

# Nuclear Partners

by Louise Potterton

*James Butler, Deputy Director-General of the Food and Agriculture Organization (FAO), talks about the importance of nuclear techniques in agricultural and livestock production.*

**Question: When we look at the global food crisis, how important is the contribution from nuclear science?**

**James Butler:** It is very important in the medium and long term. When we stabilise food production and we are able to move from the immediate needs to the next level, then we will see the impact. It could be the improved seed, or the plant that has been developed that has genetic resistance to insects or salt conditions. Or it could be techniques that allow animals to be utilised in production practices in Africa, for example – the tsetse fly has been reduced in number through sterilization technique, allowing animals to be utilised in previously hostile areas. There are many uses of nuclear technology that will have a medium and long term impact on agriculture and livestock production.

**Q: I understand that you have applied these technologies in your field of work. Can you tell me about this experience?**

**JB:** I am from the US and have spent most of my career in production agriculture. In my youth the screw worm was very prevalent in the US, Mexico and Central America. One of the earliest uses of technology was the sterilization of the fly. As I increased in age and went through the distribution of sterile flies, the cases of screw worms we were dealing with in our own ranching operation decreased significantly and then were removed all together.

This is a success model often cited as a proper use of technology in agriculture and livestock production.

**Q: According to UN Secretary General Ban-Ki Moon, to meet global food demand production will have to increase by 50 per cent by 2030. Is this realistic?**

**JB:** Yes it is. We have the crops; we can utilize some improved varieties, improve yields, and reduce losses during the production phase. If we increase production by 1-2 per cent a year we can raise production to meet this challenge.

**Q: Do we need to invest more in science and technology?**

**JB:** Yes. International financial institutions and individual country donors have stated that they are willing to invest in agriculture and many of the needs are medium and long term, and I do believe that this is where the collaboration with the IAEA applying nuclear techniques will have benefits into the future.

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*Louise Potterton is a Consultant at the IAEA Division of Public Information.  
E-mail: l.potterton@iaea.org*