

Apple Cultivars— Current Situation and Trends Around the World An Introduction

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Many exciting changes have occurred in the apple industry in the last 30 years. The value of central leader training and tree spreading techniques were recognized and practical methods developed to take advantage of this new knowledge. Clonal rootstocks became popular and a number of low density orchards were replaced by medium and high density plantings. Unique tree support methods and canopy designs were introduced to take advantage of natural light levels, dwarfing rootstocks, and mechanization.

While significant changes were taking place in the area of cultural management, efforts to develop and introduce new apple cultivars received little attention. Since the 1940's, apple growers have continued to plant the 'Delicious' cultivar, increasing its position of importance in the U.S. and on world apple markets. About 70% of all the apples produced in the U.S. are 'Delicious.' Production of 'Golden Delicious', the second most important apple cultivar in the world, has also increased worldwide. In the 1980's, U.S. growers and consumers were introduced to a "new" apple variety from Australia, the 'Granny Smith', a late maturing green apple with good eating quality and extended storage life. Production of 'Granny Smith' rose from less than one-half million bushels in 1981 to more than 14 million bushels in 1989, placing it 4th in overall production in the U.S. behind only 'Delicious', 'Golden Delicious', and 'McIntosh.'

The introduction of the 'Granny Smith' is just one of several factors contributing to the accelerated interest

in new varieties and/or strains. Other factors include: (1) the desire to reduce the use of pesticides in fruit production has increased interest in disease resistant cultivars; (2) loss of the growth regulating chemical daminozide used to reduce preharvest drop, improve color, and extend storage life in leading cultivars such as 'McIntosh,' has forced some growers to look for firmer more highly colored varieties; (3) a low rate of return for the traditional processing varieties has encouraged many growers to search for newer dual purpose varieties; (4) consumer interest in a more diverse selection of high quality apples; and (5) an expanded world market that has increased competition and consumer awareness.

In the past several years, much has been written concerning the need for, and description of, new apple varieties (see additional reading list below). What are the current trends in planting and what cultivars can we expect to dominate in the next decade? Will 'Delicious' continue to be the leading variety? At the 1988 Washington State Horticultural Convention, growers were urged to "replace older plantings with newer varieties, strains, and rootstocks which will produce quality fruit" in order to compete in the world market (12). The U.S. apple industry hopes that new high quality varieties will change the American consumer's buying habits and boost the relatively low consumption rate for apples in this country.

At the 1989 annual meeting of the American Society for Horticultural Science in Tulsa, Oklahoma, the Pom-

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ology Working Group sponsored a workshop to focus on "Apple Cultivars—Current Situation and Future Trends Around the World." Major apple production areas were identified for discussion including Western Europe, Japan, Australia and New Zealand, and the United States. Invited speakers were asked to present data on cultivars currently planted and prospects for the 1990's. A written account of each formal presentation is presented in this issue of the *Fruit Varieties Journal*. A list of recent references covering apple varieties and production trends is provided for those who desire additional information.

Additional Reading List

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4. Frecon, J. L. 1989. Apple varieties in the east. Compact Fruit Tree 22:53-54.
5. Glynn, M. 1990. Rising apple stars from down under. The Grower 23(6):10-14.
6. Greene, D. W. and W. R. Autio. 1989. A critical time for change. Univ. Mass. Coop. Ext. Fruit Notes 54(30):1-5.
7. LaCorte, L. 1988. New fruit varieties, growers seek niche for future markets. The WVa Farmer and Forester 1(2):12-13.
8. LaCroix, D. 1989. New apples, new profits. The Grower 22(9):34-37.
9. Norton, R. A. 1989. Apple varieties now and in the future. Good Fruit Grower 40(9): 48-52.
10. Norton, R. A., R. L. Stebbins, W. D. Lane and J. A. Ballard. 1989. The strains of 'Gala,' 'Fuji,' and 'Jonagold' described. Good Fruit Grower 40(7):40-42.
11. Stebbins, R. L. 1990. Characteristics of some new apple varieties. Good Fruit Grower 41(11):37, 40-43.
12. Storer, E. 1989. New varieties a must, but 'Red Delicious' still king. Good Fruit Grower 40(1):7-10.
13. Warner, G. 1989. New apple varieties draw attention but pose risks. Good Fruit Grower 40(20):4, 65-74.

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Apple Cultivars— Current Situation and Future Trends Around the World— Australia and New Zealand

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Abstract

World apple production has increased markedly in the past decade. All major production areas of the southern hemisphere except Australia have increased their apple production. A dramatic increase in apple plantings has occurred in New Zealand. 'Granny Smith,' 'Cox's Orange Pippin,' 'Delicious' and 'Golden Delicious' are the leading cultivars in that country. 'Gala,' 'Fuji,' 'Braeburn' and spur 'Delicious' trees were heavily planted during the 1980's, while processing cultivars such as 'Sturmer Pippin' were declining in New Zealand.

World-wide apple production is increasing. Production increased from 30 million to 38 million MT recently (1). While production in the United States has also increased, it has increased at a slightly slower rate than worldwide production (1).

In the Southern Hemisphere, production in all major areas except Australia has increased (Table 1). While overall horticultural crop production in Aus-

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