



International Marketing of Fresh and Processed Fruits and Vegetables: An Oklahoma Challenge

Barbara Charlet
Assistant Researcher

Shida Rastegari Henneberry
Assistant Professor
Agricultural Marketing Policy

Oklahoma Cooperative Extension Fact Sheets
are also available on our website at:
<http://osufacts.okstate.edu>

This project was co-sponsored by the Center for International Trade Development and the Division of Agriculture, Oklahoma State University. This research is part of a larger study of Marketing Institution Improvement Programs for Oklahoma Fruits and Vegetables which is supported by the Agricultural Marketing Service/USDA.

International marketing of fruits and vegetables, both fresh and processed, is an important component of agricultural trade. Expansion of U.S. agricultural exports benefits not only the national farm economy, but producer incomes as well. The U.S. reigns as one of the world's largest net exporters of agricultural commodities, but significant inroads by foreign competitors in recent years have impeded continued growth. A multitude of barriers exist in the world market place which complicate the flow of agricultural trade. Examples include fluctuations in world exchange rates, import quotas, tariffs and duties, transportation obstacles, cultural differences, and varying government regulations and policies. The strong U.S. dollar in the 1980s impacted many fresh and processed food exports. In terms of price, many fruit and vegetable products became relatively prohibitive in foreign market currencies. Although the dollar weakened in 1985, U.S. recovery of sales has been slow.

This fact sheet discusses international marketing of fresh and processed fruits and vegetables. The origin and destination of produce imports and exports are examined. An overview of international growth markets and a profile of international consumers are also presented. Moreover, incentives to export "value-added" products are discussed, followed by a summary of Oklahoma's opportunity for future involvement in international trade.

Produce Destinations and Origins

Exports: In recent years, U.S. fruit and vegetable exports have been on the upswing. For the past several

years, Japan has been the largest importer of fresh fruit, while Canada remains as the largest importer of fresh vegetables (Figures 1A and 1B). Other countries that purchase substantial amounts of fruits and vegetables from the U.S. are the Caribbean Basin, Hong Kong, and Western Europe. While exports of many canned items have slowed in recent years, frozen fruit and vegetable sales are rising. Increased refrigeration and freezer capacity in well developed and developing countries have boosted sales of many frozen vegetable products (Figure 2).

Imports: Primary suppliers of fruits and vegetables to the U.S. include Western Europe, South America, Asia, and Canada. Less significant suppliers are Mexico, Central America, and the Soviet Union (Figure 1D). Complementary products such as coffee, cocoa, rubber and bananas are commodities the U.S. is unable to profitably produce on a large scale (Figure 1C). The U.S. imports these commodities as well as many supplementary products, including fruits, vegetables and nuts, to satisfy domestic consumer demand. Current income levels in the U.S. are such that consumers can afford many of the imported specialty and exotic produce items. In recent years, imports of selected processed vegetables such as canned mushrooms, tomatoes, tomato paste, and pimentos have also increased. The demand for frozen concentrated orange juice (FCOJ) in the U.S. has increased so much in the past few decades that domestic supplies are being reinforced by imports, primarily from South American countries (Figure 3).

International Growth Markets

Developed Countries: The outcome of the 1992 European unification will have worldwide implications for agricultural trade. Production of everything from coal to wine will be controlled by the governing body of this 12-member community, and free movement of goods, services, and jobs across borders will be allowed. Although strict duties and import quotas apply to many

Figure 1. International Destinations and Origins of Produce.

Figure 1A. Destination of U.S. fresh fruits exports

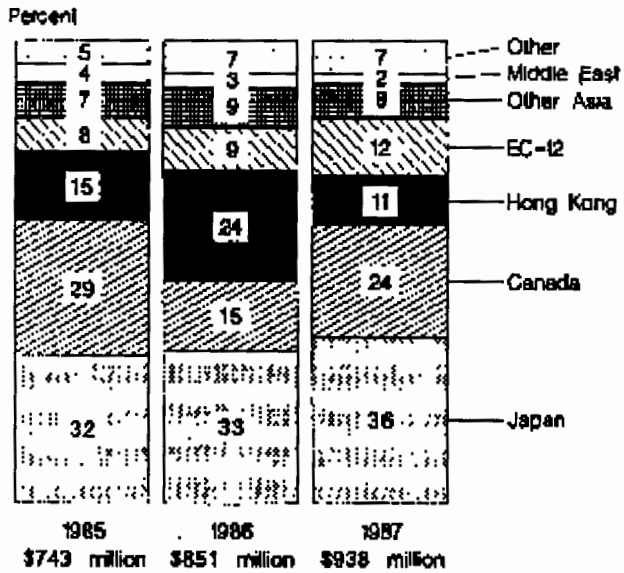


Figure 1B. Destination of U.S. fresh vegetable exports

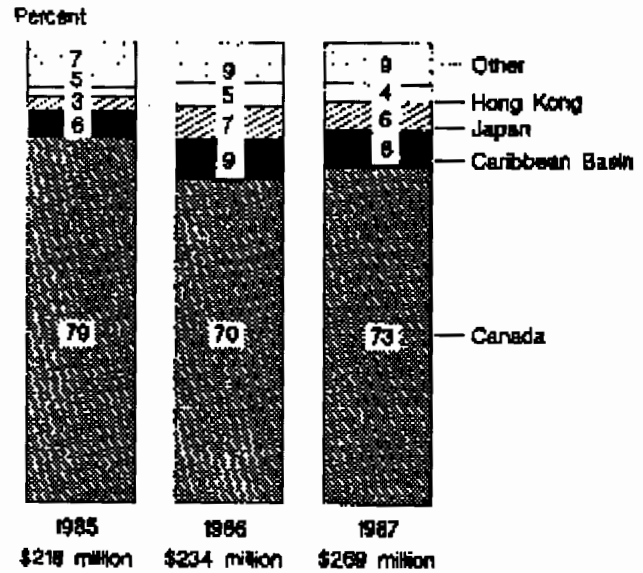


Figure 1C. Origin of U.S. complementary agricultural imports

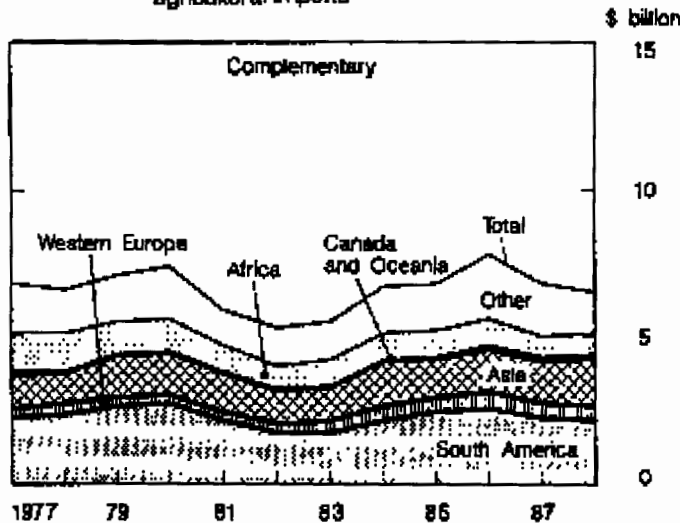
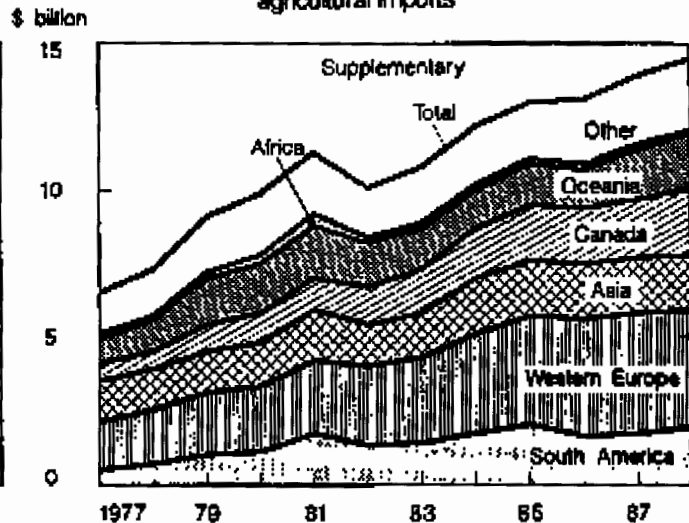


Figure 1D. Origin of U.S. supplementary agricultural imports



Complementary imports are those which do not compete with U.S. agricultural products, such as coffee, cocoa, and bananas. Supplementary imports compete with domestically produced products such as meat and sugar. Other includes Eastern Europe, Soviet Union, Mexico, Central America, and the Caribbean.

Source: USDA, 1989 Agricultural Yearbook, March, 1989

Figure 2. Exports of Fruits and Vegetables — Calendar Year 1988.

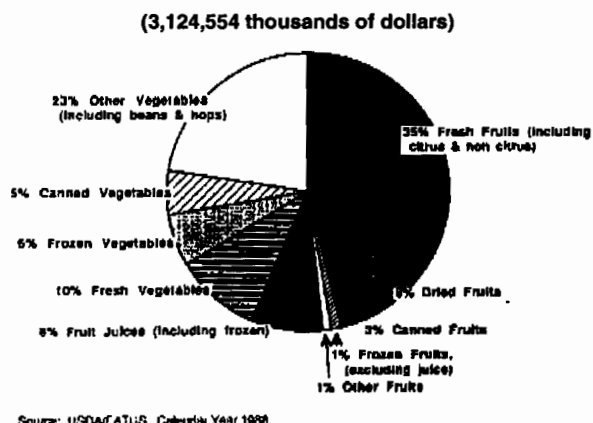
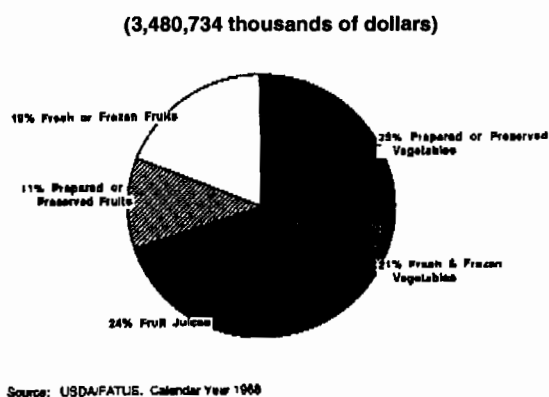


Figure 3. Imports of Fruits and Vegetables — Calendar Year 1988.



products, tariffs for some fruits and vegetables vary, depending upon European growing seasons. Because European demand for quality produce remains high and refrigeration for the most part is adequate, market niches will continue to prevail. Representing approximately 320 million consumers, the New Europe should remain a viable target for contemporary and creative food marketers.

Other well developed countries such as Japan, Hong Kong, and Canada continue to be large importers of U.S. fruits and vegetables. The demand for Western style fast foods in Japan and Hong Kong continues to expand, particularly among the younger generations. In recent years, price controls and complicated distribution systems, as well as specialized labeling and packaging requirements, have slowed export growth. Nonetheless, future export potential to these countries remains strong, providing marketers align their products to the varying country specifications.

Newly Industrialized Countries: Newly industrialized countries experiencing rapid growth in personal incomes are also lucrative markets for U.S. fruit and vegetable exports. The East Asian countries of Thailand, Indonesia, Taiwan and South Korea have more than doubled their imports of U.S. produce since the 1960s (Table 1). Caution needs to be exercised, as governmental intervention and regulation tends to be cumbersome in these countries. Nevertheless, they do have good communication systems and transportation infrastructures, which facilitate export growth.

Developing and Less Developed Countries: Fruit and vegetable exports to developing nations have increased substantially in the last twenty years. For example, the value of fruit and vegetable exports to India surpassed seven million dollars in 1986 (Table 1). Leguminous vegetables, which complement the Indian vegetarian diet, comprised the majority of these imports. In the North African countries of Egypt, Tunisia and Morocco, imports of fruits and vegetables have also increased dramatically (Table 1). Burdened with rising populations and inflation rates, these countries aspire to become modernized, and long-term economic growth appears favorable. However, these countries also have cultural and religious practices that influence imports, and penetrating government bureaucracy can be laborious.

Many less developed countries have been strong markets for U.S. agricultural exports in the past. How-

Table 1. U.S. Fruit and Vegetable Exports 1962-1986

(in 1000 dollars)

	1962	1966	1970	1974	1978	1982	1986
East Asia	1008	1908	837	2989	6572	12498	4530
Indonesia	4	22	21	908	3694	9261	72
Thailand	NA	32	74	283	78	952	2773
South Korea	115	9	47	33	182	559	468
South Asia	255	57	12	41	997	2872	7140
India	247	21	8	4	997	2738	7066
Middle East	224	314	446	800	582	1981	1967
North Africa	850	38	150	1	289	1772	6645

Source: USDA Stat. Bulletin #774, January, 1989.

East Asia = Burma, Thailand, Indonesia, S. Korea, Phillipines
 South Asia = Bangladesh, India, Nepal, Pakistan, Sri Lanka
 Middle East = Israel, Jordan, Oman, Yemen
 North Africa = Egypt, Morocco, Tunisia

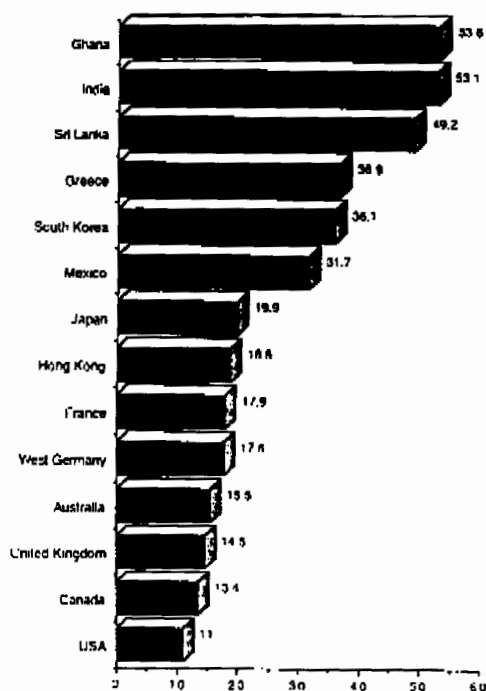
"fruit and vegetables" includes: potatoes, tomatoes, onions, oranges, tangerines, lemons, limes, apples, grapes, raisins, pears, peaches, dates, hops, canned and fresh pineapples

ever, some are experiencing difficulty in repaying their international debts, which has slowed U.S. export activity. Nevertheless, Latin American countries like Columbia and Mexico, with their growing populations and expanding consumption patterns, represent potential markets for fresh and processed fruit and vegetable products.

International Consumer Profile

Many of the changing demographic and lifestyle patterns evident in the U.S. are being observed in other well developed countries. For example, most European countries are experiencing larger elderly populations and fewer numbers of children under the age of 15. Population growth rates for many foreign countries, including Japan, are less than that of the U.S. A declining percent of disposable income being spent on food is also noticeable in some foreign countries. In France, for instance, households are currently spending approximately 18 percent of their income on food, a larger amount than that of the U.S., but considerably smaller than the 36 percent that was spent in 1959 (Figure 4). In contrast, countries like the Philippines, Sri Lanka, Ghana, and India continue to spend more than 50 percent of their income on food (Figure 4). Moreover, population densities of many foreign countries are becoming increasingly more concentrated in urban rather than rural areas.

Figure 4. Share of Consumer Expenditure for Food by Country, 1984.



Source: National Food Review, 1986

Lower birth rates also affect household composition patterns of foreign nations. Add to this factor more women in the foreign workplace and the result is fewer structured meals, more incidences of eating out, and a greater demand for processed foods. Worldwide emphasis on nutrition awareness has helped to stimulate the demand for fresh and processed forms of fruits and vegetables in countries other than the United States. Moreover, as the youth in overseas markets become better educated and more universally mobile, they acquire a taste for many Western foods.

“Value Added” Incentives

The term “value-added” when applied to agricultural products represents the difference between raw commodity costs and the price of the finished output. Raw commodities that have undergone some form of processing adopt the term “value-added” and the degree of processing significantly affects the consumer price. Consumer-ready unprocessed products such as eggs, nuts and fresh fruits and vegetables are categorized as high value food stuffs. Despite the advantages of a technically advanced processing sector, the majority of U.S. exports continue to be shipments of lower value grains, cotton and oilseeds. Sales of higher value agricultural products from the U.S. to developed countries have grown considerably in recent years, but “value-added” products from the European Community still dominate world markets.

As raw commodities are converted into final products, incomes are generated and new jobs are created. A 5 percent increase in the U.S. share of “value-added” exports has the potential to add one million jobs and fifty million dollars to the GNP. Food-processing industries are attractive investments, enhancing employment opportunities and generating income from processing, packaging and manufacturing services. Unfortunately, many countries encourage the importation of food products as unprocessed as possible so that the benefits of “value-adding” can be localized. However, in some developing countries, population and consumption patterns are expanding more rapidly than the local economy. Therefore, the demand for many processed food items is strong.

Transportation costs incurred by shipping U.S. products to Europe, North Africa, and the Pacific Rim nations are high in comparison to other foreign nations, causing some “value-added” products originating from the U.S. to be at a competitive disadvantage. Countries like Australia, Canada, Brazil, Mexico, and Greece, whose high value food products are well established in world markets, also make access to foreign markets more difficult for U.S. producers. Nonetheless, niche marketing can be identified and explored for profitable export. Countries with relatively high per capita incomes, well developed consumer markets, and favorable

exchange rates are those more likely to import "value added" products.

Oklahoma's Role in Fruit and Vegetable Exports

In Oklahoma, fruit and vegetable production is currently limited to about thirty different items. At the present time, much of Oklahoma's fresh produce is being distributed through direct market outlets, which include pick-your-own's, roadside stands, and farmer's markets. A smaller percent of producers market their produce through wholesale brokers and retail grocery stores. A few producers contract their yields to food processors. Future formation of produce cooperatives may present opportunities for uniform purchasing and distribution of products. Moreover, as marketing channels mature and domestic demand quotas are satisfied, international markets can and will be more thoroughly developed.

A major impediment to marketing fresh produce internationally is its perishability. Most native Oklahoma fruit and vegetable items have a limited shelf life. However, potatoes, sweet potatoes, turnips, watermelons, and specialty melons, such as pumpkins and some squash varieties, do maintain their freshness for longer periods of time. Researchers are experimenting with "shrink wrapping", a plastic coating which helps lengthen the shelf life of melons. Conclusive findings from a study of this nature could prove advantageous for the exportation of some Oklahoma produce.

Produce that is inexpensive at the retail outlet usually has a smaller investment return for growers. As such, monetary incentives for farmers to grow and supply many fresh produce items can be low. Exportation of higher value produce, such as fresh-packed strawberries and blueberries, may have greater monetary returns, providing adequate packaging and transportation facilities are implemented and maintained.

Fruits and vegetables are a major ingredient in a variety of "value-added" products processed in Oklahoma. Personal interviews were conducted with selected Oklahoma food processors to identify characteristics of "value-added" products that may be important in generating export activity. Findings show that several Oklahoma processors are actively engaged in direct international sales and others may be exporting indirectly via export brokers and other intermediaries. To gain consumer acceptance, one exporting company participates in international trade shows and overseas test marketing activities. For this company, export sales have been provisional, based on foreign ingredient approval and bilingual package labeling. Their purchase requirements for local quantity and quality fruits include a minimum of processing. They purchase a variety of fruits that have been individually sliced and quick frozen with moderate additions of lemon juice. Local producers interested in

supplying fruits to this firm would need to conform to these specifications.

Another exporter contracts vegetable production in sections of Eastern Oklahoma. Management at this company attributes successful sales in the Mid East, Far East, Japan, and Europe to exceptional quality and foreign demand for U.S. products. For this company, a snack food item has proven to be one of their most profitable exports. Even though their canning process is not altered for foreign buyers, other marketing features have been adopted. They also use bilingual labels and their products are exported with a requested pack. Small businesses can promote their products in foreign markets by capitalizing on quality features. For example, in the U.S., the policy regulating the percent of sugar in jams and jellies is more stringent than other foreign countries. Therefore, even though an abundant assortment of jams and jellies appear in European markets, a market niche may exist for skillfully marketed U.S. products of high quality. Frozen products require proper packaging and continuous refrigeration en route to insure quality delivery. To overcome delivery problems and encourage consumer product acceptance, product specification, packaging and labeling requirements, along with adequate refrigeration and storage capacity, must be considered prior to an export shipment. Moreover, effective communication skills and other marketing and financial training are necessary prerequisites for international marketing success.

Oklahoma fruits and vegetables exhibiting good international sales potential in the future are with few exceptions those currently under production. These include hot weather vegetables already grown in the state, such as okra, asparagus, onions, specialty melons, squash, southern peas, turnip and mustard greens, and spinach. Experimental crops that may also have future opportunity for export are paprika peppers and various herbs. The cost of raising paprika peppers can be reduced by employing the same equipment that is used in peanut production. Paprika is used as a seasoning as well as the red dye in many processed foods and food colorings.

Packaging of dried fruits, vegetables, and seasoning for soups, popular in European countries, may also have potential for Oklahoma grown produce. Onions, potatoes, peppers, peaches, and apples, along with a variety of herbs, all of which are grown in Oklahoma, can be dried and packaged for domestic or international use. To insure proper weight and consistency after drying, high concentration matter fruits and vegetables will need to be cultivated. To some extent, this adjustment in production will require additional research and producer re-education. Moreover, produce specified for processing may require innovative harvesting techniques as well as special mechanized equipment. These added costs need to be properly assessed before contracts are confirmed and growing commitments are made.

Summary and Conclusions

Currently, the U.S. is a net importer of fresh and processed fruits and vegetables (Figures 2 and 3). Income levels in the U.S. support the importation of specialty produce and many other processed items. Although exports of fruits and vegetables from the U.S. plunged in the early 1980s, the trend is showing signs of reversal. In recent years, the U.S. has increased its share of "value-added" exports even though bulk grains and lower value products continue to dominate. The impact of microwaves in foreign countries is just beginning to be realized. In the early 1980s only 2 percent of British households boasted microwave ownership. If predictions are accurate, by 1990, almost one in four households in Great Britain will have a microwave, which will further increase the demand for "value-added" and convenience foods. Many foreign households are just beginning to enjoy the benefits of home refrigeration, which has been taken for granted in the U.S. for more than a half century.

At the present time, Oklahoma exports a limited volume of fresh and processed fruits and vegetables. The potential for future exports is promising, providing producers and processors are prepared to conform to foreign economic policies, and adhere to cultural variations and trade restrictions. Proper investment capital along with additional research will also need to be instituted. The stimulation of international trade by both public and private sectors is necessary to build and sustain long-term trade relationships. Clearly, foreign markets have an identifiable role in the future growth of national and state agricultural product sectors. Greater understanding of specific overseas markets and a commitment to establish and maintain long-term relationships plays an integral role in this process. Competitive pricing as well as the consistent delivery of quality products, both traditional and innovative, must be a high priority for U.S. and Oklahoma agricultural producers.

The Oklahoma Cooperative Extension Service ***Bringing the University to You!***

The Cooperative Extension Service is the largest, most successful informal educational organization in the world. It is a nationwide system funded and guided by a partnership of federal, state, and local governments that delivers information to help people help themselves through the land-grant university system.

Extension carries out programs in the broad categories of agriculture, natural resources and environment; family and consumer sciences; 4-H and other youth; and community resource development. Extension staff members live and work among the people they serve to help stimulate and educate Americans to plan ahead and cope with their problems.

Some characteristics of the Cooperative Extension system are:

- The federal, state, and local governments cooperatively share in its financial support and program direction.
- It is administered by the land-grant university as designated by the state legislature through an Extension director.
- Extension programs are nonpolitical, objective, and research-based information.
- It provides practical, problem-oriented education for people of all ages. It is designated to take the knowledge of the university to those persons who do not or cannot participate in the formal classroom instruction of the university.
- It utilizes research from university, government, and other sources to help people make their own decisions.
- More than a million volunteers help multiply the impact of the Extension professional staff.
- It dispenses no funds to the public.
- It is not a regulatory agency, but it does inform people of regulations and of their options in meeting them.
- Local programs are developed and carried out in full recognition of national problems and goals.
- The Extension staff educates people through personal contacts, meetings, demonstrations, and the mass media.
- Extension has the built-in flexibility to adjust its programs and subject matter to meet new needs. Activities shift from year to year as citizen groups and Extension workers close to the problems advise changes.

Oklahoma State University, in compliance with Title VI and VII of the Civil Rights Act of 1964, Executive Order 11246 as amended, Title IX of the Education Amendments of 1972, Americans with Disabilities Act of 1990, and other federal laws and regulations, does not discriminate on the basis of race, color, national origin, gender, age, religion, disability, or status as a veteran in any of its policies, practices, or procedures. This includes but is not limited to admissions, employment, financial aid, and educational services.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Robert E. Whitson, Director of Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President, Dean, and Director of the Division of Agricultural Sciences and Natural Resources and has been prepared and distributed at a cost of 20 cents per copy. 0507