

农业英語精讀教本

华 南 农 学 院

外 语 教 研 组 选 编

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出版者的话



本教材选自外国新编的农业英语读本，供我院英语水平较高的教师和研究生班课堂教学使用。教学目的在于巩固和扩大专业词汇，以及培养有关专业的写作能力。书中除着重句型教学外，还特别注意利用英语进行专业方面的口语训练。至于语法，本书不另作系统安排，而是通过课文和大量的多种类型的练习，使学者在学习过程中复习和运用所学过的语法知识。

因打字、绘图和审校时间匆促，如有错漏，请批评指正。

华南农学院外语教研组

1979·2

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INTRODUCTION

1. Guide to the book

This book consists of eight units. The first seven of these are each divided into four sections:

- I: Reading and comprehension
- II: Language in use
- III: Grammar
- IV: Summary check (in Unit 7 this section is called 'summarizing')

Unit 8 has a different arrangement as the aim of this section is to provide reading passages which are concerned with animal husbandry, a major topic in agriculture which is not covered in the previous seven units. However, these passages further illustrate features of language use and grammar that have been practised in the previous seven units.

I READING AND COMPREHENSION

Section 1 of each of the seven units follows the same basic pattern. This is as follows:

The reading passage

Each section begins with a reading passage within which are inserted sets of comprehension checks in the form of statements which may or may not be correct. The learner has to decide on the correctness of each statement. These checks are inserted within the reading passage itself rather than at the end so as to encourage the learner to think about what he reads as he reads and to pay close attention to what is actually expressed in the passage. Once he realizes that his understanding is going to be systematically checked in this way he is likely to read more attentively for meaning and to treat his reading not simply as a language exercise relevant only to the English class but as a technique for acquiring information which will be useful in a wider field of study.

The comprehension checks require the learner to indicate whether a given statement is true or false according to the passage. But it is important that he should know why a statement is true or false and be able to recognize what it is in the passage that leads him to decide one way or the other. This is why each comprehension check is provided with a solution!

The solutions

The solutions refer the learner to those features of the reading passage which provide evidence for the truth or falsehood of the statements in the comprehension checks. They are explanations in that they point out what the reader must notice and how he must reason in order to arrive at the correct decision. They also involve the active participation of the learner who must complete them using words and phrases from the passage. A programmed element is introduced into the solution in that in most cases the expression that is required to complete one line of the explanation is confirmed in the next line.

Of course, explanations of this kind may not be necessary for someone who already has an efficient reading ability in English. But it must be remembered that it is desirable that learners should be made aware of what is involved in reading with understanding before this ability can become habitual. The aim of these solutions therefore is to develop in the learner a reading strategy which he can apply to the texts he has to deal with as part of his study of agriculture.

Sometimes a solution will serve simply to remind the learner of the knowledge of English he already has. In Unit 1, for example, comprehension check (a) requires the learner to recognize that two different expressions can refer to the same idea when they are joined together by a comma and 'or'. So, the solution appears simply as follows:

Each of the different parts of a plant has a particular purpose (2).
 Each of the different parts of a plant has (X a particular purpose), or (Y specialized function) (2)

 X, or Yi.e., Y is another way of saying X
 ∴ (therefore) a particular purpose = a specialized function

 ∴ (therefore) Each of the different parts of a plant has a specialized function.

 = (equals) Different parts of a plant have specialized functions.

But the ability to recognize whether a given statement is true or not according to the passage does not only come from an understanding of the meaning of individual words and sentences. Very often it is a matter of recovering information which is implied rather than explicitly stated, and of tracing the way in which what is expressed or implied in one sentence is related to what is expressed or implied in another. It is the function of many of the solutions, therefore, to make such implications explicit and to spell out the relationship between different statements.

Let us consider another example from Unit 1. In order to decide whether the statement if we cut flowers off a plant, the whole will suffer is true or not with reference to the passage

(comprehension check (c) Unit 1), it is necessary to relate what is expressed in two sentences: 4 and 5. This relating process is represented in the solutions as follows:

We may cut flowers off the plant. (4)

As this damage (i.e. cutting flowers) is only temporary, the plant will continue to grow (5)

i.e. (that is to say) The plant will continue to grow if we cut flowers off it.

i.e. (that is to say) The whole plant will not suffer if we cut flowers off it.

= (equals) If we cut flowers off the plant, the whole plant will NOT suffer.

What solutions of this kind do, then, is to spell out certain reasoning processes which are employed by the efficient reader as a matter of habit. Moreover, they are the sort of processes which are overtly employed in many fields of scientific and technological enquiry. Their use as a language exercise is intended to appeal to the particular cognitive inclination of science students and to make them see that the content and expression of scientific writing are dependent upon each other.

The three exercises following the reading passage are a logical development from the solutions. Each focuses on the feature of language use which is frequently referred to in the solutions and which is particularly relevant to an understanding of how English is used in written communication.

EXERCISE A Contextual reference

This exercise draws the learner's attention to the way pronouns and demonstratives are used to refer to something already mentioned and so serve to relate one statement to another. Very often there is more than one grammatically possible connection between noun phrases, and the reader has to decide which reference makes sense in the context of the passage concerned. This is the case, for example, with Exercise A 2 in Unit 1.

In sentence 11 they refers to:

- (a) the roots of plants
- (b) plants such as sugar beet and carrots

Exercise A then, obliges the learner to scrutinize the passage carefully to assign the correct referential value to such 'anaphoric' language items as pronouns, demonstratives and so on. This exercise is not difficult, and it may sometimes seem obvious what a given item refers to. But again it must be remembered that we are not just concerned with getting the learner to recognize the contextual reference of a particular language item in a particular passage, but with developing a general ability to handle

this feature of language use. The point is that this exercise directs the learner's attention to the way anaphoric devices work and so prepares him for those cases where identification of the previous reference is not so easy.

In Units 5, 6 and 7 the student is asked to identify the correct reference for himself.

EXERCISE B Rephrasing

Here again, the learner is made aware of how two different expressions may refer to the same thing. Whereas in Exercise A the problem is how to recognize that an expression like they refers to a previous noun phrase plants such as sugar beet and carrots, in this exercise the problem is to recognize that a phrase in the text the single cells near the tip of each root is synonymous with the phrase in the text the root hair (see Exercise B 1, Unit 1). Essentially, the purpose of this exercise is to make the learner realize that the same idea can be expressed in different ways and that there is no one-to-one correspondence between one linguistic form and one meaning. It is important that the students should realize this because two phrases may mean the same thing only within the context of a particular passage. For example, Exercise B 3 of Unit 1:

Some plants have simple forms of life living on their roots means the same as sentence 12 of Unit 1:

Plants such as clover and lucerne, known as legumes, have special bacteria which live on the roots.

We know this because sentence 13 makes use of the phrase these simple forms of life to refer back to special bacteria in sentence 12. In addition the phrase plants such as clover and lucerne, known as legumes, is a more precise equivalent to the phrase some plants.

In Units 5 and 6 the learner has to identify for himself the expressions which are equivalent in the passage.

EXERCISE C Relationships between statements

Expressions like therefore, consequently, however etc., indicate what function a particular sentence is meant to fulfil. A sentence which contains therefore is used to make a statement which follows logically from a previous statement. Similarly, for example indicates that the sentence is used to make a statement which illustrates a point made previously. Such expressions are explicit indicators of the communicative function of sentences. But writers do not use explicit indicators in every sentence. Very often a writer assumes that the reader will realize how a particular sentence is to be understood without the assistance of such indicators. It is of course crucial for the student learning to read a foreign language to understand which statements are meant to be illustrations, qualifications, conclusions and so on. and how statements are logically related to each

other. The purpose of this exercise then is to make the learner aware of such communicative functions and of the way written discourse develops.

Each unit up to Unit 5 focuses on a particular relationship. For example, Unit 1 is concerned with relationships of consequence, Unit 2 with relationships of contrast and so on. Students are required to rewrite sentences from the passage and insert indicators in order to make explicit the relationship between sentences. This may involve joining sentences together to make one sentence or linking two sentences. For example, in Unit 1 the learner is given the following:

14=15: (i) thus (ii) and therefore

Thus the text after the insertion of these indicators will read:

- (i) 14 Such leguminous plants are usually ploughed under the soil.
15 Thus, the soil is made more fertile.
- (ii) 14 Such leguminous plants are usually ploughed under the soil and therefore the soil is made more fertile.

Thus, sentence 15 is explicitly made the consequence of the action described in sentence 14. In a similar way, in Unit 2, Exercise C, Part 1, (b) the student is required to rewrite sentence 16 from the passage substituting however for but as follows:

16 Dormant seeds require very little air in order to stay alive. However, when they start to germinate, they require more air in order to breathe.

The aim of this example is to get the student to see that contrasts can be expressed not only within sentences using but, but also between sentences using however, where the contrast is between require very little air in the first half of sentence 16 and require more air in the second half. This contrast is drawn attention to when the sentence is divided.

The central part of this exercise, then, is to bring to the learner's notice the way in which sentences are used to perform different acts of communication, and how such acts are related to one another in the development of a discourse. In Unit 5 the various relationships are summarized in a table and the subsequent exercises in this Unit and in Units 6 and 7 require the students to identify the kind of relationship that exists between sentences. As such they are designed to make little demand on the learner's productive ability, although certain grammatical changes may be involved in the rewriting of sentences to accommodate the marker of a particular relationship or act of communication. Their purpose is to direct the learner to a discovery of what is involved in the comprehension of the written language of agriculture.

II LANGUAGE IN USE

This section usually consists of two to four exercises. They are intended to extend comprehension into productive written work. The exercise types vary from unit to unit. In Unit 1, Section II, Exercise A and Unit 2, Section II Exercise D, the learner is asked to complete the labelling of a diagram. In Unit 3 the learner is required to make tables from descriptions and, following that, write descriptions from tables. A similar operation is required in Unit 4. In Units 4, 5, and 6 information is presented in tabular form and the exercises require the student to compose short paragraphs conveying this information. The aim of all these exercises is to draw the learner's attention to various uses of language in agriculture - to define, make statements of process, write descriptions, classify, draw conclusions based on observations, offer recommendations etc. These different acts of communication all appear to be of particular importance in writing on agricultural topics. They usually involve points of grammar which may represent continuing problems for many students. Their overall purpose, though, is to give students practice in performing the communicative acts appropriate to this field of discourse. In interpreting the data presented in the tables, both comprehension and composition skills are brought into use.

It should be noted that nearly all the exercises involve an activity that might be called rhetorical transformation. This involves changing one mode of communication into another. On the one hand, we have information presented in note form in a table, which is then changed into complete statements as in Unit 5, Section II, Exercise A:

Symptom	Diagnosis
plant stunted in growth, leaves yellowish in colour	soil deficient in nitrogen

-- The plant is stunted in growth and the leaves are yellowish in colour. This shows that the soil is deficient in nitrogen. On the other hand, as in Unit 2, Section II, Exercises A and B, definitions like

Photosynthesis is the process whereby water and carbon dioxide are built up to form sugars and other carbohydrates in the presence of light.

can be changed, or transformed, into a general statement describing a process:

During the process of photosynthesis water and carbon dioxide are built up to form sugars and other carbohydrates in the presence of light.

Similarly, in Unit 7 directions can be transformed into descriptions or recommendations, as follows:

Sow the seeds first in nursery beds. -- The seeds are first sown in nursery beds. -- The seeds should first be grown in nursery beds.

Two points should be noted finally. The topic of the reading passage for each unit is the source of much of the content of the exercises in Section II. Thus, the content of the exercises in Section II of Units 1 and 2, entitled 'The Parts of a Plant and their Function' and 'The Life Cycle of a Plant' is mainly concerned with these topics. The exercises in Unit 3 relate to 'The Origin and Composition of Soil' and so on. Secondly, the same material is exploited in a number of different exercises in different ways. This is particularly so in Units 5 and 6. The aim in these units is to build up from single statements such as:

Blast in rice is a fungus disease caused by the organism *Piricularia oryzae*.

(Unit 6, Section II, Exercise A)

to short paragraphs of the following kind:

Blast in rice is a fungus disease caused by the organism *Piricularia oryzae*. In this disease brown longitudinal spots appear on the leaves. The spots on the stem and grain are darker in colour. As a control measure the crop can be sprayed with 1% Bordeaux mixture. To avoid the disease, resistant crop varieties should be grown.

(Unit 6, Section II, Exercise B)

Which is a more complete statement of the kind that can be commonly found in textbooks on agriculture.

III GRAMMAR

It is assumed that the student already has a knowledge of basic grammar. It is also assumed that this knowledge will be consolidated during the course of the book as the student experiences language used in meaningful contexts. For these reasons no attempt has been made to provide a detailed review of English grammar. Instead, the exercises in this section are designed to focus on points of grammar which are particularly important in technical writing, especially those which may represent continuing problems for many students.

In designing the exercises an attempt has been made to present grammar in the context of discourse. Thus, in Unit 1 the exercise on the passive is basically a conversion exercise familiar to most teachers. However, by setting the forms to be converted from active to passive in connected sentences, some of which may be joined by conjunctions such as when and because, the lack of communicative purpose in conventional single sentence conversion exercises

has been avoided. Again with the exercises on expressions of purpose, in Unit 4, the approach emphasizes the meaning of the relationship between two sentences as much as the formal manipulation of to-infinitives or expressions like in order to or so as to. The same approach characterizes the exercises on time expressions in Unit 2, comparatives in Unit 3 and modal verbs in Unit 7. As with the exercises in Section I and II, the unit topic has guided the content of many of the grammar exercises.

IV SUMMARY CHECK

Units 1 to 6 end with a passage in which the main ideas of the unit are summarised. The student is required to add words or phrases to complete the summary. In Units 1 and 2 all the expressions that the student needs are given, but from Units 3 to 6 only some of the expressions are given. In Unit 7, the learner is required to summarize for himself a set of instructions in note form.

2. Teaching Suggestions

The following notes indicate how the first unit might be dealt with in the classroom. The other units can be handled in a similar way. These notes are intended to be suggestions only. It is expected that the teacher will develop his own procedures according to the needs and abilities of his students. A particular teacher, for example, may find that he needs to place greater emphasis on one type of exercise than on another. He may wish to pay more attention to oral than to written work, or the reverse. He may find it expedient to make more or less reference to the mother tongue of the learners. It will also be up to the teacher to decide, according to his own circumstances, how the work is to be divided into class sections, and which part of it can be most appropriately done as homework.

I READING AND COMPREHENSION

(1) Reading the text

Get the class to read through sentences 1 - 5 by themselves. Take the class through the explanation and do check statements (a) and (b) with them so that it is clear what they have to do. Get the class to do check statement (c) on their own. Choose one student. Ask him whether he has answered 'true' or 'not true' for statement (c).

Get him to justify his decision with reference to the appropriate parts of the text. Ask other students whether they agree and if not why not. The mother tongue may be used here if necessary or desirable.

Get the class to turn to the relevant solution. Ask the student to complete the solution while the students follow it in their

books.

Read sentences 1 - 5 aloud to the class while they follow in their books.

Get the class to read sentences 6-9 by themselves.

Get the class to do check statements (d)-(f) on their own, and repeat the process as for check statement (c).

Read the whole passage aloud to the class, without the check statements while students follow in their books.

Deal with any additional problems of comprehension that may arise.

NOTE: It may be desirable for weaker students to copy out some or all of the solutions in their note-books.

(ii) Exercises

EXERCISE A Contextual reference

Get the class to do the exercise in their note-books.

Ask the class to show which choices they have made in question 1 by putting up their hands.

Ask students to replace the item in italics with the phrase they have chosen, and read out the sentence which results. For example, a student choosing 1(a) will read out The shoot system takes in, or absorbs, water and minerals from the soil through the roots hairs...while a student choosing 1(b) will read out The root of a plant takes in, or absorbs, water and minerals from the soil through the root hairs...

Ask the class to judge which is correct.

Repeat the process for questions 2-4.

EXERCISE B Rephrasing

Get the class to do the exercise in their note-books.

When the class has finished the exercise, write the first sentence on the board.

Underline the expression which is to be replaced.

Select a volunteer to come to the board and write in the replacing expression above the words which are underlined.

Ask the class to judge whether the rephrasing is appropriate.

Consider alternatives if necessary, using the mother tongue as desirable.

Bracket together the appropriate replacement(s) with the original expression as follows:

{ The single cells near the tip of each root } increase
{ The root hairs }
their surface area by extending outwards from the root.

Do the remaining sentences in the same way.

EXERCISE C Relationships between statements: consequence

Take the class through the explanation so they know what to do. Get the class to do the exercise in their note-books. When the class have finished the exercise write sentences 10 and 11 on the board.

Ask a student to read out the two sentences with consequently inserted in the correct place in sentence 11. Modify sentence 11 on the board accordingly. Thus:

Plants such as sugar beet and carrots are able to store food in their roots. In this way they can keep growing for more than one season.

will become

Plants such as sugar beet and carrots are able to store food in their roots.

Consequently, they can keep growing for more than one season.

Do the alternative ways of relating the sentences, building up a substitution table, as follows:

Plants	such as...	. Consequently, . Thus, , and so	they can keep...
Since plants	.	,	

Note the punctuation and capitalization.

Do(b) in the same way.

II LANGUAGE IN USE

EXERCISE A Labelling a diagram

Get the class to draw and label the diagram in their note-books. Check their answers orally.

EXERCISE B The definition of parts of a plant

Take the class through the explanation so they know what to do. Use the mother tongue where necessary.

Ask individual students to compose definitions orally according to the example using the information given. Aske for mother tongue translation equivalents.

After completing the exercise orally, get students to write out the definitions in their note-books.

EXERCISE C General statements of function

Take the class through the explanation so they know what to do. Use the mother tongue where necessary.

Divide the class into pairs of students. Get student A to ask the questions and student B to answer them with the statement of function. Reverse the roles when the exercise is complete. Get the students to write out the questions and statements of function in their note-books.

III GRAMMAR

EXERCISE A The forms of definitions

Get the students to read the grammatical explanation carefully. Allow them several minutes to study the three columns. Do three of the definitions orally in each of the four patterns. Ask for translation equivalents.

Get the students to write these and the rest of the exercise in their note-books.

Check orally when completed.

EXERCISE B The impersonal passive

Get the students to read the explanation and study the example carefully.

Do the first three orally, paying attention not only to the passive form but also to the expressions relating the two sentences.

Get students to write these and the rest of the exercise in their note-books.

Check orally when completed.

IV SUMMARY CHECK

Go through the explanation so that students know what to do, using the mother tongue where necessary.

Get students to do the exercise in their note-books writing out the whole summary.

Check orally when completed.

Alternatively:

Go through the summary check orally with the class.

Reduce the passage to note form and write these notes on the blackboard.

Get students to write out the summary without reference to the textbook, using the notes provided. Tell the students they may use whatever they can remember of the original combined with their own words.