

## Emergency preparedness and response to a nuclear emergency affecting agriculture

The immediate (24 hours) and short-term (one-month) impact of a nuclear emergency can be effectively mitigated if emergency response plans in relation to food and agriculture are in place. Scientists estimated that of the 2000 thyroid cancers that occurred among children contaminated after Chernobyl, 90% would have been avoided if consumption of contaminated milk had been banned. By controlling the ingestion of contaminated fresh vegetables, a further reduction of 50% would have been obtained. It is therefore essential that countries plan in advance how the most contaminated products will be taken out of consumption and/or stored in appropriate facilities for eventual disposal or destruction. An information paper for FAO's [19<sup>th</sup> Session of COAG](#) highlights preparedness for nuclear emergencies

The Joint FAO/WHO Codex Alimentarius Commission is the international standards setting body responsible for the protection of human health and facilitation of international trade in foodstuffs. The [current Codex Guideline Levels](#) for "Radionuclides in Foods Following Accidental Nuclear Contamination for Use in International Trade", are currently being revised to cover a wider range of situations and to serve as generic intervention levels for a year or more following a nuclear or radiological event. The [Safety Requirements for Preparedness and Response for a Nuclear or Radiological Emergency](#) cite the Codex Alimentarius Commission's guideline levels for radionuclides in food moving in international trade following accidental contamination as generic action levels. The competent national management authority should specify intervention levels for use in emergency situations in advance. Appropriate remedial action needs to be taken if the maximum permissible level is exceeded or is predicted to be exceeded.

In the medium- and longer-term, sustaining acceptable living and working conditions in contaminated areas requires practical and cost-effective strategies for restoring and managing contaminated agricultural land and food products. These strategies should consider site-specific factors. The [Joint FAO/IAEA Division](#) and [PESS](#) are collaborating with [NAAL](#) to develop decision support tools to aid in selecting appropriate countermeasures. The Radionuclide Countermeasure Information System or RCMIS is a new approach to providing information for disaster recovery for nuclear emergency situations. The purpose of the system is to facilitate access to data on transfer factors and on radionuclide countermeasures. These countermeasures can be implemented on contaminated soil to help meet international standards such as Codex, and to improve the income of affected populations. RCMIS will provide easy access to relevant information about agricultural countermeasure projects as well as decision support tools for assessing the financial and economical viability of such projects in the local context.



RCMIS inputs include data on the type of release, climate, transfer factors and crops. With the given data the system taps a number of relevant databases, provides a list of possible countermeasures suitable for the user's circumstances. It also aids the decision making process, in part by providing financial templates for assessing and comparing the economic viability of the different countermeasures. A demonstration of the future RCMIS that can help choose appropriate/cost-effective countermeasures in contaminated areas is now available on CD-ROM.