



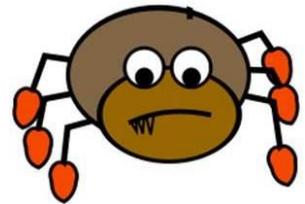
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Simple Suggestions for More Profitable Farming

These simple suggestions will help you do what all farmers want to do: increase crop yields and reduce input costs. They can help you grow more and higher quality crops while reducing the amount of money you must spend on fertilizer, herbicides and pesticides.

Rotate your crops every season.

- Bugs are stupid. If you change their food every season, the bugs that ate last season's crop will starve this season. Next season there won't be very many of that kind of bug that ate last season's crop around to eat next season's crop.
- Different crops eat different things in the soil. If you plant the same crop season after season, you will exhaust the nutrients that your crop needs most.
- Some crops put valuable nutrients back into the soil. If you plant them between other crops, those crops will yield more.



Feed your soil constantly.

- Your soil is alive. If you don't feed it, it will slowly starve to death and your crops will starve with it.
- Feed your soil constantly. Don't just feed it NPK twice a season. Feed it leaf mulch, straw, compost, rice husk, manure and any other carbon containing waste you have whenever you have the time.
- Your soil is like you; it can eat only one meal at a time. If someone gives you a whole pig to eat at once, you will be very full, but most of the pig will be wasted. When you feed your soil with NPK, your crops feel exactly the same way. They eat until they are full – and most of the NPK is wasted when it leeches away.
- Feed your soil with slow acting soil amendments that release nutrients constantly over a long time.



Never burn your soil.

- Your soil is alive – the most important part of your soil is the living part, not the dirt part. If you burn your soil, you kill your soil's productivity.
- Your soil may contain minerals and nutrients your crops need. You may apply NPK to your soil to improve your crops. BUT your crops cannot eat those nutrients. The living part of your soil – the microbes and fungi and worms – eat the nutrients and your crops eat them only after the microbes and fungi and worms have pissed them out. Really. No micro-bug piss, no crops. So don't burn your friends.



Waste not, want not.

- Your land is not infinitely productive. If all you do is to take, take, take, you will exhaust your land.
- Return to your land everything you do not need from your crop. Everything you grow requires food drawn from your soil, not just the part that you sell. If you return what you do not sell to your land, those nutrients will be there next year to feed your next crop.



Intercrop whenever possible.

- Different crops need different nutrients. If you plant a field with only one crop, every plant will demand the same nutrients from the soil. If you plant three rows of one crop and then three rows of another, your crops demand for nutrients will be more balanced and the plants will not compete with each other so much.
- The more of one type of plant you put in one place, the bigger the meal you are offering to bugs that like eating that kind of food. By intercropping – mixing different crops in different rows – you confuse the bugs and reduce the pest load.
- Some plants, especially beans, add nitrogen (the N in NPK) to the soil. If you intercrop these plants with other plants, the other plants benefit from the natural “fertilizer.”



Always include legumes in your crop rotation.

- Nitrogen (the N in NPK) is the single most important nutrient your crops need to grow. N makes up most of the air we breathe, but plants cannot absorb it on their own. They need help. You can pay for this help – urea, which is essentially N, costs 900 THB for 50 kg – or you can add it to your soil yourself just by adding legumes to the crops you plant in your annual crop rotation. And unlike urea, peanuts do not cost you anything; they actually make a profit for you.

- Legumes – almost all beans are legumes and many common trees – “fix” N in the soil around their roots. (Some beans can add 50-80 kg of N to the soil in one rai in one year.) If you add legumes – peanuts, soy, black, red, rice, pole, green beans to your crop rotation, you will add N to your soil at the same time you are making money from a crop. This N will improve the quality of the crops that you plant in the field for the rest of the year.



Companion plant to reduce pests.

- Different crops protect each other. The roots of some crops put out chemicals that drive away harmful bugs in the soil that attack other plants; some plants smell bad to the insects that attack other plants. If you plant these plants next to each other you can save a lot of money on pesticides.



Never leave your soil exposed to bright sun light.

- You do not go out into the sun without covering yourself up; treat your soil the same way! Cover it with leaves, rice straw or any other readily available plant matter. Just watch out that you aren't sowing weed seeds!
- Our soil is clay. When exposed to the sun it gets very, very hard. Hard soil is bad.
 - When you irrigate it or when it rains, the water just runs off; it does not soak in.
 - If you have fertilized, your fertilizer goes with the water.
 - If you pay for your water, your money goes with the water.
 - If you want water in the ground for the dry season, your hope goes with the water.
 - When you want to plant it; it is very hard to work.
 - If you use a tractor, you spend money on diesel to break up the hardened soil – and the weight of the tractor compacts the soil deeper down creating a barrier against the roots of your crops.
 - If you plant by hand, digging planting holes is very hard – and the roots of the growing crop are stunted by the effort of trying to grow through the hard clay.
- Our soil contains few organic materials – the nutrients that the living part of your soil requires and the part of your soil that your crops depend on.
 - If you leave the soil exposed to the sun, the heat of the sun dries out the soil and kills the microbes, fungi and worms.
 - If you leave the soil exposed, you speed up the decomposition of the organic matter so that soon there is none left, the living part of your soil dies of starvation and your soil is dead, too.

