



Figure 1. Solid plantings of certified Kinnow mandarin trees for which orchard certificates are being awarded by the Arizona Crop Improvement Association.

Different calendar dates are important to all of us for a wide variety of reasons including birthdays, anniversaries, or other milestones related to passage of time. For Arizona's Cooperative Citrus Registration-Certification Program an important date was July 28, 1969 on which the Program completed its fifth full year of operation since its approval in 1964. In this time several important objectives have been attained and substantial progress towards other objectives is reported here.

The citrus certification program, which is completely voluntary regarding grower participation, serves these growers through the close cooperation of four agencies. Certification and administrative operations are performed by the Arizona Crop Improvement Association. All regulatory functions are conducted by the Arizona Commission of Agriculture and Horticulture, whose district inspectors supervised planting, budding, growing, and tagging of certified trees for no less than 1,423 man-hours during the fiscal year 1967-68. Industry members direct the program and establish operating policy through the Arizona Citrus Advisory Council. Technical guidance is provided by various members of the University of Arizona Agricultural Experiment Station.

The principle objective for which the program was initiated remains unchanged — to assist nurserymen and citrus growers to obtain budwood and grow citrus nursery trees from sources that have been tested and found apparently free from known virus diseases and other bud-transmissible disorders. While the primary plant enemies being attacked are the virus-caused diseases, the restrictions under which program trees are grown are sufficiently strict as to practically

Arizona's Citrus Certification . . .

Celebrates Anniversary

by Ross M. Allen & H. H. McDonald*

guarantee freedom from diseases caused by bacteria, fungi, and nematodes as well. Satisfactory progress toward attainment of this objective may be attested by the fact that practically all of the citrus nursery stock grown in Arizona during 1968 was under program supervision. During the four and a half years (July, 1964 through December, 1968) for which records are complete, more than one million certified citrus buds have been propagated. In order to accomplish this, the University Citrus Farm at Yuma has provided more than a quarter million buds from 256 registered foundation trees representing 63 citrus varieties. Citrus nurserymen are preparing for the future by selecting and having tested outstanding grove trees which are called "parent" trees. These trees are the equivalent of foundation trees but are located in commercial orchards and are the property of the participating growers. In addition, 498 young trees from registered sources have been planted in grower-owned mother blocks. Table 1 summarizes the program's progressive growth from 1964 through 1968.

Any businessman would research the financial status of an organization or program in attempting to evaluate its past performance and its potential for future development. It seems appropriate, therefore, to report the realization of a second program ob-

jective, that of becoming entirely self supporting regarding financial matters. Initially, the citrus certification program was financed jointly by the University of Arizona Agricultural Experiment Station and by voluntary contributions from growers and nurserymen. Since July 1968, only four years since inception, the program has been entirely self supporting from income derived from inspection fees and

sales of registered buds and tree certification tags. The magnitude of this accomplishment becomes apparent with the knowledge that the program supports a staff composed of a technician and the equivalent of two full-time field and greenhouse assistants. Capital acquisitions include office and soil sterilization equipment, a greenhouse providing 1680 square feet of space for growing and testing citrus plants, and an 800 square foot steel building which serves as a supply room and potting shed. All operational expenses including supplies, labor, and travel, formerly provided by other sources, are now paid directly from program revenue.

The same businessman who investigates financial conditions of a concern would also inform himself about the management of the organization. In the case of the Arizona Cooperative Citrus Registration-Certification Program, a program developed for the citrus growers by the University of Arizona with the growers' assistance, the program management and direction rests squarely on the shoulders of the growers themselves. All operational and policy decisions are made by elected industry members with equal representation from the two principle citrus regions of the State.

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Table 1. Five-year summary of activities in the Arizona Cooperative Citrus Registration-Certification Program.

	1964	1965	1966	1967	1968	Total
Foundation varieties registered (Yuma)	24	40	48	59	63	62
Foundation trees registered (Yuma)	24	40	126	232	256	256
Foundation buds issued Yuma	0	3,198	94,240	56,155	100,205	253,798
Registered buds from California program	0	75,819	19,650	22,550	14,925	132,944
Registered and certified buds propagated	0	79,017	261,854	366,957	353,187	1,061,015
Certified tree tags sold	0	0	9,776	23,990	282,641	316,407
Citrus nurseries in program	0	9	9	10	11	11
Registered parent trees released (grower-owned)	0	0	0	32	0	32
Mother block trees in program (grower-owned)	0	18	320	494	498	498
Nucellar seedling varieties planted (Yuma) for eventual registration	44	65	87	110	124	124

This group of men, known as the Arizona Citrus Advisory Council, serves also as the Citrus Commodity Committee of the Arizona Crop Improvement Association, the program's administrative unit. Through this organizational scheme a third program objective has been realized — that of full industry control and self-government. It is truly an organization of the growers, operated for the growers, and controlled by the growers.

A business also is judged by its adaptability in changing situations and for up-dating adjustments to improve its product or service. The rules and regulations governing the Arizona program, originally approved in July, 1964, were completely revised in January, 1968. The most important revisions were for the following purposes:

- Expand the definition of a citrus nursery to include nursery stock grown in individual containers and to prescribe methods for growing such stock under program supervision.
- Enlarge the program's registration classes to provide for certification for stubborn disease, adopt a new class for budlines known to carry exocortis virus, and prescribe identification methods for nursery increase buds within each registration class.
- Increase the time limit from 18 to 24 months that nursery increase block trees may serve as supplementary sources of scions for production of certified nursery stock.
- Provide for a charge of eight (8) cents per bud for each bud in excess of 25 buds of each budline issued from the program's foundation trees and to authorize



Figure 2. This husky certified frost Lisbon lemon tree bears its certification tag as proof that it has a good start towards a long and productive life.

a ten dollar (\$10) fee for initial inspection of nursery and seedbed sites.

- Provide for issuance of certified orchard certificates for solid plantings of trees inspected and certified under the Arizona program.

Most of the rule changes described above are self-explanatory. Item e, however, deserves special mention since it provides for records lasting the entire life of newly planted groves. The owner of any solid block planting of properly tagged and certified citrus trees may request within a period of one (1) year from date of planting that the Arizona Crop Improvement Association issue an orchard certificate for that planting. The certificate shall indicate the owner of and legal description of the property, variety, rootstock, registration number and class of tree planted, the planting plan, and actual count of certified trees as existing at the time of certificate issuance. It is thought that orchard certificates may be of considerable value as attachments to deeds or other legal forms during trade, sale, or other activities involving the property. Voluntary requests for certificates for 425 acres of certified trees were received in 1968. More acreage is qualified for certificates and it is expected that more growers will apply for them, at no additional cost, as they become aware of the potential value of the certificates.

And finally our businessman appraises the product or service itself. Is it worth the cost? Will it have lasting value? Can a return be realized by investing? Exactly how much, in dollars and cents, will be the returns on the investment? Such questions are easily answered for the A

THE ARIZONA CROP IMPROVEMENT ASSOCIATION, INC.

AND

THE ARIZONA COOPERATIVE CITRUS-REGISTRATION CERTIFICATION PROGRAM

TUCSON, ARIZONA*

CITRUS ORCHARD CERTIFICATE

This is to certify that _____, Trustees legal owner and/or operator of citrus block consisting of _____ acres described as the _____ and of Section _____, Township, _____, Range _____ in the records of the State of Arizona, did, on or about _____, plant on this property, _____ certified citrus trees consisting of _____ bearing registration number (s) and class (es) _____ as assigned by the Arizona Cooperative Citrus Registration-Certification Program. Issuance of this certificate by the Arizona Crop Improvement Association is based upon an inspection of the planting as of _____, 19 _____ and any alterations in the planting after this date are the sole responsibility of the owner/operator.

Executive Secretary, ACIA

*In cooperation with the Arizona Commission of Agriculture and Horticulture and the Arizona Agricultural Experiment Station.

zona citrus certification program when one considers that average losses in Arizona citrus production caused by virus diseases in old-line, untested groves have been estimated very conservatively to be \$69.25 per acre per year. Today, Arizona has approximately 32,000 acres of bearing citrus with a crop potential gross income that exceeds \$23,000,000. Probable realized income would be approximately \$13,413,036 (for a loss \$9,297,282) if it were not for the fact that approximately 4,450 acres now bearing are of improved and virus-tested budlines. There should be a saving of \$308,162, at \$69.25 per acre, for these 4,450 acres this year. This saving is an amount more than ten times the entire annual operating budget for the certification program. And consider further, that during an estimated 40 year productive life of these trees that there will be \$12,236,500 increased income not available prior to

the production of these virus-tested trees. Eventual benefits to the Arizona agricultural community will be greater in years to come. Recent figures indicate there were 43,335 acres of citrus in Arizona in 1968, an increase of 14,257 acres since 1960. It is estimated that 80 percent (11,405 A.) of these new plantings is comprised of virus-free budlines. Savings to industry on this acreage alone should be approximately \$789,796 per year or \$31,591,840 during the productive life of the trees. These savings might be considered in another way. A grower has 5 acres of virus-free citrus trees producing \$69.25 more in fruit than a comparable 5 acres of virus-infected trees. The returns from the virus-free trees equal the returns of 6 acres of infected trees. Thus, the increased returns amount to nearly 17 percent which makes the investment in virus-free trees a reasonably good

business venture. The Arizona Cooperative Citrus Registration-Certification Program therefore proudly celebrates its 5th anniversary with realization of attainment of several prime objectives and with substantial progress having been made towards satisfaction of other goals. In its short life the program not only has made a substantial contribution and economic impact upon Arizona agriculture but it stands as a prime example of a program, requested by growers, which was organized and developed by the Arizona Agricultural Experiment Station, and has now been released to industry control as a completely functional and self-supporting unit. (For anyone interested, complete copies of the program rules and regulations (revised January, 1968) are available through the Secretary, Arizona Crop Improvement Association, University of Arizona, Tucson 85721.)