



Rural Training Center-Thailand

## 2008 Winter Farm Update 4

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Community-based environmental education for the self-sufficiency and sustainability of small rural family farms

*You may post questions / comments to the Discussion area of our website*

### ***Farmers Hit by Falling Prices***



*Farmers protesting to get paid higher price for corn.*

Corn farmers were caught in a falling market after the recent harvest. Prices dropped dashing their hopes of making a profit. Some buyers were insisting on corn being dried to a 10% moisture content. Many small farmers are not able to accurately determine the moisture content to that standard. Other buyers already reached their assigned buying quota at the government subsidized rate. This rate was set when corn prices were better than the current market.

In frustration, some farmers protested by blocking the main highway in Nan. This disrupted supplies going north of the provincial capital and soon produced fuel shortages in the northern part of the province. It was a preview of "peak oil" coming to Nan. [The road closure ended

after a few days.] But it was a good reminder why small family farmers may be better off as self-sufficient units rather than failed commercial farms. Self-sufficiency may not be the path to monetary wealth, it has other benefits that may be more valuable. 🌐



*Trucks of harvested corn with no buyers willing to pay.*



*The blocked road cuts off gas supply in town.*

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## ***Long Term Investing: Thai Farmer-Style***



*We have some teak about 10+ years old on the farm.  
We plan to plant more teak trees in the near future*



*Teak is considered as ideal for building a home. The  
wood is durable, resisting insects and decay.*

the wood combined with the Thai logging ban has driven teak prices up. But the illegal cutting of teak from Thai forests continues due to staff shortages of enforcement personnel, lax enforcement in some areas, and corruption. For us, the limited access to our farm is a natural security feature for our teak. Growing our own teak for possible future construction removes the exposure to risk of involvement with the illegal teak trade.

For many, farming is a gamble. You plant seeds and hope they sprout. As the crop grows, you hope to avoid severe storms, droughts, fires, and insect plagues. When you harvest, you hope the market conditions are in your favor so you make a profit.

The current global financial crisis shows that modern urban life is also a gamble. Long-term views on investing suggest the law of averages works in your favor to smooth out the ups and downs of the market.

For many Thai farmers, growing teak (*Tectona grandis*) is their long term investment and pay off for retirement. Teak does fairly well in a plantation environment. The Thai government banned forest logging in 1989. That affected the supply of teak. So growing teak seems like a sure money maker. World-wide the supply is shrinking.

It takes about 3 years for teak trees to get established. In about 10 years they are thick enough to cut and sell. Most Thai farmers view growing teak as less work than tending to crops. So they plant teak and leave it as a long term investment. Younger families consider building their dream house in the future.

Teak is a strong durable wood. It resists decay, insects, and weathering. For some, teak is the ideal wood to make indoor or outdoor furniture. Many Thais dream of being able to build a traditional teak house.

Today, one of the biggest threats to growing teak is theft. The high demand for



Another tree we are considering cultivating is the Yang Na (*Dipterocarpus alatus*). It grows faster than teak. The wood tends to be fairly straight grained and strong for building. The idea of planting this tree is creating our own wood resource for future construction. There is one drawback to the wood from this tree. It is not as durable as teak. When building with this wood, it should not be put in direct contact with soil.

But life is full of pluses and minuses, and there is a plus to this tree. It seems to create a good habitat for mushrooms! And many in our family love to eat mushrooms! So one idea is that by planting this tree on the farm, we won't have to go very far to "hunt" mushrooms as we do now.

The ideal habitat for this tree is near water. So we were considering planting it between the fish ponds and the rice paddies. With the sun exposure and slope orientation, the tree would shade the fish ponds and not the rice paddies. This way the rice production won't be negatively affected by the shade from these trees.



*Yang na, a native Thai tree.*



*Clumping bamboo growing on some land on the way to our farm.*

As part of the IFS (Independent Fuel Systems) program, we are considering using various kinds of bamboo for charcoal as a renewable fuel source. Many rural families still cook using wood as fuel. Charcoal produces more heat than wood. Also, when making bamboo charcoal, we can condense the smoke to extract bamboo vinegar. We plan to use the vinegar as an organic weed killer.

It would take more refining to make the vinegar a salable commercial product. But our low-tech / no-tech approach makes vinegar refining a low priority. Instead, we plan to use the heat from the charcoal making process for cooking, heating water, and drying food. 🌱

This type of clumping bamboo does not have an invasive root system. It provides bamboo shoots to eat, and the "wood" can be harvested once a year to provide some cash income. While this isn't a "long-term" investment, many families plant bamboo as a "crop" of minimal work.

Prior to the annual cropping, some of the bamboo is often used for making "salas" (rest shelters) in the fields. These structures tend to last about 5-6 years.

## *Farm Integration*

Farm integration, as envisioned at the RTC-TH, is the combining of various farm elements into a systematic whole to support the family. In such a system, the aim is for on-farm nutrient recycling and maintaining a minimal carbon footprint.

As an example, the rice paddies and fish ponds support each other. The obvious link is the water supply. The fish ponds supply collected rainwater and ground to the rice paddies. The nutrients from organic wastes in the fish ponds fertilize the rice paddies. Rice stalks from harvested rice are composted for fish feed. Compost is added to the rice paddies for soil enrichment. Rice hulls are used as fish feed and composting.

In this brief example, the integrated system combines various subsystems. For example, rain water is the farm's main water source. It can directly enter the fish pond. It falls directly on the farm and the forest then runs off to the ponds or infiltrates to become soil moisture. Some of the soil water can seep into the fish pond. Rainwater is also harvested and held in tanks which overflow into the fish ponds.

We enhance soil moisture retention by mulching and composting. The mulch and compost come from organic matter on the farm.

Even insects on the farm are used for fish food. They convert a wide variety of native plants into nutrient matter. When fed to fish, another series of conversions is possible. Fish remains from cleaning and meals are composted and used to make EM (effective microorganisms) that are used as soil amendment and compost additive. And the cycle continues in a sustainable way. 🌱



*Rain falls on the forest and farm, soaks into the soil, and slowly seeps underground to the fish ponds.*



*The rainwater tanks overflow to the fish ponds.*



*The fish ponds are the main source of irrigation water for our rice paddies.*



## Garden Guardians

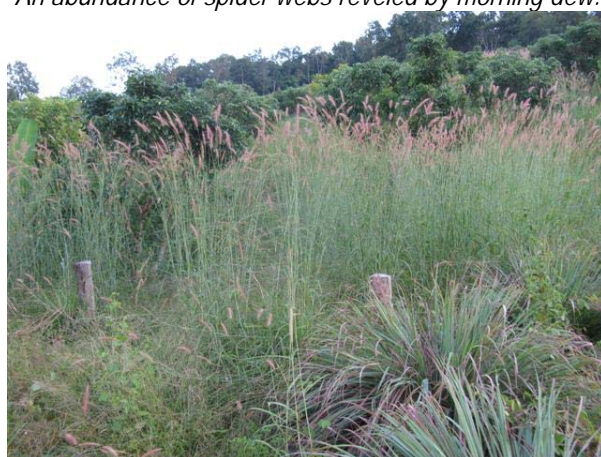
Hollywood makes spine-chilling movies of monster proportions that bring sleepless nights to many and based on deep rooted fears of insects. Putting aside sensational movies, spiders tend to be the garden guardians.

We started an integrated effort to rid the farm of a tall weed and to encourage the next generation of spiders. The tall weeds are cut down. The roots, seed heads, and stalks are separated. The weed stalks are bundled and set up as spider nurseries. Spiders make their nests and lay eggs in these bundles. Later, we put the bundles in the fields and gardens. It is an easy way to deploy the next generation of garden guardians.

The roots and remaining leaves and seed stalks are used for kindling. One of the key benefits is eradication weeds without herbicides. And when the spiders hatch, they work as non-toxic pest control agents. The net result for our farm is keeping the farm free of agri-chemicals. 🌍



*An abundance of spider webs reveled by morning dew.*



*An abundant weed.*



*Weed stalk bundles set up a spider nursery*



*Weed roots, leaves and seeds used for kindling*

The success of an innovative integrated pest control (IPM) method such as this is another low-tech / no-tech method used by the RTC-TH. The reduction and avoidance of the use of agri-chemicals on small rural family farms is a significant cost savings. This reduced off-farm expense could be applied to pay off farm debts. Being debt free often means the land certificate and the farm is secured from the threat of foreclosure. The land certificate is usually the main financial asset of most small farm families. 🌍



## ***Some of Our Fabulous Farm Fresh Fruit***



*Dragon fruit (Hylocereus)*



*Rambutan (Nephelium lappaceum)*



*Coconut (Cocos nucifera)*



*Star fruit (Averrhoa carambola)*



*Banana (Musa)*



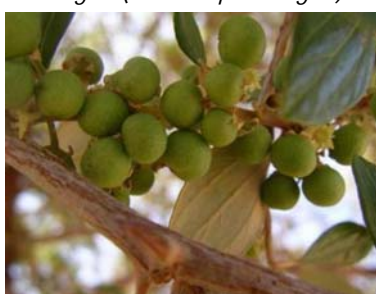
*Logan (Dimocarpus longan)*



*Giant passion fruit  
(Passiflora quadrangularis)*



*Pomelo (Citrus maxima)*



*Jujube (Ziziphus zizyphus)*



*Wood apple (Limonia acidissima)*



*Lime (Citrus aurantifolia)*



*Jack fruit (Artocarpus  
heterophyllus)*



*Guava (Psidium guajava)*



*Thai chestnut (Castanea)*



*Papaya (Carica papaya)*