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说 明

这本讲义是为已经学完基础英语的农经专业学生进一步学习专业英语而编写的。

鉴于农经专业所涉及的知识面较宽，既有社会科学的，亦有自然科学的知识。因此，这本讲义的内容所包括的领域也必然是比较繁多，这无展会为讲授者和读者带来一定的困难，但这一困难却又是我们所必须要加以克服的。

为了有助于学生将来阅读英文资料，故这本讲义中的所有课文和补充阅读材料，均选自原版，这样，将有助于学生熟悉英文原著的写作风格、习惯用语和语法结构。

这本讲义的编写，是在我系领导和有关教师大力支持和协助下进行的。同时，我院外语教研组沈德良、梁学鸿和卢玉民三位老师，在其百忙之中，利用业余时间帮助审阅，指出有关错误并提出宝贵的改进意见。因此，这本讲义，在实质上是集体的产物。当然，由于编写时间短促，编者业务和英语水平低，内中错误仍在所不免，这些错误主要应由编者承担。我们衷心希望使用这本讲义的教师和同学，在使用过程中，发现错误或不妥之处，及时转告编者，以便不断地提高这本讲义的质量。

最后，编者顾借此机会，向协助这本讲义编写工作的同志和教师致以深切的感谢！

编 者

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Lesson One

Food, Agriculture and Nutrition

Food is the source of energy for the maintenance of life. Throughout history, the primary concern of all civilizations has been to produce adequate supplies of food. This has not always been realized, either qualitatively. Today, with 25% of the world population living at or below subsistence food level, a crisis exists.

The problem is complex, having sociological, economic, and technological aspects, and is most acute in the Third and Fourth Worlds. In these regions, population growth outpaces food supply, per capita income is low, and capital investment, particularly in the Third World, has shifted more to industry and away from agriculture, even though these developing countries are agrarian. Where food supplies are limited and poverty prevails, people suffer from chronic malnutrition and starvation, conditions which only serve to reinforce their poverty.

There are several approaches to solving the world food problem. Agriculture plays a key role by providing the means for increasing productivity. Scientific and technological advances in the industrialized world have fostered the development of more efficient farm machinery; more effective chemical fertilizers, insecticides, and herbicides; improved crop varieties and animal breeds; and new farming methods, such as multiple cropping and reduced tillage farming. However, while some of these advances, particularly mechanization and the breeding programs of the Green Revolution, have been successfully applied to large commercial farms, their usefulness must be adapted to subsistence-level farming. Profitable agriculture is thus technologically feasible for the Third and Fourth World countries, but it will require large

capital investments from the developed countries and restructuring of the economies within the developing countries.

Another approach in dealing with the problem is to seek new food sources and products, especially those rich in protein. One important source of protein is fish and other seafoods. Another source is vegetables. This type of protein is relatively inexpensive and provides a nutritious substitute for animal protein.

The world population-food crisis is not intractable but does involve more than increasing food production and decreasing population growth rates. Lack of food

also results from crop failures, inefficient food supply systems, maldistribution of food within and between countries, and geographic and climatic restraints. Future success in feeding the world will depend on a coordinated program of action by business and government and on a balanced industrial and agricultural effort.

The McGraw-Hill Encyclopedia of Food, Agriculture & Nutrition is designed to inform the student, librarian, scientist, teacher, engineer, and lay person about all aspects of agriculture; the cultivation, harvesting, and processing of food crops; food manufacturing; and health and nutrition from the economic and political to the technological. The Encyclopedia is arranged in two parts. The first part contains five feature articles which present an overview of the world food problem: Feeding the World, Climate and Crops, Energy in the Food System, Food from the Sea, and The Green Revolution.

The second part, with its 400 alphabetically arranged articles written by specialists, contains information on such subjects as food engineering, pesticides, agricultural geography, vitamins, irrigation of crops, breeding of animals and plants, and all important food crops. The articles, some drawn from the McGraw-Hill Encyclopedia of Science and Technology (4th ed., 1977) and some written especially for the volume, are included on the recommendation of the Board of Consultants. All articles are signed by the authors, who are listed with their affiliations in the List of Contributors. The articles are cross-referenced to other articles on related subjects. An appendix details the composition of prevalent foods from the standpoint of caloric, protein, carbohydrate, fat, mineral, and vitamin content. There is also an analytical index which provides quick and easy access to the subjects in the volume.

(From Agriculture of McGraw-Hill Encyclopedia of Food, Agriculture, and Nutrition)

New Words and Expressions

maintenance [meɪntɪnəns] n. 维持, 保持, 维修, 保养, 支持.

civilization [sɪvɪlaɪ'zeɪʃən] n. 文化, 文明, 开化, 教导.

acute [ə'kju:t] a. 急性的, 尖锐的, 敏锐的.

outpace [aʊt'peɪs] v. 超越, 超过.

capita [kæpɪtə] n. 单位.

investment [ɪn'vestmənt] n. 投资, 投入.

agrarian [ə'ɡri:ən] a. 土地的, 农业的.

agrarian reform 土地改革

prevail [pri'veɪl] v. 占优势, 盛行, 流行.

chronic ['krɒnɪk] a. 持续性的, 慢性的.

nutrition [nju(:)'trɪʃən] n. 营养, 营养学.

malnutrition [mælnju(:)'trɪʃən] 营养不良.

reinforce [ri:ɪn'fɔ:s] v. 加强, 加固, 支援. n. 加固物.

foster ['fɒstə] v. t. 培养, 养育.

insecticide [ɪn'sektɪsaɪd] n. 杀虫剂

herbicide ['hɜ:bɪsaɪd] n. 除莠剂, 除草剂

variety [və'reɪəti] n. 变化, 变化性, 多样性, 品种, 变种, 变形.

breed [bri:d] n. (牲畜的) 种, 品种.

v. 饲养(牲畜等), 选种繁殖, 训练, 教养.

multiple cropping 复种.

reduced tillage farming 少耕法, 免耕法.

deal with 研究, 处理, 讨论, 涉及

protein ['prəʊti:n] n. 蛋白, 蛋白质.

seafood ['si:fu:d] n. 海洋食物.

maldistribution [mældɪstri'bju:ʃən] n. 分配不当, 分配不合理.

intractable [ɪn'træktəbl] ad. 难控制的, 难对付的.

encyclopedia [en'saɪkləu'pi:diə] n. 百科全书, 某科全书.

be designed to 旨在, 目的是, 为……而设计的.

pesticide ['pestsaɪd] n. 杀虫剂, 除害(物)剂.

vitamin(e) ['vɪtəmin, vaɪtəmin] n. 维生素, 维他命.

affiliation [ə'fɪli'eɪʃən] n. 加入, 成员关系.

appendix [ə'pendɪks] n. 附录, 盲肠.

caloric [kæləri] n. 卡[路里](热量单位).
carbohydrate ['kɑ:bou'haidreit] n. 碳水化合物, 糖类.
access ['ækses] n. 进入之路, 接触, 使用.
index ['indeks] n. 指示物, 指标, 指教, 索引.

Notes to the Text

1. The problem is complex, having sociological, economic, and technological aspects, and is most acute in the Third and Fourth Worlds.

(译文) 由于社会的经济的和技术的各个方面, 这个问题是一个复杂的问题, 而在第三和第四世界则至为尖锐。

此句是并列句 having sociological...aspects, 是分词短语作状语用, 它修饰整个主句。有时作状语用的分词短语, 并可放在整个句子的句首。

and is most...worlds. 在 and 和 is 之间, 省略主语

The problem.

2. Today, with 25% of the world population living at or below subsistence food level, a crisis exists.

(译文) 目前, 由于在世界人口中有 25% 的人是生活在维持生命的食物水平, 或低于这一水平, 因而出现(生存)危机。

这是一句简单句 Today 是时间状语 with...level 是右原因状语, 修饰谓语动词 exists.

3. However, while some of these advances, particularly mechanization and the breeding programs of the Green Revolution, have been successfully applied to large commercial farms, their usefulness must be adapted to subsistence-level farming.

(译文) 然而, 在某些上述先进技术, 尤其是机械化和绿色革命的育种计划, 已成功地用于大型商品性农场时, 其有效性必须要适宜于目前水平的农业。

这是一句复合句。However 是个连词，起承上启下的作用
while some of...commercial farms,是状语从句，其中
particularly mechanization...Green Revolution是同位语，
修饰 advances。主句是 their usefulness...level farming。
其中 usefulness 是主语。

Exercises

- I. Answer the following questions:
 1. Why the problem of food is most acute in the Third and Fourth Worlds?
 2. According to the text, what is the main difficulty in developing agriculture in the Third and Fourth worlds?
 3. Do you think the world population-food crisis can be overcome? why?
 4. Whom are the main readers of "The McGraw-Hill Encyclopedia of Food, Agriculture and Nutrition"?
 5. What are the contents of the first part of this book?
- II. Translate the following words and phrases into Chinese
 1. primary concern.
 2. two-thirds of the world population
 3. main crops
 4. demand and supply
 5. approach
 6. large commercial farms
 7. chemical energy
 8. cultivation, harvesting, processing and storing of food crops
 9. irrigation and drainage
 10. capital investment

III. Translate the following words and phrases into English:

- | | |
|------------|------------------|
| 1. 粮食危机 | 2. 生产力 |
| 3. 复种与少耕法 | 4. 发展生产, 降低人口增长率 |
| 5. 富于营养的食物 | 6. 昂贵 |
| 7. 效率 | 8. 科技全书 |

IV. Translate the following sentences into Chinese:

1. The population-food crisis in the developing countries is not intractable.
2. Over one-fourths people of the world live at or below subsistence food levels, mostly in tropical regions which are characterized by high human fertility rates, low per capita income and low capital investment in agriculture.
3. In 18th century Europe, population growth rate increased first to 0.5% and then to 1.5 %, due primarily to a decline in death rate.
4. The most intractable aspect of the food problem is the maldistribution of nutritious foodstuffs between and within countries.
5. Malnutrition places health constraints on human potential, whether in a less-developed region of an affluent country or in a poor country.

V. Make sentences with the following words and phrases respectively:

1. agriculture production
2. decrease the population growth rate
3. constraint
4. protein
5. developing country

VI. Translate the following sentences into English:

1. 农业是我国国民经济的基础。
2. 发展生产, 降低人口增长率是我国当前至为重要的任务。
3. 一般讲来, 第三世界国家的人口增长率要高于第一和第二

世界国家人口的人口增长率。

4. 有几种解决世界食品问题的措施。

5. 人类的食品有若干个来源，为农作物、家畜、鱼类和水生食物等。

Supplementary Reading Material

The production of plants and animals useful to human being, including the cultivation of soil, management of crops, and the feeding, breeding and managing of livestock. To a variable extent, agriculture also includes the preparation of plant and animal products for use by humans, and the disposal of these products by marketing.

Many different environmental factors influence the kind of agriculture practiced in a particular community. Among these factors are climate, soil, topography, nearness to market, transportation facilities, and cost of the land.

Climate, soil and topography vary widely throughout the world. In turn, this variation brings about a wide range in agricultural production enterprises. Certain areas tend toward a specialized agriculture, whereas other areas engage in a more diversified agriculture. As new technology is introduced and adopted environmental factors are less important in influencing agricultural production patterns.

Rapid growth in the world's population, coupled with medical progress promising further success in reducing death rates, makes critically important the continuing ability of agriculture to provide needed food and fiber

(from Agriculture of McGraw Hill

Encyclopedia of Food, Agriculture and Nutrition)

Lesson Two

The Changes of Beef Production in U.S.

The U.S. beef production industry has undergone dramatic changes in the last 30 years. Many of these changes have been associated with increases in cattle feeding and the development of large commercial feedlots. However, regional shifts in the location of cattle raising or the production of calves for feeding also have had important impacts on the characteristics of many farms throughout our country.

Changes in beef production have a widespread effect on U.S. farming because they involve large amounts of resources and a major component of U.S. farm cash receipts. Sales of cattle and calves in 1977 totaled about \$20 billion more than one-fifth of total U.S. farm commodity cash receipts. This is more than twice the cash receipts from corn, the most important crop commodity, which totaled about \$9 billion in 1977 (7). Consumers spend 2 to 2.5 percent of their disposable income on beef, and per capita consumption of beef has nearly doubled in only two decades (18).

The changes that are occurring in the structure of beef production relate to both cattle raising and cattle feeding, which are mainly separate operations that involve different types of firms and entrepreneurs.

Structural changes in beef production are an important part of the transformation of farming underway in the United States because of the magnitude of beef production and many of the cattle raising activities are located throughout the United States. This chapter focuses on:

- * Changes that have occurred in both cattle raising and cattle feeding.
- * Factors that have caused these changes to occur/
- * Future adjustments that may occur in beef production.

Emphasis is placed on beef production through cattle raising and cattle feeding. Availability of inputs and marketing, processing, and distribution are considered only to the extent that they have had important effects on cattle raising and cattle feeding.

The two beef production stages or activities, cattle raising and cattle feeding, utilize different mixes of resources, and involve different farm organizational arrangements and types of firms and different entrepreneurs. Further, responses to economic conditions differ between the two production stages.

Cattle raising utilizes large amounts of forage and, therefore, depends heavily on land. The high fixed cost requirements (primarily in terms of land investments)

instability of forage supplies influenced greatly by weather conditions, and biological restraints permitting only slow expansion of brood cow herds influence cattle raising and give rise to slow production responses to price changes and production cycles.

In contrast, cattle feeding is a specialized operation where feeder cattle are fed grain in confinement to condition and fatten them for the fed beef market. The utilization of large quantities of feed, feeder cattle, and other variable input items results in high variable costs relative to fixed production costs and tends to make cattle feeding responsive to price changes and economic conditions. Although cattle raising and cattle feeding are different, they have strong functional relationships, since the major product of cattle raising is the production of feeder cattle for cattle feeding.

Total beef production has more than doubled in the United States since the early 1950's. The supply of beef increased from 10.8 billion pound in 1950 to more than 26 billion pounds in 1978, It is important to recognize that much of the increase in beef supplies since the early 1950's has resulted from dairy-to-beef shifts and increases in grain feeding of young beef animals or, in other words, structural changes in cattle feeding (20) A significant adjustment has occurred in the United States in terms of increasing numbers of beef cows, an increase

of more than 130 percent since 1950. However, dairy animals also provide a source of beef, and the number of milk cows has decreased

rapidly since 1950. Consequently, the net increase in all cow numbers is less than the increase in beef cows. In terms of all cow numbers, the change between 1950 and 1978 was an increase of only 22 percent.

New Words and Expressions

undergo ['ʌndə'gəʊ, ʌndə'gəʊ] (underwent, undergone)

v. 经历, 经受, 经验.

(be) associate with v. ...与...相联系; 与...有关; 涉及.
由于, 伴随... (产生); 受...约束.

cattle feeding 牛的肥育

feedlot (肉牛)肥育场, 舍饲肥育.

shift [ʃɪft] v. 改变, 转移, n. 变换, 轮班.

cattle raising 牛的饲养, 牛的培育.

calf [kɑ:f] (pl. calves [kɑ:vz]) n. 小牛, 犊.

指一岁以下的牛, 美国市场指400磅以下的牛.

impact ['ɪmpækt] n. 冲击, 碰撞.

[ɪmpækt] v. 冲击, 影响.

involve [ɪn'vɒlv] v. 包括, 包含, 涉及, 累及.

cash [kæʃ] n. 现金, 现款 v.

receipt [ri'si:t] n. 收到, 进款, 收入.

cash receipt 现金收入

total [təʊtl] n. 总数, 合计 v. 总数达, 合计为,

a. 总括的, 完全的.

billion ['bɪljən] n. 十亿.