inbreds B and C. The highest soluble solids of the parent varieties. Titratable acidity (table 2) measured August 8 and August 23 varied with date of sampling and variety. On August 23 it was higher in hybrids A, B and C than in the parent varieties V66, VFN8 and inbred i, but the differences probably were not significant. In all hybrids and parents, acidity increased significantly from August 8 to August 23. Acidity of VFN6 was highest on August 8 with 0.83 and VFN8 was lowest with 0.50. Of the parent varieties VFN6 had the highest soluble solids, titratable acidity and production.

Hybrids superior

On the whole the hybrids were superior to the parent varieties in early fruit production. The fruit was smaller, similar in soluble solids and slightly less inclined to cracking. Flavor and keeping quality of the hybrids was very satisfactory. Hybrid B produced the highest fruit yield. Hybrids of male sterile (ms) parents and their inbred produced more early fruit. The relatively expensive hybrid seed may be justified for fresh fruit and home gardens in areas where air pollutants are high but may be prohibitive for processed tomatoes. The longer style of ms31 is more accessible for hand pollination than that of ms40; and ms-VFN8 was not available. Accordingly, the fruit harvested July 27 and August 6 originated from flowers that set fruit in mid-June. Air pollutant oxides were very high on June 12, 1971, through June 26, 1971. It seems probable that yield was related to air pollution conditions early in the flowering season. In the absence of controls, however, this was not proved. Evidently, under severe atmospheric pollution the F1 hybrids were superior to the parent varieties.

ANZA-

C. O. Qualset - J. D. Prato

Anza, a spring wheat variety released by the University of California in 1971, offers growers a new choice for a variety in the medium-to-late maturity range. Named in honor of Don Juan Baptiste de Anza, who led settlers from Sonora, Mexico to California in about 1775, the variety has followed a similar route.

Anza originated from a hybrid made at the Centro de Investigaciones Agrícolas del Noroeste (CIANO) near Cuidad Obregon, Sonora, Mexico by scientists of the Mexican Government and the International Maize and Wheat Improvement Center (CIMMYT). The parentage of Anza is (Lerma Rojo x Norin 10 - Brevo) x [(Yaktana 54 x Norin 10 - Brevo) x Andes] and the hybrid and selection number is H8739-4R-1M-1R. A selection from this cross was sent from the station in Sonora to J. C. Williams at Davis by N. E. Borlaug in 1964. Another selection from this cross was entered in the International Spring Wheat Yield Nursery in 1969 from the wheat improvement program in the Sudan. The Sudanese selection was subsequently released and named Mexicani in the Sudan. A similar variety (WW15), selected from the same hybrid was released in Australia. Anza was not released in Mexico because of its susceptibility to certain races of stem and leaf rust that occur in the state of Sonora. Anza has performed well in the world-wide international yield nursery and is now known to be adapted to much of California’s wheat producing area.

Description

Anza has a spring growth habit with medium to late maturity. Tilling is profuse and the leaves are moderately short and narrow. The spikes are fully awned, mid-dense, and erect with a tendency to nod at maturity. Glumes are cream to white in color and the peduncle is slightly S-shaped (see photograph). The variety is somewhat shorter than INIA 66R, Pitic 62, and Siete Cerros 66, but 3 to 6 inches taller than “triple dwarf” varieties such as Cajeme 71, Saric

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a new high-yielding, short-statured WHEAT VARIETY

J. A. RUPERT · H. E. VOGT · M. A. KHALIFA · W. F. LEHMAN · W. H. ISOM

70, and Yecora 70. Depending on growing conditions, 0.5% or fewer of the plants are 4 to 8 inches taller than average of the population. Kernels are red, medium in size, and tend to have a soft texture. Bushel weight is good, being much heavier than Pitic 62 and somewhat lower than INIA 66R.

Disease reaction is generally acceptable for California. It is the first variety available which has tolerance to the barley yellow dwarf virus. It is resistant and moderately resistant to the prevailing races of stripe and leaf rust, respectively. Additional evaluations are needed to establish whether the flour is acceptable for blending with strong gluten flour or for pastry and family flours. Additional data on performance and quality of Anza are presented in Agronomy Progress Reports 34 (1971) and 46 (1972), available from the Department of Agronomy and Range Science, U.C. Davis.

Adaptation

Anza is believed to be adapted to all areas of California where spring wheats are grown. Usage is anticipated in areas where early-planting (October-November) is practical and where frost at heading time is often a problem. In the Sacramento Valley the variety will be competitive with Pitic 62 where its higher yield, shorter stature, and higher test weight make it a desirable choice. The Sacramento-San Joaquin Delta region, with good subsoil moisture supply, is another area where Anza has performed well. The performance of Anza may not be competitive with earlier maturing varieties in non-irrigated situations where moisture supply is limited by climatic or soil conditions. In areas with strong winds Anza may be a good choice because of its tolerance to shattering. Where the barley yellow dwarf virus is often present, such as in the San Joaquin Valley, Anza can be used effectively if adequate moisture is provided.

Seed of Anza will be available for planting in the fall of 1972. Foundation seed will be maintained and distributed by Department of Agronomy and Range Science, U.C. Davis.

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Protein content of the grain has been 1 to 2% lower than INIA 66R and about comparable with Siete Cerros 66. Milling performance has been good, with flour yield often higher than for INIA 66R. The flour is not acceptable for breadmaking, however, because of inadequate mixing time, water absorption, dough-handling characteristics, and loaf volume. Additional data on performance and quality of Anza are presented in Agronomy Progress Reports 34 (1971) and 46 (1972), available from the Department of Agronomy and Range Science, U.C. Davis.

Performance

Relative grain yields of varieties in comparison with Anza (table 1) in a rather large number of experiments in California over a 7-year period show Anza to be 18, 18, and 19% higher than INIA 66 or INIA 66R, Siete Cerros 66, and Pitic 62. Mean yields for 1971 and 1972 at eight locations, shown in table 2, indicate adaptation of Anza in the major wheat production areas. Yields of Anza in 1971 and 1972 were 10 to 20% higher than the "triple dwarf" varieties Yecora 70, Cajeme 71, and Saric 70. Some loss of grain by shattering at maturity has been observed but much less than Siete Cerros 66, INIA 66R, or Pitic 62.

![Table 1. Performance of Several Wheat Varieties Compared with Anza in University of California Regional and Field Station Trials, 1964-66 and 1969-72](https://example.com/table1.png)

![Table 2. Two-Year Mean Grain Yields in Pounds per Acre of 10 Wheat Varieties at 8 Locations in California, 1971-72](https://example.com/table2.png)

*Bluebird 2 in 1971.*

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