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PEANUT CROP IMPROVEMENT IN THE WORLD AND NEW CHALLENGES

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ABSTRACT

Peanut is the sixth most important oilseed crop in the world. It is grown in 24.4 million hectares in more than 100 countries worldwide. Its total production is 35.0 tons and average productivity is 1.4t/ha.

Asia accounts for 54.5 percent of the global area and 67.7 percent of the total global production of the crop compared to 40% area and 25% of the production in Africa. Developing countries account for 97 percent of the global area and 94 percent of the global production. From 1995 to 2004, the peanut area increased to 1.84 percent; yield by 0.42 percent and production by 2.27 percent annually. In spite of this significant progress made in productivity and quality of peanut, a large gap remains in its potential and realized yield at farm level, particularly in rainfed agriculture.

On a global scale, foliar diseases (rust, late leaf spot and early leaf spot), aflatoxin contamination and drought remain as major challenges in peanut production. Conventional breeding efforts and improved crop management technologies have provided some succor. These are evident in the annual growth rate in peanut productivity. However, increasing the profitability of peanut cultivation is still wanting.

It is expected that newly emerging technologies such as genetic engineering and genomics will provide a new impetus in crop improvement efforts in the near future. As food use of peanut is increasing worldwide, the new challenges in peanut research and development include freedom from peanut allergens, improving oil (Omega 3: Omega 6 ratio) and protein (sulphur containing amino acids such as methionine and cystine) quality and biofortification (increasing β -carotene content). Fodder quality also assumes significance as crop-livestock integration is essential for sustainable rainfed agriculture.



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