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TRITICALE CULTIVARS FOR CALIFORNIA

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The following are descriptions of triticale cultivars evaluated in California from 1980 to 2011. The descriptions are based on published cultivar releases and data from the UC Regional Cereal Evaluation Tests conducted each year throughout California. Yield performance data for most of the cultivars can be found in University of California, Davis Agronomy Progress Reports (No.'s 114, 118, 128, 144, 155, 168, 180, 201,209, 217, 223, 229, 233, 236, 244, 249, 254, 259, 262, 265, 272, 276, 279, 286, 288, 290, 293, 295, 296, 301, 303, and 304 for 1980-2011, respectively). Reports #262 through 304 also can be seen at http://smallgrains.ucdavis.edu.

CURRENT CULTIVARS
TRITICALE

CAMELOT

Camelot is a spring triticale. It was released by Resource Seeds, Inc. in 2007. It was selected from the cross 308-1/SS193-5//Salinas101/3/Awnless/4/Pika "S"/Yogui "S"//LT97.82/Asad "S"//Taraska87/3/Panda6/CMH77A.1165. Its experimental designation was 02T71209. Camelot is early maturing, awnless, and short statured (averages about 40 inches in plant height) with good straw strength (25 days earlier and 24 cm shorter than Merlin). Its juvenile growth habit is erect and leaves have a waxy bloom. Auricles are colorless and the flag leaf is twisted. Leaf carriage is drooping. Necks are wavy and hairless. Heads are mid-dense, fusiform, and awnless. Glumes are mid-long, white and pubescent, with oblique shoulders and obtuse beaks. Kernels are slightly wrinkled, red, elliptical, with a brush that is large and long. Camelot produces a dual purpose product: It can be cut for silage or baled as hay. At the time of release it was resistant to stripe rust, leaf rust, powdery mildew, and BYD, and moderately resistant to Septoria tritici leaf blotch. It subsequently became moderately susceptible to stripe rust. It was evaluated as Entry 3169 in the UC Regional Cereal Testing program from 2011-present for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California. It is adapted to the Central Valley of California.

MERLIN

Merlin is a winter triticale. It was released by Resource Seeds, Inc. in 2005. It was selected from the cross Awnless 9//Awnless/Trical 2700. Its experimental designation was RSI 01T60042. It is an awnless triticale and has a facultative growth habit (maturity is intermediate between spring and winter types). It is late maturing and similar in appearance to Trical Brand 2700. It averages about 60 inches in plant height. Leaves have a waxy bloom. The flag leaf is twisted and leaf carriage is recurved. Auricles are colorless or white. Necks are wavy and very hairy. Spikes are fusiform and mid-dense. Glumes are slightly pubescent, white, long and narrow with oblique shoulders and acute beaks. Kernels are amber, elliptical, and wrinkled. Brushes are large and mid-long. At the time of release it was resistant to powdery mildew, moderately resistant to leaf rust, stripe rust, and BYD, and susceptible to Septoria tritici leaf blotch. It was evaluated as Entry 160 in the UC Regional Cereal Testing program in 2005 for late fall sowing in the Central Valley of California where it is best suited for production of boot-stage forage.

PACHECO

Pacheco is a spring triticale. It was released by Westbred LLC in 2009. It was selected from the cross RON/B5//AN-2/3/LI-1. Its experimental designation was WB ACS 55304. Pacheco is owned by PZO Pflanzenzucht Oberlimpurg located in Germany and is marketed in the United States by WestBred, LLC. Pacheco is adapted to the San Joaquin Valley. Its primary intended use is whole plant forage for the dairy industry. Pacheco is day length insensitive and has midseason maturity. It has a short plant height (averages about 41 inches in plant height) relative to most triticale cultivars and has very good straw strength. The leaves are blue green with upright leaf carriage. The flag leaf is twisted and has white auricles. Pubescence is present on the neck of the stem and on the glumes. The spikes are awned, fusiform, mid-wide, and mid-long with waxy bloom. The glumes are white, mid-wide and long with wanting shoulders. The seeds are light red, large with smooth texture. The brush area is mid-size and the length is mid-long. At the time of release,

Pacheco was resistant to stripe rust, leaf rust, powdery mildew, and BYD, and moderately resistant to Septoria tritici leaf blotch. It subsequently became susceptible to stripe rust. It was evaluated as Entry 3164 in the UC Regional Cereal Testing program from 2008-2010 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

TRICAL BRAND 102
Trical Brand 102 is a winter triticale. It was released by Resource Seeds, Inc. in 1993. It is awnletted and very persistent in fall and spring grazing regimes followed by haying. It is late maturing with fair straw strength. At the time of release it was resistant to stripe rust, leaf rust, and Septoria tritici leaf blotch. It was evaluated as Entry 106 in the UC Regional Cereal Testing program in 1996 for fall planting in the intermountain region of northern California.

TRICAL BRAND 105
Trical Brand 105 is a spring triticale. It was released by Resource Seeds, Inc. in 1996. It was selected from the cross Faras/BUL. Its experimental designation was RSI 44415. It is awned, medium maturing, averages about 45 inches in plant height, and has good lodging resistance. At the time of evaluation it was resistant to stripe rust, leaf rust, and Septoria tritici leaf blotch, and moderately susceptible to BYD. It subsequently became moderately susceptible to stripe rust. It was evaluated as Entry 97 (from 1999-2003) and as Entry 3097 (from 2004-present) in the UC Regional Cereal Testing program for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

TRICAL BRAND 118
Trical Brand 118 is a spring triticale. It was released by Resource Seeds, Inc. in 2005. It was selected from the cross AR/SPY6//11TSN 79-3/C2/3/TCL7/TCL50-1. Its experimental designation was RSI 97TV38011. It has medium maturity, averages about 39 inches in plant height, and has good lodging resistance. Its juvenile growth habit is erect and leaves have a waxy bloom. The flag leaf is twisted. Leaf carriage is upright. Necks are wavy and moderately hairy. Heads are mid-dense and fusiform, with yellow awns. Glumes are tan and slightly pubescent. Kernels are slightly wrinkled, amber, elliptical, with a brush that is midsize and mid-long. At the time of release it was resistant to leaf rust, powdery mildew, and BYD, and moderately resistant to stripe rust and Septoria tritici leaf blotch. It subsequently became moderately susceptible to stripe rust. It was evaluated as Entry 3156 in the UC Regional Cereal Testing program from 2004-present for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California. It is best suited for the San Joaquin Valley for production of silage harvested in the soft dough stage.

TRICAL BRAND 2700
Trical Brand 2700 is a spring triticale. It was released by Resource Seeds, Inc. in 1992. It was selected from the cross 836-1 Cinnamon//MS Wheat X WRC/Triticale Heksa. It is a facultative type, fully awned, with medium late maturity. Its juvenile growth habit is erect. It averages about 63 inches in plant height and has strong stems. The flag leaf is recurved and not twisted. Spikes are erect, oblong, mid-wide and mid-dense. Necks are straight. Awns are mid-long and tan. Glumes are white, long, wide and glabrous. Shoulders are wanting, beaks are acuminate. Kernels are reddish tan, elliptical, and average 9 mm long and 4 mm wide. At the time of release it was resistant to leaf rust, stripe rust, Septoria tritici leaf blotch, and powdery mildew, and moderately susceptible to BYD. It was evaluated as Entry 159 in the UC Regional Cereal Testing program from 1997-99 and in 2005 for spring planting in the intermountain region of northern California and for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California. It is a very palatable forage for use in silage, green chop, and hay programs.

CULTIVAR ARCHIVES (Cultivars previously evaluated by UC Small Grains Program)

TRITICALE

ALZO
Alzo is a winter triticale. It was developed by Resource Seeds, Inc. It was selected from the cross UGO/MAH 9531- 6. It is tall with good straw strength. It was evaluated as Entry 134 in the UC Regional Cereal Testing program from 2002-03 for fall planting in the intermountain region of northern California.

BEAGLE
Beagle is a spring triticale. It was developed by the International Maize and Wheat Improvement Center (CIMMYT) in cooperation with the Mexican Ministry of Agriculture (INIA). It was selected from the cross UM'S'-TCL Bulk. Its experimental designations were X1530 and 7740002. It has medium maturity and is tall with fair straw strength. At the time of evaluation it was resistant to Septoria tritici leaf blotch, stripe rust, and leaf rust, and moderately susceptible to BYD. It was evaluated as Entry 2 in the UC Regional Cereal Testing program from 1982-87 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

BEAGUELITA 'S'
Beaguelita 'S' is a spring triticale. It was developed by the International Maize and Wheat Improvement Center (CIMMYT) in cooperation with the Mexican Ministry of Agriculture (INIA). It was selected from the cross BTA'S' X22427. It has medium maturity and is medium tall with good straw strength. At the time of evaluation it was resistant to Septoria tritici leaf blotch, stripe rust, and leaf rust, and moderately susceptible to BYD. It was evaluated as Entry 13 in the UC Regional Cereal Testing program from 1982-84 (a sister line was evaluated as Entry 22 from 1982-85) for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

CABORCA 79
Caborca 79 in a spring triticale. It was developed by the International Maize and Wheat Improvement Center (CIMMYT) in cooperation with the Mexican Ministry of Agriculture (INIA). It was selected from the cross Bura X8417-E-1Y-7M-3Y-OY. Its experimental designation was T780004. It has medium early maturity and is medium tall with fair straw strength. At the time of evaluation it was resistant to Septoria tritici leaf blotch, stripe rust, and leaf rust, and susceptible to BYD. It was evaluated as Entry 4 in the UC Regional Cereal Testing program from 1982-84 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

CANANEA 79
Cananea 79 in a spring triticale. It was developed by the International Maize and Wheat Improvement Center (CIMMYT) in cooperation with the Mexican Ministry of Agriculture (INIA). It was selected from the cross Mapache X2802-F-12N-1M-OY. Its experimental designation was T750001. It has medium early maturity and is medium height with fair straw strength. At the time of evaluation it was resistant to Septoria tritici leaf blotch, stripe rust, and leaf rust, and moderately susceptible to BYD. It was evaluated as Entry 3 in the UC Regional Cereal Testing program from 1982-84 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

CELIA
Celia is a winter triticale. It was developed by the Oregon AES and released in 1993. Its experimental designation was FT91062. It is a replacement for the variety Flora. It has prostrate early growth, medium early maturity, stiff straw and good lodging resistance. Spikes are awned. At the time of release it was resistant to stripe rust, leaf rust, and Septoria tritici leaf blotch, moderately resistant to Pseudocercosporella foot rot and snow mold, and moderately susceptible to take all. It was evaluated as Entry 94 in the UC Regional Cereal Testing program in 1994 for fall planting for forage production in the intermountain region of northern California.

DÉCOR
Décor is a winter triticale. It was developed by Resource Seeds, Inc. It is mid-tall with good straw strength. At the time of evaluation it was resistant to leaf rust and moderately susceptible to BYD. It was evaluated as Entry 146 in the UC Regional Cereal Testing program from 2002-06 for fall planting in the intermountain region of northern California.

ELAN
Elan is a winter triticale. It was developed by Resource Seeds, Inc. It is mid-tall with good straw strength. At the time of evaluation it was resistant to BYD. It was evaluated as Entry 152 in the UC Regional Cereal Testing program from 2003-04 for fall planting in the intermountain region of northern California.

FLORA
Flora is a winter triticale. It was developed by the Oregon Agricultural Experiment Station. It was evaluated as Entry 89 in the UC Regional Cereal Testing program from 1993-94 for fall planting for forage production in the intermountain

region of northern California.

FLORICO
Florico is a spring triticale. It was developed by Nutriseed, Inc (AZ). Its experimental designations were Nutricale S-205 and BL-53. It has medium maturity and is tall with poor straw strength. At the time of evaluation it was resistant to Septoria tritici leaf blotch, stripe rust, and leaf rust, and moderately resistant to BYD. It was evaluated as Entry 57 in the UC Regional Cereal Testing program from 1986-87 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

FORERUNNER
Forerunner is a spring triticale. It was developed by Resource Seeds, Inc. It is late maturing and medium height. It was evaluated as Entry 161 in the UC Regional Cereal Testing program in 2005 for late fall planting for forage production in the Central Valley of California.

GRACE
Grace is a spring triticale. It was developed by ARCO Seed Co and released in 1984. Its experimental designation was GTA476. It was selected from a segregating population derived from a complex combination of common wheat and both hexaploid and octoploid triticale. The parentage is (*T. aestivum* 'P4160E3' x *T. durum – S. cereale* x *T. aestivum – S. cereale* x *T. durum – S. cereale*). Grace is a facultative type. It is medium late maturing (similar to Nugaines wheat) and is tall with fair straw strength. It has a straight neck shape and moderate stem neck hairiness. Spikes are lax and fusiform with long awns. At maturity glumes are glabrous, tan, mid-long and mid-wide. Shoulders are wanting. Beaks are acuminate. Kernels are elliptical and wrinkled. The brush is mid-long to long. At the time of release it was resistant to leaf rust and stem rust and tolerant of BYD. It was evaluated as Entry 41 in the UC Regional Cereal Testing program from 1985-87 and in 1996 for late fall planting as a forage in the Central Valley of California.

JUAN
Juan in a spring triticale. It was released by the California AES in 1984. Juan was selected from the cross X-21295 with the parentage Drira/Kiss-Arm at CIMMYT and tested as Juanillo 168. Its experimental designations were X21295 and T780024. It is relatively tall, 115-120 cm in irrigated production, about equal to Siskiyou and 30-40 cm taller than Anza wheat. It has fair straw strength and shatter resistance. It heads 4-6 days earlier than Siskiyou and 5-7 days earlier than Anza wheat. Juan produces high forage and grain yields. It averages about 10-20% higher is grain yield than standard wheat cultivars (Anza, Yolo). Juan 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. Kernels are red, long (longer than Siskiyou triticale) and generally well-filled. Weight of individual kernels are about 20% heavier than wheat kernels. At the time of release it was resistant to stripe rust, leaf rust, powdery mildew and Septoria tritici leaf blotch, and moderately susceptible to BYD. It subsequently became susceptible to stripe rust. It was evaluated as Entry 12 in the UC Regional Cereal Testing program from 1982-2003 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California for grain and forage production.

LANCE
Lance is a spring triticale. It was developed by Resource Seeds, Inc. It was selected from the cross LKO-500HK/4/Tapir 'S'/REH'S'//BUL 1-1/3/M24/XT419/5/Awnless #5. Its experimental designation was 01T60094. It is an awnless triticale and is recommended for boot stage harvest or for soft dough stage hay. It is medium late maturing (the same maturity as Dirkwin wheat or Trical Brand 2700 triticale). It was evaluated as Entry 162 in the UC Regional Cereal Testing program in 2005 for late fall planting for forage production in the Central Valley of California.

MAH 3600
MAH 3600 is a winter triticale. It was developed in Poland and received for evaluation from Resource Seeds, Inc. It is tall with good straw strength. It was evaluated as Entry 154 in the UC Regional Cereal Testing program in 2003 for fall planting in the intermountain region of northern California.

MAH 3800
MAH 3800 is a winter triticale. It was developed in Poland and received for evaluation from Resource Seeds, Inc. It is mid-tall with good straw strength. At the time of evaluation it was resistant to leaf rust and BYD. It was evaluated as Entry 155 in the UC Regional Cereal Testing program from 2003-05 for fall planting in the intermountain region of

northern California.

PEACE
Peace a spring triticale. It was developed by ARCO Seed Co. It is tall with good straw strength. At the time of evaluation it was moderately susceptible to BYD. It was evaluated as Entry 45 in the UC Regional Cereal Testing program in 1985 for late fall planting as a forage in the Central Valley of California.

SISKIYOU
Siskiyou is a spring triticale. It was jointly developed by the International Maize and Wheat Improvement Center (CIMMYT) and the California AES and released in 1976. It was a selection from the CIMMYT population T-903 (F3-Masa-101Y). Its experimental designations were UC8825 and T770001. Spikes are long and somewhat lax. Awns are short and purple to black in color. Glumes are white and glabrous. The peduncle is pubescent. Siskiyou is medium tall to tall with fair straw strength. It has medium late maturity (similar to Anza wheat). Kernels are somewhat wrinkled, shorter than most other triticales of the period, with a protruding germ end typical of durum wheat. Grain color is light red, generally with a high percentage of yellowberry kernels. At the time of evaluation it was resistant to Septoria tritici leaf blotch, moderately susceptible to stripe rust and leaf rust, and susceptible to BYD. It was evaluated as Entry 1 in the UC Regional Cereal Testing program from 1982-90 for spring planting in the intermountain region of northern California and for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California. It was best suited for spring planting in the intermountain region of northern California. *Crop Science 25(5):887 (1985)*

SPRINGFEST
Springfest is a spring triticale. It was developed by Nutriseed, Inc (AZ). Its experimental designations were Nutricale S-405 and 1-18. It is late maturing and is tall with good straw strength. At the time of evaluation it was resistant to Septoria tritici leaf blotch, stripe rust, and leaf rust, and moderately resistant to BYD. It was evaluated as Entry 56 in the UC Regional Cereal Testing program from 1986-87 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

TRICAL BRAND 96
Trical Brand 96 is a spring triticale. It was released by Resource Seeds, Inc. It was selected from the cross AR/SPY//IITSN 79-3/C-2/3/TCL7/50/4/TCL7/50//PNDG/CMIT. Its experimental designations were RSI 46520 and 77A-11. It is medium early maturing and has excellent straw strength. Spikes are awned. At the time of evaluation it was resistant to leaf rust and BYD and susceptible to Septoria tritici blotch and stripe rust. It was evaluated as Entry 143 in the UC Regional Cereal Testing program from 2001-06 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

TRICAL BRAND 98
Trical Brand 98 is a spring triticale. It was released by Resource Seeds, Inc. in 2005. It was selected from the cross SS193-5/T25-3//3214/4/MZ4/XT419/3/TCL7/TCL50-1//PND6/CMH77A.1165. Its experimental designation was RSI 00TV60147. It is early maturing compared to other triticale cultivars of the period. Plant height averages about 34 inches, about 10 inches shorter than Trical Brand 105 and about 3 inches taller than Trical Brand 96. It has good lodging resistance. Its juvenile growth habit is erect and leaves have a waxy bloom. Heads are mid-dense and fusiform, with yellow awns. Glumes are tan and pubescent, with square shoulders and acuminate beaks. Kernels are slightly wrinkled, amber, elliptical, with a brush that is midsize and mid-long. At the time of evaluation it was resistant to leaf rust, powdery mildew, and BYD, moderately susceptible to stripe rust, and susceptible to Septoria tritici leaf blotch. It subsequently became susceptible to stripe rust. It was evaluated as Entry 3158 in the UC Regional Cereal Testing program from 2004-2009 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California. It is best suited for the San Joaquin Valley for production of silage harvested in the soft dough stage.

TRICAL BRAND 103BB
Trical Brand 103BB is a winter triticale. It was released by Resource Seeds, Inc. It is late maturing with fair straw strength. At the time of release it was resistant to stripe rust, leaf rust, and Septoria tritici leaf blotch. It was intended fall and spring grazing regimes followed by haying the intermountain region of northern California.

TRICAL BRAND 110

Trical Brand 110 is a spring triticale. It was released by Resource Seeds, Inc. in 2009. It was selected from the cross Rondo/Erizo//Nimir/3/TCL7/TCL50-1. Its experimental designation was RSI 01T40207. It has midseason maturity, averages about 37 inches in plant height, and has good straw strength. At the time of release it was resistant to stripe rust, leaf rust, powdery mildew and BYD, and moderately susceptible to Septoria tritici leaf blotch. It subsequently became susceptible to stripe rust. It was evaluated as Entry 3163 in the UC Regional Cereal Testing program from 2008-2009 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

TRICAL BRAND 111

Trical Brand 111 is a spring triticale. It was released by Resource Seeds, Inc. in 2001. It was selected from the cross TCL312-4//TCL7/TCL50-1. Its experimental designations were 39103 and RSI 95TV40611. It is awned, medium maturing, and has good lodging resistance. At the time of evaluation it was resistant to stripe rust, leaf rust, Septoria tritici leaf blotch, powdery mildew and BYD. It was evaluated in the UC Regional Cereal Testing program as Entry 124 from 1998-99 and as Entry 144 from 2001-04 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.

TRICAL BRAND 116

Trical Brand 116 is a spring triticale. It was released by Resource Seeds, Inc. in 2005. It was selected from the cross AR/SPY6//11TSN 79-3/C2/3/TCL7/TCL50-1. Its experimental designation was RSI 98TV46506. It has medium early maturity and good lodging resistance. Its juvenile growth habit is erect and leaves have a waxy bloom. Auricles are purple and the flag leaf is twisted. Leaf carriage is upright. Necks are wavy and moderately hairy. Heads are mid-dense and fusiform, with tan awns. Glumes are tan and pubescent, with oblique shoulders and acuminate beaks. Kernels are slightly wrinkled, amber, elliptical, with a brush that is large and mid-long. At the time of evaluation it was resistant to leaf rust and BYD, and moderately susceptible to stripe rust and Septoria tritici leaf blotch. It was evaluated as Entry 157 in the UC Regional Cereal Testing program from 2004-07 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California. It is best suited for the San Joaquin Valley for production of silage harvested in the soft dough stage.

TRIMARK 336

Trimark 336 is a winter triticale. It was released by Resource Seeds, Inc. It was selected from the cross LKO MUT M5NMU/SWT832. Its experimental designation was Trical 336. It is tall with good straw strength. At the time of evaluation it was resistant to BYD and leaf rust. It was evaluated as Entry 136 in the UC Regional Cereal Testing program from 2002-06 for fall planting in the intermountain region of northern California.

WYTCH

Wytch is a spring triticale. It was developed by ARCO Seed Co. It has medium maturity and is tall with poor straw strength. At the time of evaluation it was moderately susceptible to BYD. It was evaluated as Entry 42 in the UC Regional Cereal Testing program from 1985-86 for late fall planting as a forage in the Central Valley of California.

YUMA

Yuma is a spring triticale. It was developed by Nutriseed, Inc (AZ). It was selected from the cross (BGL Deriv/CML-Pato*Drira)Mapache B3584. Its experimental designation was Nutriseed 16A. It is medium maturing and is tall with fair straw strength. At the time of evaluation it was resistant to stripe rust and moderately susceptible to BYD. It was evaluated as Entry 76 in the UC Regional Cereal Testing program from 1989-90 for late fall planting in the Central Valley and surrounding areas, the south-central coast, and the southern desert regions of California.