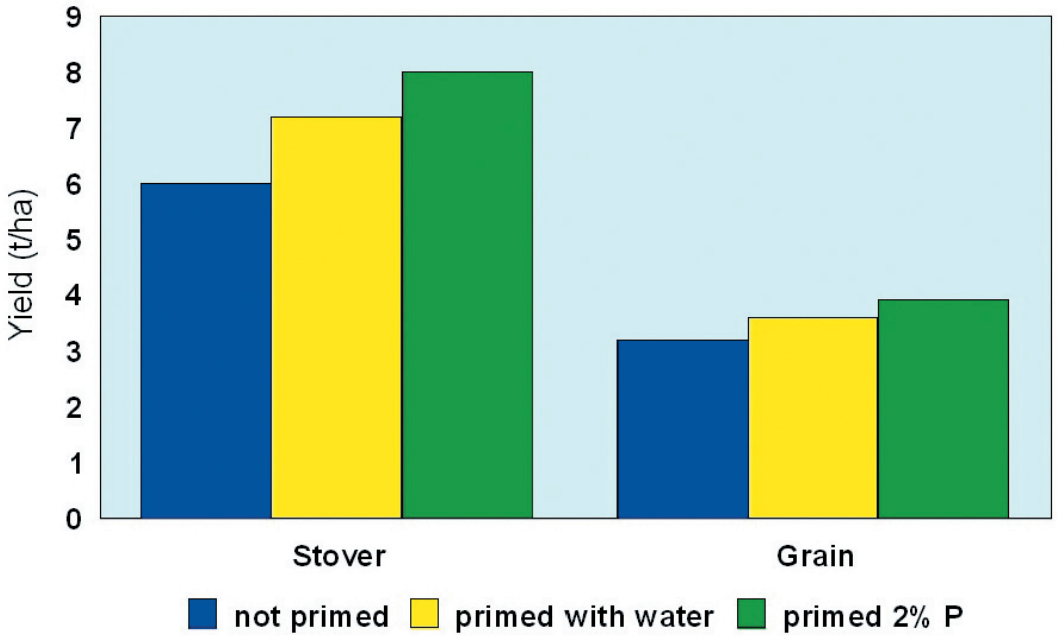

Figure 6. Effects of adding phosphate to the priming water on growth and yield of maize.

negligible. The results suggest that priming with tiny amounts of P can substitute for substantial amounts of phosphate fertilisers. This has enormous implications for resource-poor farmers, particularly in Africa where soil P is a major constraint on crop growth.

Some nutrients are only required in small quantities by crops, but if their availability is limited crop growth is very poor, even in the presence of ample N and P. These nutrients are known as micro-nutrients. In acidic soils that are widespread over eastern India, Nepal, western Bangladesh and many parts of East Africa, legumes do not grow well because they cannot take up enough molybdenum (Mo). It is possible, if rather expensive, to add salts such as sodium molybdate to the soil but it is also quite difficult to spread it evenly over large areas due to the small quantities involved. Substantial yield benefits (20-90%) can result from the addition of tiny amounts of Mo to the priming water. Costs are negligible and this simple approach has been adopted by thousands of farmers who otherwise would not be able to grow a profitable crop of chickpea.
In contrast, many of the soils of