

# Simple and successful: **new seed-priming** techniques boost farmers' yields



On-farm seed priming has been widely tested with a range of crops in Africa and Asia. The conclusion: it provides better crop growth and yield at little or no extra cost to farmers and needs little additional labour.



Above: Soaking seeds overnight (priming) gives higher yields of yellow chickpea (right) than planting non-primed seeds (left). Farmers and researchers have worked together to determine the optimum soaking time for many of the crops that smallholders in the semi-arid tropics depend upon for food and income. Photo: D. Harris

Extensive research has proven that by using on-farm seed priming, farmers in the semi-arid tropics can improve their yields from grains and legumes—including wheat, rice, barley, maize, sorghum, millet, chickpea and mungbean. Gains range from 15% to over 200%. All they need is a little bit of water, and a few extra hours of time.

## On-farm seed priming is simple

In contrast to commercial seed priming, which is technology- and labour-intensive, on-farm seed priming is simple. All farmers need to do is to soak their seed for 6-18 hours—depending on the crop—and then let it dry briefly, after which it is ready for sowing in the usual way. This minimal investment of effort provides returns which are guaranteed to be greater than when non-primed seeds are used, and reduces cropping risks significantly.

## On-farm seed priming gives results

On-farm priming gives crops an advantage in the challenging conditions of the semi-arid tropics by helping seeds to germinate and produce seedlings quickly and uniformly. This, in turn, allows them to take advantage of the light, water and soil nutrients available.

Even greater gains can be made by adding tiny amounts of key nutrients such as zinc, molybdenum and phosphorus to the priming water. This helps plants to perform much better in depleted, acidic or alkaline soils.

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## What's needed: action to spread the word

So why aren't more farmers using seed priming?

The fact is that many smallholder farmers are familiar with on-farm seed priming, but use it only occasionally, when severe weather conditions throw their planting schedules off. Furthermore, they don't know just how long they should soak the seeds of each crop for, which can make or break the success of priming.

Research to date has made another thing clear: farmers believe the impact of priming when they see it. When farmers are included in the testing process, not only do they learn techniques that they can use and adapt, it also makes them full partners in the task of spreading the word.

## Policy action needed

**To spread the benefits of seed-priming in the semi-arid tropics, policy makers should:**

- Make sure that on-farm seed priming is included in extension programmes, ensuring good uptake and continued use
- Promote workshops and exchange visits in which farmers can talk about their experience, in person or through videos
- Encourage the spread of this technology through the work of farmer organisations, networks and NGOs
- Make information on its effectiveness widely available.



## What is the purpose of this brief?

This Policy Brief was produced to show that complex subjects can be explained very quickly and simply to busy policy makers. It is part of a series that showcases proven technologies, policies and new approaches in order to demonstrate the importance of high-quality scientific communication.

Through its Policy Brief and Pocket Guide series, Research into Use aims to encourage partners in both the developed and developing worlds to invest more in their communication efforts. Only in this way will useful technologies be widely adopted, helping the people that they were intended to help and contributing to the achievement of the Millennium Development Goals.

## What is Research into Use?

The Research into Use Programme aims to do exactly what its name says—to get research findings into use by resource-poor farmers in the developing world. The natural resources research programmes funded by the UK Department for International Development (DFID) produced many significant findings over their 11 year existence. Research into Use is working to put these results into practice—in order to reduce poverty on a very broad scale in sub-Saharan Africa and South Asia.

A key part of this work will involve helping partners to better understand how the promotion and widespread use of such research will help to cut poverty and boost economic growth.

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