



Asian Productivity Organization
“The APO in the News”

Name of publication: ManilaSpeak (19 September 2014, Phillippines)

Page: <http://www.manilaspeak.com/pacita-u-juan/natural-farming-or-biotech/>

Natural Farming or Biotech?

By Chit U. Juan- SEPTEMBER 19, 2014

Being a natural farmer has its drawbacks, too. I completely shut my ears to anything “unnatural” or “processed” or genetically-modified. But a recent visit to Japan changed my mind and allowed me to listen. A colleague suggested to me: just keep an open mind. And so I followed her advice.



Plant Factory

Now, I understand why there is so much work being done on biotechnology, and in particular, Hydroponics, Aquaponics, and PFAL (Plant Factory with Artificial Light). I was one of 17 attendees from 13 countries to the Asian Productivity Organization (APO) Study Mission for Agricultural Productivity and Innovation in Japan. And together, we explored many new technologies in farming and in marketing the produce as well. Here are some reasons I culled from our 14 plant and farm visits and nine lectures over 6 days:



Plant Factory

FOOD SAFETY. Many places now have contaminated soil because of nuclear accidents such as Chernobyl and Fukushima, or simply the application of too much chemicals has turned the soil into one big toxic playground. What will a country or a community do with its agriculture needs? The answer is biotechnology—being able to grow plants and vegetables and practically growing your own food without the use of soil. Nutrient solutions are used to allow the roots of seedlings to suck their nutrition and grow to become your lettuce and tomato.



Membrane technology means no soil

FOOD SECURITY. So Japan is number 3 in highest GDP rankings in the world. But can all that money buy you safe food? And when there are issues of National Security, what will you do if you are not able to buy food from your next door neighbor country? What will having all the money in the world do to feed your people?

SEVERE CONDITIONS. Because we live in a tropical country, we may forget that some countries live with very harsh conditions like in the polar areas (Antarctica, for one), or in severe hot conditions where nothing grows from the ground such as in the desert (UAE, Saudi Arabia, etc). You may have to grow your vegetables and tomatoes (considered a fruit in Japan) under Artificial Light and controllable conditions like being able to control the crispiness of lettuce or the potassium level of some vegetables (for medical purposes).

These are just some of the reasons why research is ongoing for biotechnology. People need options when the conditions are hard or not ideal.



Tomatoes are three times sweeter

Next reason would be luxury and personal taste. Tomatoes can be three times sweeter than usual using a technology that can make the fruit produce more sugar than usual. The nutrients can be controlled to allow the plant to make more sugar, or to make it sweeter than under normal conditions.



Tomato planting using membrane

These new technologies are a far cry from the hydroponics we used to know, where plant roots were just exposed to the nutrient solution and then sucked away. Today, you can choose when they “drink” and when they “thirst”, for reasons such as market choices. Sweeter tomatoes also make more income for the farmer because there are people willing to pay higher for sweeter stuff or specific qualities of vegetables.



Dr. Kozai

Yes, it is not all that natural but it has its purpose. We are, however, still lucky to be able to grow our vegetables naturally in our farm in our native Cavite. We weather all the changing climates and still plant on soil. But this technology I mentioned is food for the future and we should get to know what we can do in case, just in case, there is no choice but to avoid soil or field grown farming.

I am not a big fan yet. It is expensive and will be our last resort if and when we are not able to keep our soil alive. But I hope we may never need this new technology.

I am a positivist. I claim that we will keep our soil healthy and clean for many generations to come. And being born in this tropical climate is one of the blessings we should not forget to thank God for—because I like to continue eating off the ground, off the soil, with the birds and the bees.

Thank God we can still eat natural and organic. Others are not as lucky.

Photos by Chit Juan