Appropriate technologies

R&D for developing countries

Appropriate GE technologies

Potato Research for Appropriate Technology

Scientists have recognized that potato responsible and appropriate GE technology development can be realized, according to social and biosafety considerations as environmental and human consumption safety and social non-exclusion (improvement where it is needed the most).

For this reason, research is being conducted on the kind of genetically engineered traits that would indeed have a positive impact on resource-poor farming in developing countries. Traits identified are insect resistance, virus resistance and late blight resistance. Moreover nutritional improvements such as higher iron, zink and protein content are also considered.

Growing consumers concerns are raised about genetic engineering technology because GM crops are perceived as non-natural crop due to usual genetic constructs harboring an average of eight genetic elements derived from virus, bacteria o other plants no sexually compatible. However, the specific concern of the public towards GM food crops could be greatly reduced by using biotechnologies, which involves little or no genetic material from other species (Nielsen 2003). It will allow that in some country such organisms do not fall into the GMO category thus more acceptable for farmers and consumers.

Research for appropriate technology in GM plant development with little or no foreign DNA has already been undertaken (Conner and Jacobs, 2005; Rommens et al 2004). They have developed a technique constructing intragenic vectors where everything use in the process of genetic modification is derived from the target species or a closely related species. They were successful in potato although it still at an early stage of investigation and it is necessary to develop a second generation GM technology to impact, using genetic material from the plant?s own genome.

Technologies that will allow for safe human consumption, such as alternative marker technology that omits the use of antibiotic resistance genes, and marker removal technology that allows the introduction of GE crops without any marker genes are also important issues.

References