

EXCERPTS FROM ON FARMING (NONGSHU)
By Chen Pu (Chen Fu)

Introduction

The Song dynasty (960-1276) saw a tremendous increase in Chinese agricultural productivity. Double- and triple-cropping in the irrigated fields of south China and the introduction and dissemination of improved strains of rice and new farming techniques made these increases possible and, in turn, supported a growing population.

One way in which farming techniques were spread around the empire was through the printing and circulation of handbooks on farming. The following excerpt is taken from one of those handbooks, *On Farming (Nongshu)*, written by Chen Pu (1076-1154) in 1149.

Document Excerpts with Questions (Longer selection follows this section)

From *Chinese Civilization: A Sourcebook*, edited by Patricia Buckley Ebrey, 2nd ed. (New York: The Free Press, 1993), 188-191.
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Excerpts from On Farming (Nongshu)
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Finance and Labor

All those who engage in business should do so in accordance with their own capacity. They should refrain from careless investment and excessive greed, lest in the end they achieve nothing. Tradition has it, "Profit comes from a little; confusion comes from a lot." In the farming business, which is the most difficult business to manage, how can you afford not to calculate your financial and labor capacities carefully? Only when you are certain that you have sufficient funds and labor to assure success should you launch an enterprise.

Plowing

Early and late plowing both have their advantages. For the early rice crop, as soon as the reaping is completed, immediately plow the fields and expose the stalks to glaring sunlight. Then add manure and bury the stalks to nourish the soil. Next, plant beans, wheat, and vegetables to ripen and fertilize the soil so as to minimize the next year's labor. In addition, when the harvest is good, these extra crops can add to the yearly income.

**Primary Source Document with Questions (DBQs) on
EXCERPTS FROM ON FARMING (NONGSHU), BY CHEN PU (CHEN FU)**

Weeding

The *Book of Songs* says, “Root out the weeds. Where the weeds decay, there the grains will grow luxuriantly.” The author of the *Book of Rites* also remarks, “The months of midsummer are advantageous for weeding. Weeds can fertilize the fields and improve the land.” Modern farmers, ignorant of these principles, throw the weeds away. They do not know that, if mixed with the soil and buried deep under the roots of rice seedlings, the weeds will eventually decay and the soil will be enriched; the harvest, as a result, will be abundant and of superior quality.

[Translated by Clara Yu]

Questions:

1. What can you deduce about the social class and education of the author?
2. How practical is the advice given?
3. Why do you think that the author says that the farming business is the most difficult business to manage?
4. What moral qualities do you think the author would expect of a successful farmer? Are these qualities distinctively Confucian or universal?

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Finance and Labor

All those who engage in business should do so in accordance with their own capacity. They should refrain from careless investment and excessive greed, lest in the end they achieve nothing. Tradition has it, “Profit comes from a little; confusion comes from a lot.” In the farming business, which is the most difficult business to manage, how can you afford not to calculate your financial and labor capacities carefully? Only when you are certain that you have sufficient funds and labor to assure success should you launch an enterprise. Anyone who covets more than he can manage is likely to fall into carelessness and irresponsibility; under such conditions, he cannot reap even one

or two out of every ten portions, and success will certainly elude him. Thus, to procure more land is to increase trouble, not profit.

On the other hand, anyone who plans carefully, begins with good methods, and continues in the same way can reasonably expect success and does not have to rely on luck. The proverb says, "Owning a great deal of emptiness is less desirable than reaping from a narrow patch of land." Too true! I have the following example to prove my point. In ancient times there was a great archer, Pu Qie, who was able to draw a delicate bow and string to orioles on one arrow, high in the clouds. The reason he could achieve such dexterity in aiming was that he had more strength than needed to draw the bow. If the bow had been heavier than he could handle, he would have trembled and staggered under its weight; then how could he have gotten his game? By extension, for the farmer who is engaged in the management of fields, the secret lies not in expanding the farmland, but in balancing finance and labor. If the farmer can achieve that, he can expect prosperity and abundance.

Topography

Concerning mountains, rivers, plateaus, lakes, and swamps, their altitudes differ and so their temperatures and degrees of fertility do also. Generally speaking, high lands are cold, their springs chilly, their soil cool. The tradition that "In the high mountains there is more winter," refers to the constant windy cold. Also, these areas are more prone to droughts. On the other hand, low lands are usually fertile but prone to flooding. Thus, different methods of land management are required for different terrain.

In the case of high land, choose a spot where water can converge and dig a reservoir of appropriate size. (For every ten *mu* of land, two or three *mu* should be set aside for the reservoir.) In late spring and early summer when rainfall is frequent, strengthen the embankments and deepen and widen the reservoir so that it will have enough space to contain the water. On the embankments plant mulberry and pomegranate trees on which cows can be tethered. The cows will be comfortable under the shade of the trees; the embankments will be strengthened because the cows constantly tread on them; and the mulberry trees will grow beautifully because of the nourishing water. Whenever there is a drought, the water in the reservoir can be released for irrigation, and whenever there is heavy rainfall, the crops will not be harmed by floods.

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As to lowlands, because they are easily flooded, you must study their topography and build high, wide embankments surrounding the area most likely to be inundated. On the slopes of the embankments vegetables, hemp, wheat, millet, and beans can be planted. On either side you can also plant mulberry trees and raise cows. Because of convenient water and grass, the cows can be successfully raised with little effort.

For lakes and marshy swamps, use the “rape-turnip soil” system. First, bind logs together to form a base for the field. Let the base float on water but remain tied to land. Then lay the “rape-turnip soil” on the wooden platform and plant there. As the platform floats on water, it rises and falls with the water level, so the crops are never lost to floods.

Plowing

Early and late plowing both have their advantages. For the early rice crop, as soon as the reaping is completed, immediately plow the fields and expose the stalks to glaring sunlight. Then add manure and bury the stalks to nourish the soil. Next, plant beans, wheat, and vegetables to ripen and fertilize the soil so as to minimize the next year’s labor. In addition, when the harvest is good, these extra crops can add to the yearly income. For late crops, however, do not plow until spring. Because the rice stalks are soft but tough, it is necessary to wait until they have fully decayed to plow satisfactorily.

In the mountains, plateaus, and wet areas, it is usually cold. The fields here should be deeply plowed and soaked with water released from reservoirs. Throughout the winter, the water will be absorbed, and the snow and frost will freeze the soil so that it will become brittle and crumbly. At the beginning of spring, spread the fields with decayed weeds and leaves and then burn them, so that the soil will become warm enough for the seeds to sprout. In this way, cold as the freezing springs may be, they cannot harm the crop. If you fail to treat the soil this way, then the arteries of the fields, being soaked constantly by freezing springs, will be cold, and the crop will be poor.

When it is time to sow the seeds, sprinkle lime in the wet soil to root out harmful insect larvae.

The Six Kinds of Crops

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There is an order to the planting of different crops. Anyone who knows the right timing and follow the order can cultivate one thing after another and use one to assist the others. Then there will not be a day without planting, nor a month without harvest, and money will be coming in throughout the year. How can there then be any worry about cold, hunger, or lack of funds?

Plan the nettle hemp in the first month. Apply manure in intervals of ten days and by the fifth or sixth month it will be time for reaping. The women should take charge of splicing thread and weaving cloth out of the hemp.

Plant millet in the second month. It is necessary to sow the seeds sparsely and then roll cart wheels over the soil to firm it up; this will make the millet grow luxuriantly, its stalks long and its grains full. In the seventh month the millet will be harvested, easing any temporary financial difficulties.

There are two crops of oil hemp. The early crop is planted in the third month. Rake the field to spread out the seedlings. Repeat the raking process three times a month and the hemp will grow well. It can be harvested in the seventh or the eighth month.

In the fourth month plant beans. Rake as with hemp. They will be ripe by the seventh month. In mid-fifth month plant the late oil hemp. Proceed as with the early crop. The ninth month will be reaping time.

After the 7th day of the seventh month, plant radishes and cabbage.

In the eighth month, before the autumn sacrifice to the god of the earth, wheat can be planted. It is advisable to apply manure and remove weeds frequently. When wheat grows from the autumn through the spring sacrifices to the god of the earth, the harvest will double and the grains will be full and solid.

The *Book of Songs* says, "The tenth month is the time to harvest crops." You will have a large variety of crops, including millet, rice, beans, hemp, and wheat and will lack nothing needed through the year. Will you ever be concerned for want of resources?

Housing

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The ancient kinds who reigned over subjects in all four directions and took advantage of the earth in the right seasons must have had good principles. They decreed that five *mu* of land should be set aside for housing, out of which two and a half *mu* were for a cottage erected in the center of the fields.

In the period of plowing and sowing, move into this cottage to facilitate management and provide supplies for the farm workers. At the same time start a garden and plant vegetables. Along the walls, mulberry trees can be planted for the breeding of silkworms. In this manner you will live up to the system exemplified by the ancients.

When the ninth month has come, transform the vegetable garden into a harvest processing area. In the tenth month, when the harvest is done and the year's work finished, you can rest as compensation for your labor of plowing and sowing in the spring. Now move the whole family, both old and new, back to the house. For if you stay too long in the cottage in the fields, your house will become dilapidated as a result of neglect.

Fertilizer

At the side of the farm house, erect a compost hut. Make the eaves low to prevent the wind and rain from entering it, for when compost is exposed to the moon and stars, it will lose its fertility. In this hut, dig a deep pit and line it with bricks to prevent leakage. Collect waste, ashes, chaff, broken stalks, and fallen leaves and burn them in the pit; then pour manure over them to make them fertile. In this way considerable quantities of compost are acquired over time. Then, whenever sowing is to be done, sieve and discard stones and tiles, mix the fine compost with the seeds, and plant sparsely in pinches. When the seedlings have grown tall, again sprinkle the compost and bank it up against these roots. These methods will ensure a double yield.

Some people say that when the soil is exhausted, grass and trees will not grow; that when the *qi* [material force] is weak, all living things will be stunted; and that after three to five years of continuous planting, the soil of any field will be exhausted. This theory is erroneous because it fails to recognize one factor: by adding new, fertile soil, enriched with compost, the land can be reinforced in strength. If this is so, where can the alleged exhaustion come from?

Weeding

The *Book of Songs* says, "Root out the weeds. Where the weeds decay, there the grains will grow luxuriantly." The author of the *Book of Rites* also remarks, "The months of midsummer are advantageous for weeding. Weeds can fertilize in the fields and improve the land." Modern farmers, ignorant of these principles, throw the weeds away. They do not know that, if mixed with soil and buried deep under the roots of rice seedlings, the weeds will eventually decay and the soil will be enriched; the harvest, as a result, will be abundant and of superior quality.

There is method to weeding. In the Zhou dynasty, Minister Ti, who was in charge of the weeding, ruled that "In the spring the weeds begin to sprout and grow, and in the summer one has to go and cut them down daily." This is to say, in the summer the weeds grow easily, therefore, one should labor every day to curb their growth. "In the autumn one should hoe them with measure." This means chopping off the seeds so that they will not reach the soil. "In winter one should go and plow the fields daily." That is because the crops have now been reaped, and plowing through the roots of the weeds will expose them to snow and frost, so that they decay and do not revive the next year. Also, they can serve as fertilizer for the soil.

Concentration

If something is thought out carefully, it will succeed; if not, it will fail; this is a universal truth. It is very rare that a person works and yet gains nothing. On the other hand, there is never any harm in trying too hard.

In farming it is especially appropriate to be concerned about what you are doing, Mencius said, "Will a farmer discard his plow when he leaves his land?" Ordinary people will become idle if they have leisure and property. Only those who love farming, who behave in harmony with it, who take pleasure in talking about it and think about it all the time, will manage it without a moment's negligence. For these people a day's work results in a day's gain, a year's work in a year's gain. How can they escape affluence?

As to those with many interests who cannot concentrate on any one and who are incapable of being meticulous, even if they should come by some profit, they will soon lose it. For they will never understand that the transformation of the small into the big is the result of persistent effort.

To indulge in pleasure and discard work whenever the chance arises and to meet matters only when they become urgent is never the right way of doing things. Generally speaking, ordinary people take pride in having the prosperity to indulge in temporary leisure. If there should be a man who remains diligent in prosperity, everyone else will mark him as a misfit, so great is their lack of understanding!

[Translated by Clara Yu]