

**Yang Tianhui:
Notes from My Visit to
the Fuzi Growing Area of
Zhangming County
(Song Dynasty, 1099 CE)**

translated by
Heiner Fruehauf

The following text represents the most detailed pre-modern description of the traditional cultivation of medicinal aconite in China. It was written more than 900 years ago by a Sichuanese official in charge of Zhangming County. Zhangming is situated in the location of today's Jiangyou County, epicenter of the recent Sichuan earthquake, which has been identified by all ancient materia medica experts as the only place where genuine Chinese aconite should be sourced from. Located near the foothills of the Himalayas, aconite has been cultivated in this very specific area of northern Sichuan since the Han dynasty 2,000 years ago. The wild aconite seedlings are traditionally collected from the surrounding hills and planted during the winter solstice in fields situated next to the Fujiang River. A combination of the region's unique geography and mineral composition in the river water and soil appear to be responsible for the growth of aconite tubers that are 2-4 times larger, safer, and at the same time more potent than elsewhere. Only 10% of today's aconite harvest is sourced from this region, but virtually all of China's aconite is shipped here to receive the stamp "Genuine Jiangyou Fuzi" before going to market. Yang Tianhui's vivid account bears witness that Zhangming/Jiangyou aconite has been the quality standard of medicinal aconite before the Song dynasty. At the same time, he paints a clear picture of the craftsmanship involved in cultivating medicinal Wutou, Fuzi, and Tianxiong.

50% of today's genuine Jiangyou Fuzi production has been monopolized by a pharmaceutical consortium (producing aconite injection fluids for heart patients) sponsored by the Chinese government, 40% is bought by Japanese herb companies, and only the remaining 10% yield (from an area smaller than 60 acres) can be purchased from local growers. In addition to non-traditional processing techniques, this paucity of genuine Fuzi is the most important reason why the aconite presently available on the modern market produces is of non-medicinal grade quality and

thus often produces side-effects. As evidenced by most texts containing ancient case studies, traditionally processed Fuzi from Jiangyou is not only safe to use for many chronic disorders, but is indispensable in classical Chinese herbalism as “The King of the 100 Herbs.”

Mianzhou (today’s Mianyang in Sichuan Province) is the ancient region formerly called Guanghan. Its land is divided into eight administrative districts, among which only the county of Zhangming (today’s Jiangyou) produces Fuzi. Zhangming consists of 20 townships, among which only Chishui, Lianshui, Huichang, and Changming are suitable for the cultivation of this particular crop. The total arable land in all four townships amounts to a bit more than 520 Qing (approximately 320 acres). 50% of this land is set aside to yield rice, 30% is used for beans and other staple crops, and only 20% is reserved for the cultivation of Fuzi. Combined production output for all 4 towns is 160,000 catties (10 tons) of Fuzi. The town of Chishui produces the most, followed by Lianshui, while Huichang and Changming yield only very small amounts.

In all 4 locations the peasants prepare the land for cultivation by clearing the fields at the appropriate time of year, then plant it with a jumbled mixture of dill (*Anethum graveolens*), shepherd’s purse (*Capsella bursa-pastoris*) and wheat grass. Once these fertilizer crops have begun to sprout robustly, they are plowed under, leaves and roots and all, until the land looks clear again. Only then the aconite seedlings are planted. For each Mu of land 10 pieces of cattle are used, applying 50 Hu (approximately 450 gallons) of their dung as fertilizer. A 7 cun (9 inch) ridge in the field is called a Long, a 5 chi (1.5 yards) ridge is called a Fu. Once a field is fully prepared it consists of 20 Fu and 1,200 Long. Long measurements

use the Fu ridges as landmark, their depth is the same. The rest of the land consists of ditches for drainage and irrigation. Once the spring sun has come out in full force and the Bi Constellation has emerged (during the 3rd month of spring: April), the Long and Fu ridges are being repaired in preparation for the rains that inundate the land at this time of year. Once the spring rains have passed, causing the crop stalks to grow tall, weeds are cultivated to form a protective ground cover around them, to keep the gradually intensifying rays of the sun out. The amount of labor required for this type of crop is thus 10 times the effort applied to other fields, yet the year’s yield is also ten-fold of what other crops bring in, possibly more.

Together, these 4 townships plant more than 1,000 Hu (approximately 9,000 gallons) of seedlings. The best seedlings come from the surrounding areas of Long’an, Longzhou, Qigui, Mumen, Qingdui, and Xiaoping. The seedlings are planted during the 11th month starting at the winter solstice, and the mature roots are harvested just before the end of fall in the 9th month of the year (October). The plant stalks look like wild growing *Artemisia* (Ai), but they appear more lusterful. Their leaves can be compared to Valerian (Dima), yet they are thicker. The flowers are purple, the leaves are yellow, and the stamens appear long, full, and round.

The quality of the harvested root is entirely dependent on the care that has been taken in the process of cultivating the crop. Rich people always get the highest quality product, while poor people can rarely afford the highest grade. Sometimes the crop is harvested during the 7th month, yielding a product referred to as “Early Water” (Zaoshui), the roots of which are too small to fit snugly inside a closed fist—these represent a type of Fuzi that is not

quite mature yet. Overall, the cultivation of Fuzi brings with it the fear of inferior quality, and is hard to bring to maturity. Sometimes the seedling looks good, but then the sprouts don't prosper; or the sprouts prosper, but the root does not fill out; or it ferments and rots underground before the harvest; or it splits open and becomes deformed; or some creature erodes it. Therefore it is customary for the planters to make a sacrifice to the Heavenly Spirits before the harvest, or make gestures to the plant spirits.

The harvested product is processed by first fermenting it, using containers of wine that are placed in a sealed room. There, the roots are steeped for several months until they start to ferment and increase in size. Afterward, the roots are removed from their brine and exposed to the sun and wind until they are completely dry. When the roots first emerge from the wine, the largest pieces are as big as a man's fist. After drying, they will shrink to a smaller size, producing a dried root around which an adult's hand can close. It is rare to yield a root that reaches a weight of 1 liang (40g).

Altogether, there are 7 types of Fuzi products—all of them start from the same mother root, yet their final form is different. The transformation of the original seedling is called Wutou (Crow's Head); in general, offsprings that sprout out side-ways from the Wutou are called Fuzi (Attached Offspring); if an even pair grows out to the left and right, it is called Lizi (Tripod Root); if one grows out that is particularly long, it is called Tianxiong (Heavenly Male); if one grows with a sharp point it is called Tianzhui (Heavenly Awl); if one grows out of the top of the root it is called Cezi (Sidelings); and those that grow all over the place are called Loulanzi (Offsprings from a Leaky Basket). All are linked to the main

root like a child is connected to its mother, but since the name Fuzi has come to be valued the most among them, all of these are now called Fuzi while the other names have fallen into disuse.

If one plants a seedling that yields 6-7 offsprings, the harvested roots will be small. If one yields 2-3 offsprings, they will be larger. If one plants one that grows 1 offspring, it will be especially large—this is the norm. As for the shape of Fuzi, the ones that have few corners and can sit squat on an even surface are considered to be of the highest grade. So-called rat breast shaped roots with many corners are of 2nd best quality, and those that are uneven in shape, exhibit crumples or were injured during the cultivation process are of the lowest grade. As for color, the plants that have white flowers are considered to be best, those with rust color are 2nd, while those with blue-green flowers are deemed to be of lower quality. Tianxiong, Wutou, and Tianzhui all are considered superior when they are full in size, producing a root size that does not fit into a closed hand anymore. The Loulan and Cezi variety, in contrast, are generally considered not worth counting and are given to the beggars.

Overall there are only few people in Shu (Sichuan) that consume Fuzi regularly. Only the people of Shaanpu (today's Shaanxi Province), Min (today's Fujian Province), and Zhe (today's Zhejiang Province) have made Fuzi consumption a regular habit. The traders in Shaanpu focus on bringing the lower grade to market, the ones in Min and Zhe tend to trade the medium grade, and the highest grade is generally sold to public officials (mandarins). The nobility has money and loves the extraordinary, and thus is generally satisfied with only the larger kind of roots. Some local fellow with a basic understanding of medicine once said: "The small roots should indeed be

avoided, but every piece that weighs more than ½ liang (20g) is good, it is not necessary to seek out those rare ones that measure a full liang”-- that just about sums it up.

The *Shen Nong bencao jing* once remarked: “Fuzi grows in the mountain valleys of Qianwei (today’s Leshan in Sichuan), as well as left of the Yangzi (the southern banks of the lower reaches of the Yangzi River), South of the Mountains (the regions south of Mt. Hu and Mt. Zhongnan), Mt. Song, and the region of Qi and Lu (today’s Shandong Province).” My research shows that there isn’t any Fuzi that grows in these areas. This is clearly a mistake. The classic further states: “If you

harvest the crop in the spring you will get Wutou; in the winter, you will get Fuzi”—a major mistake, in my opinion. The text goes on: “Fuzi that exhibits eight corners is of the best quality; the corners are called Cezi.” This is an even bigger mistake, and completely different from what I learned in the course of my research. This is truly a case of “to believe only what is written in books is worse than having no books at all”! All the data above stems from my original field work.

Copyright 2010
© Heiner Fruehauf, Ph.D.