-applied amendments, designed to increase soil microbe populations, on early crop development, root growth and soil health. Untreated seed was used as control in the tramline trial. Ecoworm is a product of vermicomposting; L-CBF Boost is a molasses-based product with added N, K, S.

Soil microbial populations showed no clear patterns between treatments when measured in November 2021 and March 2022 for each of the treatments as performed by SoilBioLab, UK (Figure 2).

Figure 2. The effect of seed-applied amendments on soil microbial populations

		Untreated	Ecoworm	L-CBF Boost	Ecoworm & L-CBF Boost	Guideline provided by SoilBioLab
November 2021	Total bacteria (µg/g)	500	409	387	140	250-500
	Total fungi (µg/g)	277	297	284	218	250-500
	Total fungi/total bacteria	0.55	0.73	0.73	1.56	1-2
March 2022	Total bacteria (µg/g)	686	764	759	717	250-500
	Total fungi (µg/g)	167	287	210	202	250-500
	Total fungi/total bacteria	0.24	0.38	0.28	0.28	1-2