

B. Origin and Breeding History of the Variety

Juanillo-168 was obtained from the International Maize and Wheat Improvement Center (CIMMYT) in 1980 in the International Triticale Screening Nursey (Entry 189). The cross from which Juanillo-168 was selected was X-21295 with the parentage DRIRA X Kiss-Arm. Juanillo-168 was received in California as an advanced line. The F-generation from the last cross is not known. The following chronology summarizes the development of Juanillo-168 in California:

- 1980 - Introduced from Mexico, CIMMYT ITSN Entry 189; grown in Davis.
- 1981 - Included in yield trial 130 as entry 72 at UC Davis.
- 1982 - Seed increased at UC Tulelake Field Station. Included in yield trials 225, 251, and 224 at UC Davis, UC Tulelake Field Station, and UC Imperial Valley Field Station, respectively. Included in UC Regional Triticale Tests as entry 12.
- 1983 - Included in yield trial 325 at UC Imperial Valley Field Station and in UC Regional Triticale Tests (entry 12). Seed was increased at UC Davis from 1982 Tulelake source, rogued for off-types; 300 heads were selected and screened for seed quality; 200 head rows were planted in the summer nursery at UC Davis; 73 early maturing, short stature lines were selected and bulked (68 pounds) as Breeders seed.
- 1984 - A 0.25-acre seed increase was planted at UC Tulelake Field Station from Breeders seed.

C. Description of the Variety

Height: Juanillo-168 is relatively tall, 115 to 120 cm in irrigated production, about equal to Siskiyou triticale, 15 to 20 cm shorter than 6TA-204 triticale and 30 to 40 cm taller than Anza wheat. A low frequency of tall plants is characteristic of the variety.

Straw Strength: Strength of straw is good. It has less lodging than 6TA-204 triticale, and is about equal to Siskiyou triticale. Juanillo-168 has good standability in drill strips with dense stands.

Maturity: The heading date of Juanillo-168 is 4 to 6 days earlier than Siskiyou triticale, 5 to 10 days earlier than 6TA-204 triticale, 5 to 7 days earlier than Anza wheat, and 2 to 4 days later than Yecora Rojo wheat. Maturity time differences are smaller than for heading date. Juanillo-168 matures 3 to 4 days later than Yecora Rojo wheat and a few days earlier than 6TA-204 triticale in the Imperial Valley.

Growth Habit: Juanillo-168 has a spring type growth habit.

Shattering: Grain loss at maturity due to wind shattering has been minimal. Shatter resistance is good. Less shattering loss has occurred in Juanillo-168 than in Anza or Yecora Rojo wheats in the Imperial Valley trials.

Spike Characteristics: Juanillo-168 has long, lax spikes. Short awns extend beyond the length of the spike about one-fourth of the spike length. Glumes are glabrous. Spikes nod at maturity. Peduncles are hairy. Glumes and awns are white.

Grain Characteristics: Juanillo-168 has grain that is red in color, long (longer than Siskiyou triticale and equal to 6TA-204 triticale), and generally well-filled. Test weight averages 54 to 56 lb/bu (about equal to Siskiyou triticale and 2 to 4 lb heavier than 6TA-204 triticale).

D. Evidence Supporting Identity and Statements or Claims Concerning Performance

Juanillo-168 triticale is proposed for release on the basis of high grain yields in relation to other triticale and wheat varieties currently being grown in California. The grain yield performance is documented in Tables 1-3 in advanced line breeding trials at the UC Imperial Valley Field Station, UC Davis, and UC Tulalake Field Station, and in Tables 4 and 5 in UC Regional Triticale Tests. Juanillo-168 exceeded the wheat standards by 12, 5, and 16% in the respective breeding trials mentioned above, and by an average of 18% in the UC Regional Triticale Tests. The potential of triticale as a feed grain for the Imperial Valley is being investigated at present. The results (Tables 1-5) suggest that Juanillo 168 has yield performance enough better than wheat varieties to warrant field scale trials. Strip trials are in progress.

Tables 1-4 and 6-7 present agronomic data which was summarized in C above. Of special interest is grain quality. Triticale grain weight per bushel is significantly less than wheat. Juanillo-168 represents a substantial improvement in grain quality over previously available triticales, both in test weight and smoothness of kernel. Protein content has only been evaluated on a limited scale, but it appears that Juanillo-168 has protein content about equal to wheat varieties (Table 6). No feeding trials with Juanillo-168 have been done; however, there is no reason to suspect that its value is lower than previous triticales. Triticale is generally acceptable for swine, poultry, and cattle feeding, based on previous work at the UC Imperial Valley Field Station and UC Davis.

Juanillo-168 has tall straw and produces high forage tonnage per acre (Table 7). No trials on the feeding values of triticale hay, silage, or green chop have been done.

We make no special claims for the use of Juanillo-168 in human foods. However, it should be as good as existing varieties for blended breads ("triticale" bread) or specialty products. Similar triticales perform well in Mexico in cookie and cracker production.

E. Area of Adaptation

Juanillo-168 can be grown in all areas of California where other triticales have been grown. Cultural practices followed for other small grains are suitable for triticales, with the exception that early planting may maximize grain yields. Juanillo-168 is especially worthy of extensive evaluation in the Imperial Valley for feed grain production. Stand losses due to freezing may occur with fall planting in the intermountain areas of northern California. Juanillo-168 may be useful as a forage or in forage blends and could be grown in all areas where such production occurs.

F. Procedure for Maintaining Seed Stock Classes

Breeders seed will be maintained by the Department of Agronomy and Range Science, UC Davis. Foundation seed will be produced and distributed by Foundation Seed and Plant Materials Service, UC Davis. Foundation, registered, and certified classes will be recognized in the usual way for small grains. Foundation seed will be generated periodically from composited head-row purification plantings as needed.