

Important Notice regarding the 2012 ARI Training Program related to the Eastern Japan Earthquake and the Fukushima Daiichi Nuclear Power Plant Accident

December 16, 2011

On March 11, 2011 Japan was struck by a magnitude 9.0 earthquake which triggered a massive tsunami. These caused significant destruction in eastern Japan, including severe damage to the Fukushima Daiichi Nuclear Power Plant in Fukushima Prefecture. Nine months have passed since this disaster and these days there is virtually no international news coverage these events. This does not mean that everything is back to normal. While there has been a lot of progress in cleanup and rebuilding, there is still a lot of work to be done. This was a major catastrophe and recovery will take many years.

As ARI is in Northeastern Japan, we too were affected by this disaster. The shaking of the earthquake was strong in this area and many of our buildings were damaged (though no one was injured at all!). We are still experiencing aftershocks but they are weak and infrequent. They occur about once or twice a month. As a standard precaution, all community members are taught emergency earthquake safety procedures. We are not situated on the coast, so we were not affected by the tsunami.

ARI is located in the city of Nasushiobara, Tochigi Prefecture, which is 110 km from the Fukushima Daiichi Nuclear Power Plant. When the power plant was damaged, it released radioactive materials which contaminated the surrounding areas to various degrees. The national and local governments in Japan have determined that the levels of radiation in our region are low and within safety levels. Life in this city continues as normal with schools conducting classes and businesses open.

However, it is a fact that this region was contaminated with radioactive Cesium (Cs) from the Nuclear Plant. The amount is determined to be low, but we are still being very careful and making many efforts to clean up. At ARI we practice organic farming and we have always worked joyfully with nature as an equal partner. We are very sensitive about our local environment and we are working hard to nurture our land back to good health. Healthy soil is the basis for healthy food and a healthy community. These things are most precious to us.

Current condition of the Fukushima Daiichi Nuclear Power Plant

Work to stabilize and repair the nuclear power plant is ongoing. Primary cooling systems have been installed, along with numerous backup and emergency systems. Tanks to store contaminated water have also been built. A large cover has been erected over reactor number one and a similar structure is due to be built over reactor number three. The chances of another major accident at the power plant are very low. However, as a measure of precaution, ARI has an evacuation plan in place.

ARI Campus facilities

Several buildings on the campus were damaged by the earthquake. We have been working on repair and reconstruction throughout this year and will continue into next year. Some facilities will be completed and ready for use by the start of the training program in April 2012, but others will still be under construction. Though there may be some inconvenience during the first months of the training, it will not compromise the training itself.

New Classroom/Library Building and New Kitchen/Dining Hall – construction of these buildings is due to begin in January and finish in June 2012. These are key buildings located in the central part of our campus. Until the new buildings are built we will make use of our old kitchen and dining hall and our classes will be conducted in the farm shop “field” classroom or in the dining hall.

Administration offices – our current administration building is due to be torn down in December. Our offices have been moved to a new location on the west end of the new farm shop. ARI administration will be fully operational by the start of the 2012 training program.

Dormitories – the women’s dorm has already been repaired and renovated. The schedule for the men’s dorm renovation is still being discussed. Most likely it will take place in 2013.

Pigpens – our pigpens were damaged by the earthquake and need to be replaced. The plan is to rebuild them during this winter and have them ready for use by spring 2012.

ARI Farm

As was mentioned before, we have found low levels of radioactive Cesium on our land. Since this spring we have been working to clean our soil. Soon after the earthquake we obtained a Geiger counter and we have been carefully measuring our entire campus. We also have a machine that we can use to analyze soil samples, foods, and any other substances for Cesium.

Steps taken to decontaminate:

Cleaning of old leaves and grass – These have been found to have higher concentrations of Cesium so we are removing them

Phyto-remediation by soybeans – Some studies have shown that soybeans will absorb Cesium. We planted and harvested almost 3 ha of soy beans.

Removing top soil – Generally, Cesium is located only in the top 5 cm of the soil. In several areas of the campus we have removed the top soil.

Experiment to process contaminated bio-matter through a biogas system – we have been collecting contaminated bio-matter into one place where we will wait for it to decompose. Next year, once it is decomposed thoroughly we intend to conduct an experiment to process it through a biogas system which is fitted with a zeolite filter to remove the Cesium.

ARI Curriculum - Length of Training Program

Despite the challenges of the earthquake we successfully held our training program in 2011. Some modifications needed to be made to the curriculum, however. The biggest of these is that the training started 4 weeks late and finished 3 weeks earlier than usual. For the 2012 training program we have not planned any major changes to the curriculum and **the length of the training will NOT be shortened.**

Exposure to radiation

During your time at ARI you will have some exposure to low levels of radiation. Unfortunately, this is a fact that cannot be avoided and we want to explain about this as clearly as we can.

Before the earthquake the Japanese government standard for acceptable radiation exposure was 1 millisievert (mSv) per year. (A “sievert” is a unit used to measure the biological effects of radiation.) After the nuclear power plant accident the government increased this standard to 20 mSv per year, stating that this was necessary in an emergency situation.

At ARI we want to hold to the standard of 1 mSv per year and we are working hard improve our environment so that we can keep within this limit. However, based on data we have collected we have estimated that radiation

exposure in ARI for 2012 (a one year period) would be 1.5 – 2.8 mSv. This works out to roughly 0.12 – 0.23 mSv per month, or 0.03 – 0.05 mSv per week.

For purposes of comparison (and to better understand these numbers) please consider the following information about other forms of radiation we are exposed to in our lives (exact figures vary with sources):

Chest X-ray	0.05 mSv
New York to Tokyo round trip flight	0.2 mSv
Stomach X-ray	0.6 mSv
CT scan (average)	6.9 mSv

Although predicted levels of radiation exposure exceed 1 mSv per year we would like to continue with our 2012 training program for the following reasons:

- 1.5 – 2.8 mSv is still quite low. For example, women hospital workers who work with equipment that emit radiation like X-rays and CT scanners, have a standard limit of 5 mSv of exposure per 3 months.
- At low levels of radiation, it is long term exposure (over several years) that can potentially affect a person's health. Even a period of one year is not considered long term. Once you leave this area you will be returning to your normal environment.
- We are taking precautions to limit exposure to radiation. For example masks are available for anyone to wear at any time to avoid inhaling dust.

Food safety

At ARI we practice food self-sufficiency. On our own lands we produce almost all of the food we eat. In the aftermath of the earthquake, however we have had to be very careful about the safety of our food – especially we are concerned about the possibility of it containing radioactive Cesium. Therefore we have obtained sophisticated equipment that will allow us to test our food for radiation. We check all of our food very carefully and we have set a strict standard for food consumption at ARI

Food standards

Radiation in food is measured in a unit called a “Becquerel.”

The Japanese government has set a limit of **500 Becquerels per kilogram** (Bq/kg) for food products sold to consumers.

ARI has set a limit of **37 Bq/kg** for food that we consume or sell. It is a very strict standard and is considered low even by safe food consumers' cooperatives.

Please know that we are concerned about your health and we would not welcome you to ARI if we thought we were putting you in danger. In the end, however, it is your decision to participate in ARI under these conditions.

Though we faced many challenges from the earthquake, we carried out our training program in 2011 and it was successful. Now we are preparing to hold our 2012 program in full and we welcome you to join us; to work together with us to build a strong and healthy community.