

大 学 生 英 语 活 页 文 选

AGRICULTURAL ENGLISH READINGS

农科英语

趣文阅读

(初级)

主编 李建华



外教社

上海外语教育出版社

大学生英语活页文选

# 农科英语趣文阅读 (初级)

AGRICULTURAL ENGLISH READINGS

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## 前言

为了培养新世纪复合型人才,增强英语的实用能力,应广大英语读者的要求,我们编写了这套《农科英语趣文阅读》。

《农科英语趣文阅读》覆盖农业学科各个领域,按照大学英语教学大纲要求的阅读速度和难度分为初级、中级和高级。初级长度为 800 词左右,中级为 1,000 词左右,高级为 1,200 词左右,每级都由 30 篇精选文章构成。读者可以根据自己的英语程度逐级阅读,逐步提高。30 篇文章全部选自英美原版报刊、杂志或网站,题材广泛,内容涉及生物技术、食品营养、资源环境、动物饲养和植物培育等农业学科知识。文章科普性强,同时兼具知识性和趣味性。文章中较难的词汇和专业术语后直接加注了贴切的汉语解释,省去了读者频频查阅词典的烦恼。每篇文章后简要的背景知识或难句解读能够帮助读者完整地把握文章的思想内容。课后阅读理解和词汇练习都以判断题和单选题的形式出现,既巩固读者的语言知识又不增添过多的负担,让读者真正体验到轻松学习专业英语的乐趣。

本书不仅可以作为农科专业学生巩固专业知识的课外读物,也可以扩展非农科专业学生的知识,提高英语阅读能力。

编者

2003 年 3 月 29 日

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# Passage 1

Agricultural English Readings (初级)

## *Eat a Peach*

Although peaches are rewarding for both flavor and quantity, they have a reputation for being *prima* (第一的) *donnas* (美称) of the tree fruit kingdom. The key to success is to follow some commonsense (常识性的) advice: Select varieties that are suited to your growing area, locate them in conditions they prefer, and diligently head off (防止) pests and other problems before they get out of hand (失去控制).

### *Picking the Right Site*

Peaches need full sun. They also grow best on a slope or atop (在……的顶上) a hill — terrain (地形) that is less prone (倾向于) than low-lying areas to fall and late-spring frosts. ① Spring frosts kill flowers and eliminate (消除) any chance for fruit. If you live in an area with late-spring frosts, plant late-flower varieties.

Peach trees can be fussy (难伺候的) when it comes to water. They have very shallow roots that demand constant moisture (水分), but they do not tolerate waterlogged (水涝的) soil. Choose a site that is well drained but moist. In dry areas, drip irrigation (滴灌) is a good way

to deliver a steady source of water. Established peach trees need about one inch of water a week during the growing season. If you have slow-draining or rocky soil, consider constructing raised beds or terraces (梯形地) that are 18 inches higher than the surrounding ground. Backfill (回填) the planting area with loamy (肥沃的) sand and plenty of compost (混合肥料).

### *Selecting Varieties*

Always choose varieties rated for your USDA Plant Hardiness Zone<sup>②</sup> or colder, just to be safe. Peaches are the least cold tolerant (忍耐的) of all fruit trees, and most trees won't survive winter temperatures below -15°F.

They do need a little cold weather, however. Flower buds won't form correctly unless trees receive a certain number of chilling hours below 45°F. This isn't a problem in the North, but gardeners in the South and along the West Coast should choose a variety such as "Flordaprince"<sup>③</sup>, which has short chilling requirements.

Many peach varieties come in both dwarf (矮株) and standard sizes. Standard-size trees grow 6 to 8 feet tall and wide. Dwarf trees

usually bear fruit earlier than full-size trees and don't require a ladder for picking. However, dwarf trees are less vigorous than standard-size trees, bear less fruit, often need staking(树桩) due to their shallow roots, and tend to be rather short-lived.

Because a peach tree does not grow true to type(纯种的) from seed, it is propagated(繁殖) by grafting(嫁接) a cutting (called a scion(幼芽)) onto a rootstock(根茎), which furnishes(供给) the root system. Most rootstocks produce standard-size trees, but dwarfing rootstocks are what give dwarf trees their more compact(紧凑的) size. In addition to controlling tree size, a given rootstock may promote vigor and hardiness or cause the tree to resist a pest or disease that plagues(困扰) roots.

Although peach breeders lag behind apple breeders in developing disease-resistant varieties, there are several varieties of peaches that resist bacterial leaf spot or peach leaf curl.

### *Planting and Care*

Peach trees are relatively short-lived — about 12 years for standard-size trees and less for dwarf trees. Generally, neither type bears fruit until its third or fourth year.

To get your young trees off to a good start, always plant in spring. Spade or till(耕作) an 8-by-8-foot spot to a depth of 18 inches. If the soil is full of clay(粘土) or rocks, excavate(挖掘) it and backfill with compost and sandy loam(肥土). If the soil is sandy, add loam and compost. Plant full-size trees 15 to 20 feet apart and dwarf trees 8–12 feet apart.

Set the tree into the center of your prepared bed. Keep the bud union (the junction where a scion(接穗) has been joined to the rootstock) 1 inch above the soil line. Water deeply once a week (about 2 to 3 gallons per

square foot of root area) if rainfall is scarce. The tree will become established after one growing season. A yearly application of 2 inches of compost should supply all the required nutrients(养分).

Peach trees are not aggressive competitors, especially in their early years, so it's important to keep weeds under control. Weeds rob the shallow-rooted trees of water and nutrients and provide cover for harmful insects. The best practice is to mulch(覆盖) newly planted trees with 1.5 to 2 inches of weed-free organic matter.

Most peach trees are self-fruitful; that is, they do not need another tree nearby for pollination(授粉). However, when ordering trees, make sure that the variety isn't an unusual one that needs a partner for cross-pollination(异花授粉). If you have room for more than one tree in your yard, consider planting different varieties that ripen(使成熟) a few weeks apart.

### *Savoring(品尝) the Fruit*

The reward from all this nurturing(培育) and years of patience is the fruit itself. There are several types of peaches: white flesh versus yellow flesh, early ripening versus mid- or late-season ripening, and clingstone(核肉紧贴) versus freestone(核肉分离). The flesh of a clingstone peach adheres(粘附) to the pit when the fruit is cut open. The flesh of a freestone separates easily from the pit, making this variety easier to use for cooking or canning large quantities of peaches. Clingstones, however, which ripen earlier in the season than freestones, remain firmer during processing.

Most peaches have yellow flesh and are good for fresh eating, canning, and freezing. For a twist(改变), try white-fleshed varieties, which are hardier than yellow-fleshed types.



Few commercial growers bother with sweet taste makes them the perfect treat for white peaches because the fruits bruise (碰伤) those warm summer evenings in the backyard. easily and are hard to ship. But their superb,

898 words

(Adapted from [www.organicgardening.com](http://www.organicgardening.com), July/August 2001, by Natalia Hamill)

### Notes

- ① They also grow best on a slope or atop a hill — terrain that is less prone than low-lying areas to fall and late spring frosts. **译文:** 小山的斜坡或山顶最适宜桃树生长, 这些地方的地形与低地相比, 较少受到秋天霜冻或春天晚霜的影响。late-spring frosts: 晚春霜冻, 一般发生在六月第一个星期之后, 对许多娇嫩植物的生长构成威胁。
- ② USDA Plant Hardiness Zone (Map): Probably the most important consideration in determining what garden and landscape plants you can grow in your garden is whether or not they will survive the climate in your area. **译文:** 《美国农业部植物耐寒区图》针对植物的耐寒耐热特性, 专门为美国境内各个地带植物的生长提供冬天最低温度信息。
- ③ Flordaprince: 佛罗里达王子。Released (发布) by the University of Florida in 1982. The standard low-chill, early-ripening cultivar (栽培品种) is characterized by excellent firmness and color. Its shape is usually round unless the previous winter was very mild. Its size can be good if thinned (间苗) very early and very well.



## Exercises

### True or False:

- ☐ 1. Peach trees have very shallow roots, so they do not demand constant moisture.
- ☐ 2. In dry areas, drip irrigation is the only way to deliver a steady source of water.
- ☐ 3. Peaches are the best cold tolerant of all fruit trees, and most trees won't survive winter temperatures below  $-15^{\circ}\text{F}$ .
- ☐ 4. Peach breeders lag behind apple breeders in developing disease-resistant varieties, but there are several varieties of peaches that resist bacterial leaf spot or peach leaf curl.
- ☐ 5. The flesh of a freestone adheres to the pit when the fruit is cut open, while the flesh of a clingstone peach separates easily from the pit, making this variety easier to be used for cooking or canning in large quantities.
- ☐ 6. Weeds rob the shallow-rooted trees of water and nutrients and provide cover for harmful insects.

### Multiple Choices:

- 1. Because a peach tree does not grow true to type from seed, it is propagated by grafting a cutting (called a scion) onto a rootstock, which furnishes the root system.  
A. multiplied      B. extended      C. publicized      D. copied
- 2. The key to success is to follow some commonsense advice.  
A. justified      B. popular      C. credible      D. sensible
- 3. The tree will become established after one growing season.  
A. stable      B. built      C. settled      D. strong
- 4. Few commercial growers bother with white peaches because the fruits bruise easily and are hard to ship.  
A. profit-minded      B. industrial      C. advertising      D. broadcasting
- 5. Most rootstocks produce standard-size trees, but dwarfing rootstocks are what give dwarf trees their more compact size.  
A. closely packed      B. in short      C. spacious      D. concise



## Passage 2

Agricultural English Readings (初级)

### *Big Money in "Speciality Rices"*

First question: What makes Basmati rice (巴斯马蒂白香米) smell so good? Science has the answer — Basmati grains contain a chemical compound, which is enough to give Basmati its distinctive (有特色的) fragrance.<sup>①</sup> That aroma (香味) has made Basmati the world's most sought-after (广受欢迎的) rice, fetching up to 10 times more than common rices on international markets.

Second question: Why do high-value "speciality rices" today account for less than 10% of global rice production? "Much has been researched and written about the more common, high-yielding rice varieties, far less attention has been paid to special kind. To exploit new market opportunities, farmers need sources of up-to-date information on breeding, production and marketing of speciality rices."<sup>②</sup> explains Dat Van Tran, executive secretary of the International Rice Commission (国际稻米委员会).

pear to hold great promise. Export markets in Europe and North America are expanding rapidly and local demand is also strong. The persistent (持久的) undersupply (供不应求) of aromatic rices is explained by the relatively limited area planted to the crops, and by their low yields. In China, for example, the planting area of aromatic rice (used mainly in foods and cakes) is less than 1% of the national rice acreage (面积) and, due to lower grain fertility and susceptibility (敏感性), yields are 10% lower than those of common rice. In India, traditional Basmati varieties are unresponsive to fertilizer and difficult to harvest, and yield around two tonnes per hectare, well below the 5 – 6 tonnes per hectare produced by high-yielding varieties.<sup>③</sup> In neighbouring Pakistan, in contrast, improved varieties are widely grown, but the level of aroma in their grain does not match that found in the traditional cultivar (栽培品种).

1. **Aromatic rice** (香稻米): Asia's aromatic rices — including Basmati from India, Thailand's Jasmine rice (泰国香稻米), and hundreds of little-known locally adapted varieties — ap-

2. **Coloured rice** (色稻米): Some speciality rices are prized not for aroma, but their colour, which is determined by levels of anthocyanin pigment in different layers of the pericarp,



seed coat and outer grain layer.<sup>④</sup> In China, non-milled(未经碾磨的) black rice is used as natural colorant(染色剂) in cakes, dumplings, porridge(稀饭), New Year cakes(年糕) and black wine. The purplish-black Jieguno variety is said to strengthen the immune(免疫的) system and hasten the healing of bone fractures(骨折). Although China has released(发放) some 54 modern black varieties with high yield, good quality and multiple resistance(多重抗性), less than 1.3% of the country's ricelands are under the crop.

3. *Glutinous ("sticky") rice*(糯米): The consistency(一致性) of "sticky" rice is determined by two kinds of starch(淀粉) in the kernels(谷粒), amylose(直链淀粉) and amylopectin(支链淀粉). The more amylopectin, the stickier the texture. Glutinous rice is easily distinguished from other varieties by its milky colour. It is often used as an ingredient(成分) in sweet dishes and snacks, and for brewing beer(酿造啤酒). Per capita(人均而言), Laos is the largest producer and consumer of glutinous rice, which accounts for about 85% of its rice production. As for many other speciality rices, "sticky" varieties bear much lower yields — in Thailand, average yields of non-glutinous varieties are around four tonnes per hectare, compared to 1.9 tonnes per hectare for glutinous types.<sup>⑤</sup>

4. *Boutique and organic rice*(特色稻米和有机稻米): Combining glutinous and aromatic characters are the so-called "boutique" rices, which include many traditional Lao varieties and others grown and consumed in Thailand. "Boutique" rices are considered to have the greatest potential for export markets, and breeding programs have focused on boosting(推进) their yield. In China, for example, scientists have developed from a local aromatic cultivar a variety, which yields an impressive 7.5 tonnes per hectare. Meanwhile, many rice growers are switching to production of organic rice — while exact statistics are unavailable, surveys show that both developed and developing countries (mainly in Asia) are growing rice organically, hoping to enter the world's \$ 10,000 million commerce in organic foods. "Growth in this rice type is slower," says Dat Van Tran, "due to higher costs, unavailability of inputs and technology, and limited participation of supermarkets and retail outlets."<sup>⑥</sup>

With growing prosperity, consumers are looking for better quality rice. Similarly, in India and Pakistan, demand for high quality Basmati has risen dramatically. Asians who migrate(移居) to Middle East, European and American countries can afford the best quality Basmati or Jasmine rice at any price. Thus, the future of speciality rices is linked to the growing prosperity of people.

775 words

(Adapted from [www.fao.org/ag/zh/magazine/0207\\_sp1.htm](http://www.fao.org/ag/zh/magazine/0207_sp1.htm))



## Notes

- ① Basmati grains contain a chemical compound, which is enough to give Basmati its distinctive spicy fragrance. **译文** 巴斯马蒂白香米粒含有一种化学化合物, 这种化合物足以使巴斯马蒂白香米具有独特的香味。
- ② To exploit new market opportunities, farmers need sources of up-to-date information on breeding, production and marketing of speciality rices. **译文** 为了把握新的市场机遇, 农民需要有关特种稻米的育种、生产和销售的最新信息。
- ③ In India, traditional Basmati varieties are unresponsive to fertilizer and difficult to harvest, and yield around two tonnes per hectare, well below the 5 - 6 tonnes per hectare produced by high-yielding varieties. **译文** 在印度, 施肥对传统的巴斯马蒂白香米品种不起作用, 收获难度大, 每公顷单产为 2 吨左右, 大大低于高产品种所提供的每公顷 5 - 6 吨的产量。
- ④ Some speciality rices are prized not for aroma, but their colour, which is determined by levels of anthocyanin pigment in different layers of the pericarp, seed coat and outer grain layer. **译文** 有些特种稻米不是因为其香味而是因其颜色而得到珍视, 稻米的颜色取决于不同的果皮层、种皮和米粒外层的花青素色素含量。
- ⑤ As for many other speciality rices, "sticky" varieties bear much lower yields — in Thailand, average yields of non-glutinous varieties are around four tonnes per hectare, compared to 1.9 tonnes per hectare for glutinous types. **译文** “糯米”品种单产低得多——在泰国, 非糯米品种的平均单产为每公顷 4 吨左右, 而糯米单产为每公顷 1.9 吨。
- ⑥ “Growth in this rice type is slower,” says Dat Van Tran, “due to higher costs, unavailability of inputs and technology, and limited participation of supermarkets and retail outlets.” **译文** Dat Van Tran 说, “由于成本较高、得不到投入和技术, 而且超级市场和零售渠道参与有限, 所以这种稻米的发展比较缓慢。”



## Exercises

### True or False:

- ☐ 1. Nowadays much more attention has been paid to special kinds than common, high-yielding rice varieties.
- ☐ 2. The reason why the demand for aromatic rices cannot be met at any given time lies in no-high-yield and limited ricelands.
- ☐ 3. In Pakistan, in contrast, adapted varieties are widely grown, and the level of fragrance in their grain matches that found in the traditional cultivar.
- ☐ 4. In China, up to 10% of the country's ricelands are under 54 modern black varieties.
- ☐ 5. In Glutinous rice, the degree of stickiness depends on the content of amylopectin.
- ☐ 6. Speciality rices are considered to have the greatest potential for export markets, and breeding programs have focused on better production.

### Multiple Choices:

- 1. That aroma — along with fine, ... fetching up to 10 times more than common rices on international markets.  
A. arriving      B. taking      C. lasting      D. attracting
- 2. In India, traditional Basmati varieties are unresponsive to fertilizer and difficult to harvest.  
A. irresponsible      B. insensitive      C. irresistible      D. irrespective
- 3. To exploit new market opportunities, farmers need sources of up-to-date information on breeding, production and marketing of speciality rices.  
A. prey on      B. blow up  
C. take advantage of      D. cut out
- 4. In China, for example, scientists have developed from a local aromatic cultivar a variety.  
A. cultivate      B. harvest      C. surrender      D. surround
- 5. "Boutique" rices are considered to have the greatest potential for export markets.  
A. prospect      B. importance      C. energy      D. capability



## Passage 3

Agricultural English Readings (初级)

### *The Origin of Wheat Planting*

Archaeologists(考古学家) and anthropologists(人类学家), who study human societies, ancient and modern, have found primitive, wild wheat growing in the area of southern Turkey and northern Iraq. They have unearthed evidence that this region, now occupied by the Kurdish people(库尔德人), was home to some of the earliest farmers. About 10,000 years ago, these farmers grew the first cultivated wheat.

In even earlier times, humans lived by hunting animals for meat and gathering fruit, nuts, roots, and edible(可食用的) seeds. The small bands of people probably had to relocate every few weeks so that they would have a constant(持续的) food supply. These ancient nomads(游牧民) would have been overjoyed to find a field of ripe, wild wheat. Modern research has shown that such a field would supply a bountiful(丰富的) harvest. Indeed, in a day or two, one person could have gathered enough grain to provide food for a year. Agricultural scientists calculate that a year's supply of grain for one person would weigh more than 400 pounds (about 200 kilograms). If the group numbered(总计) several individuals, a

year's supply of food would have been sizable.

Wheat, like other grains, does not spoil(腐烂) if kept dry. Therefore, keeping large amounts of grain would have been a reasonable idea — except for one problem. Since there were no pack(用于驮货的) animals in those days, early humans could not have carried such heavy loads from place to place. If the nomads wished to consume their abundant harvest, they had to remain in one location.

Nomadic people would have found it difficult to settle down. Most groups would have feasted(饱餐) for a few days, packed what they could carry, and moved on. Others, perhaps those with many old people and young children, decided not to travel for a time. The availability of food overcame their fear of staying in one place. Eventually, some of the more settled groups constructed permanent dwellings(住所) of mud brick. The remains of these dwellings have been uncovered by archaeologists.

Archaeologists and paleobotanists(古植物学家) — scientists who study primitive plants — are greatly interested in the wheat kernels embedded(嵌于) in the ancient mud bricks. These



kernels are different from the kernels of wild wheat found in the Kurdish territory(地区) of today. This dissimilarity suggests that prehistoric people cultivated crops of wheat rather than waiting for wild wheat to reappear each year.

Wild wheat is self-planting. Otherwise, it would not have survived without human attention. When wild wheat is ripe, the short stem(茎干) that holds the kernels to the stock(根茎) becomes brittle(易碎的), the stem snaps(突然折断), and the kernels fall to the ground and are blown about by the wind. This property(特性) which assures self-planting makes wild wheat difficult to harvest. The least touch causes the stem to break and the kernels to disperse(散开). Therefore, much of the grain from wild wheat is lost to(不再属于……所有) the farmer.

Paleobotanists reason(推测) that the cultivation of a higher-yield wheat crop began in an accidental manner. Sowing(播种) wheat is not a hard job; a handful of kernels is scattered on bare earth. Indeed, in some areas of the world this primitive planting method continues to be used. Scientists say that in any field of wild wheat, a few plants differ slightly from the rest. This is called natural variation(变种). Some of the varieties have more

flexible(柔韧的), less brittle stems and are therefore easier to harvest. Much more grain from this kind of wheat can be gathered by a farmer. Therefore, it seems logical that year after year farmers would sow more seeds from the flexible stem variety of wheat.<sup>①</sup>

Gradually, the proportion(比例) of plants with flexible stems increased. In each succeeding(随后的) year, the number of plants with brittle stems decreased. Finally, after many, many generations, most of the harvest was grown from the flexible stem variety. The ancient farmers had produced a truly domesticated(驯化的) food plant. This process of domestication was the first instance of artificial, or human-made, selective breeding(选择育种).

No one knows whether the choice of wheat seed from plants with flexible stems was a lucky accident or a thoughtful decision. Did the ancient people see a connection between the parent plant and the plants that would grow from its seed? Or was it the simple reason that there were many more available kernels from that variety of wheat?<sup>②</sup> Such questions can never be answered. One can only speculate about the practices of the first farmers.

799 words

(Adapted from *The Farmers*, the 4th chapter of the book *Shades of Green* by J.S. Skidd and Renee A. Kidd, published in 1998)





### Notes

- ① Therefore, it seems logical that year after year farmers would sow more seeds from the flexible stem variety of wheat. 因此,农民逐年增加播种茎干柔韧的麦子似乎是符合逻辑的。
- ② Or was it the simple reason that there were many more available kernels from that variety of wheat? 或者仅仅是因为从那种麦子得到的麦粒更多?