

International Workshop on Post-Accident Food Safety Science

Session 1:

The Food Management Situation in
Japan after the Fukushima Daiichi
NPP Accident

Status of contaminated areas

- Comprehensive monitoring plan: environmental survey by helicopter, drone, vehicle and walking
 - Dose rate and accumulative dose
 - Dust in air
 - Land sediment, index plants, cultivated soils, forest, pasture
 - Fallout and tap water, underground and well water, irrigation reservoirs, sea areas
 - Schools, ports, airports, parks and sewerage, natural parks
 - Foodstuffs
 - Wastes
- Different types of devices
- Maps and evolution with time
- Now dose rates ~ background levels; mainly due to radio decay
- Monitoring data available on the web (Japanese and other lang.)
 - Battle against false rumours

Situation in sea area

- Monitoring of seawater (close and far to NPP), sediments (radionuclides migration), biota (fisheries)
- H-3, Sr-90, Cs-134, Cs-137, Pu isotopes + I-131
- More or less easy to measure
- Areas: <2 km, 2-20 km, 20-100 km, >100 km
- Surface water, 1 m, 100 m, 200 m, 300 m, 500 m depth
- Difficulties at the beginning because of debris
- Levels are decreasing (quicker than radioactive decay)
- Back to background levels in water but not in sediments close to the coast,
- Inter-laboratory comparison (IAEA): Japanese labs are reliable

Situation in food

- Establishment of limits, by Nuclear Safety Commission
 - Provisional in March 2011; revised in March 2012
 - Based on 1 mSv/y; Cs as indicator
 - 10 Bq/kg (drinking water), 50 Bq/kg (milk, infant food), 100 Bq/kg (general food)
- Monitoring plan
 - Set in March 2011
 - Guidelines in April 2011 by Nuclear Emergency Response Headquarter
 - Inspection plan, revised regularly
 - Implemented by local governments or municipalities in 17 prefectures (Fuku. Agricultural Technology Center)
 - Frequency depending on products (systematic for rice)
- Food exceeding the limits
 - Recalled and disposed

Monitoring plan for food

- Concerned food
 - Items detected > limit: mushrooms, wild plants and animals
 - Items influenced by management of feeding: milk, beef
 - Fishery products
 - Items after lifting restrictions
 - Food distributed in the market
- Methodology
 - Shredding, weighting, measurement, analysis
 - Treatment of measuring equipment and samples to ensure reliability
- Restriction of distribution and/or consumption
 - Distribution: in areas where limits are exceeded
 - Consumption: when the limits are significantly exceeded
 - Criteria for lifting restrictions local dependant (no limit exceeded for a time)
- Results
 - From 0.88% (1st year) to 0.09% (5th year) above the limits
 - From 3.41% to 0.08% in Fukushima prefecture
 - 0.0006 ~ 0.0015 mSv/y (Cs)

Measures to reduce contamination

- Fruit trees
 - High pressure washing of trees, scraping of surface bark
- Tea trees
 - Further plucking and pruning of leaves and branches (original measure)
- Rice
 - Fertilization with potassium (with prudence)
- Mushrooms
 - Use of safe logs as mushrooms support, decontamination of logs
 - Greenhouses
 - Dissemination of information and guidance
- Farmlands
 - Removing of topsoil
 - Reversal tillage
- Feed management
 - Reference values for feed
 - Farmland management

Global impact on agriculture after 5 years

- Rice, beef: consumer has choice => activity in Fukushima decreasing more than in Japan
- Prices globally back to levels before earthquake but now less than the average in Japan
- Still discrimination of products from Fukushima
 - Contamination and inspections are focalised to Fukushima
 - Rumours despite huge efforts and good results (~ no sample > limits)
 - Problem with societal acceptance
- Problem with perception by consumers and distributors
- Efforts of producers not enough visible
- Information the most expected by public is related to survey
- High cost of damage (~ 14 trillion yen), partially paid by TEPCO
- Comics to explain situation

Thank you for your attention