ADDITIONAL DESCRIPTIVE INFORMATION ON SPRING WHEAT VARIETIES

Hard Red Spring Wheats

AMIDON - An awned, standard height hard red spring wheat cooperatively developed and released by North Dakota Agricultural Experiment Station and United States Department of Agriculture (USDA) in 1988. It was developed from the cross SU-28-1*2/3/Lew//Tioga*2/ RL6043 and tested as ND606. It is similar to Stoa in heading date and plant height with a tendency to greater lodging. It is resistant to leaf rust and stem rust, with a leaf spotting rating better than Stoa and Len. Shattering resistance and test weight have been rated as satisfactory. Amidon has been yielding consistently more than Stoa when yields were below 30 bu/A. Amidon has exhibited an intermediate level of stem solidness. Amidon has a higher protein than Newana, and overall milling and baking qualities are equal to or better than Newana. The kernel characteristics do not meet spring wheat classing requirements of the Federal Grain Inspection Service.

CONAN - Developed and released by Western Plant Breeders in 1999. Conan was selected from the cross, WestBred Rambo x WestBred 906R. Conan is a sawfly tolerant, white chaffed, semidwarf, hard red spring wheat. The spike is mid-dense, strap shaped and awned. The seeds are elliptical with rounded cheeks. The brush is long and collared. Conan is similar to WestBred Rambo in yield, but is 2 to 4 days earlier, .5 to .9 percentage points higher in protein, and has good milling and baking qualities. Conan is resistant to the prevalent races of stripe rust and leaf rust, and has shown good tolerance to Septoria and Tan spot. This variety is protected under the Plant Variety Protection Act.

ERNEST - Developed from the cross ND 622*2/Cutless, made by the North Dakota Agricultural Experiment Station and released in 1995. Ernest is an awned, white chaffed, standard height, solid stemmed hard red spring wheat. It is resistant to wheat stem sawfly, prevalent races of leaf rust and stem rust. This variety is protected under the Plant Variety Protection Act and can only be sold or advertised by variety name as a class of certified seed.

EXPRESS - Developed from the cross of Veery/BH1146 by Western Plant Breeders. It is a semidwarf, hard red spring wheat released in 1991. Some plants in the population may average 3-5 inches taller than the average plant height of the field. The spike is awned, white chaffed with glumes being long, oblique shouldered and acuminate beaks. The kernels are red, elliptical shaped, long brush and rounded cheeks. Express is resistant to leaf rust, stripe rust, powdery mildew and Septoria tritici. This variety is protected under the Plant Variety Protection Act and can only be sold or advertised by variety name as a class of certified seed.

FERGUS - Developed and released by Western Plant Breeders in 1994. It was selected from a male-sterile facilitated, recurrent selection population. Fergus is a red chaffed, semidwarf, hard red spring wheat. The spike is awned, lax, and oblong. The glumes are red, long and wide, with narrow square shoulders. The beaks are narrow, mid-short, and the apex is acuminate. Fergus has purple leaf auricles with pubescent hairs. The stems and leaves have a waxy bloom. Seeds are mid-long, mid-wide, elliptical with rounded cheeks. Seed crease is mid-wide and shallow. The kernel has a mid-sized germ and mid-long brush with no collar. Fergus has a variant of tall spikes, one to two spikes taller than the normal stand height at a ratio of three per 10,000 plants. This variety is protected under the Plant Variety Protection Act.

FORTUNA - Developed from the cross, Rescue-Chinook x (Frontana x Kenya 58-Newthatch), made at North Dakota Agricultural Experiment Station with the Crops Research Division of USDA cooperating. A joint North Dakota-Montana release was made in 1966. Fortuna is beardless with white chaff and straw. It is a solid-stemmed variety, resistant to the wheat stem sawfly. Fortuna is susceptible to Septoria and black chaff fungus. It is a relatively high yielding variety with superior milling properties, and has acceptable baking properties.

GRANDIN - developed from the cross of Len//Butte*2/ND507/3/ND593 cooperatively by the North Dakota Agricultural Experiment Station and Agricultural Research Service, USDA. It was released in 1989. Grandin is an awned, semidwarf hard red spring wheat. Grandin is susceptible to wheat stem sawfly.

HI-LINE - Developed from the cross MT 7336/Shortana, made cooperatively by the Montana Agricultural Experiment Station and the Agricultural Research Service, USDA. It was released in March 1992. Hi-Line is a semidwarf, hard red spring wheat. The variety is white chaffed, white strawed, hollow stemmed with an awned spike. The glumes are glabrous and may vary in color from white to tan. Its kernels are red, ovate, and short with a mid-length brush. The spike tends to nod slightly at maturity. Hi-Line is resistant to lodging. Under some climatic conditions a few spikes will elongate 2-5 inches above the overall field height. Hi-Line is resistant to prevalent races of stem rust found in Montana. It is susceptible to leaf rust and stripe rust. The milling and baking quality of this variety is acceptable to industry.

LEN - Developed from the cross, ND 499/3/Justin/RL 4205//Wisconsin 261, cooperatively by the North Dakota Agricultural Experiment Station and Agricultural Research Service, USDA, and released in 1979. Len is an awned, semidwarf, hard red spring wheat. It is resistant to lodging with a maturity similar to Olaf. Len is susceptible to stripe rust, but resistant to leaf rust and stem rust under Montana conditions. The milling and baking qualities of this variety are equal to Fortuna and Lew.

LEW - Developed from a cross, Fortuna/S62-85. The original selections were made at the North Dakota Agricultural Experiment Station. The Agricultural Research Service, USDA, cooperated in its development. Lew was released in 1976 by the Montana Agricultural Experiment Station with the ARS, USDA, cooperating. It is adapted to the sawfly areas of northeast Montana. Lew is a beardless, hard red spring wheat with white straw and chaff, and a solid stem. It is resistant to the wheat stem sawfly. It carries resistance to loose smut, stripe rust, leaf rust and stem rust, but is moderately susceptible to Septoria. Lew has a yield and test weight advantage over Tioga. Its milling and baking qualities are superior to Tioga and Fortuna.

McNEAL - Developed from the cross RS6880/Glenman made by the Montana Agricultural Experiment Station. It was released in March 1995. McNeal is a semidwarf, hard red spring wheat with red chaff and tan straw. The spike is awned and mid-dense. The glumes are reddish brown with some white on the outer edges of the lemma and palea. Kernels are red, ovate, medium length with a short brush. The cheeks are slightly rounded with a medium crease. Under Montana growing conditions McNeal is moderately resistant to lodging. It is moderately resistant to prevalent races of stem rust and wheat streak mosaic virus. McNeal is moderately susceptible to leaf rust and stripe rust. It is susceptible to Russian wheat aphid and the wheat stem sawfly. Under some climatic conditions one white chaffed plant per 2,000 plants may appear in the field. McNeal's milling and baking qualities are acceptable by industry.

NEWANA - Developed from the cross, Sheridan/3/Norin 10/Brevor 14//5*Centana, made at the Montana Agricultural Experiment Station by personnel of the Agricultural Research Service, USDA. The initial release of Newana was made in 1976. It is adapted for dry and irrigated land in all districts of Montana. It is a bearded, semidwarf hard red spring wheat variety with white straw and chaff. It is resistant to loose smut and stem rust, with moderate resistance to stripe rust. Newana is moderately susceptible to Septoria but is susceptible to leaf rust. Its baking quality is superior and its milling quality is satisfactory, but has somewhat low flour yield.

REEDER - Developed by the North Dakota Agricultural Experiment Station, the cross involved a relative of 'Stoa', a NDSU experimental line and germplasm from a breeding program in Brazil. Reeder was released in 1999. Reeder is an awned, semidwarf hard red spring wheat. Reeder yields well especially in northeastern Montana and western North Dakota. Reeder has resistance to the upper midwest races of stem and leaf rust. Milling and baking qualities are acceptable. Reeder is protected under the Plant Variety Protection Act with Title V .

SCHOLAR - Developed from the cross, MT8808/'Marberg', made by the Montana Agricultural Experiment Station. Scholar was released in 1998. It is a good yielding hard red spring wheat with moderate resistance to the wheat stem sawfly. Scholar is awned with white chaff and straw and is intermediate in height. Scholar has good resistance to Septoria and stem rust, is moderately resistant to leaf rust, and moderately susceptible to stripe rust. Scholar has good milling and baking qualities. This variety is protected under the Plant Variety Protection Act.

WESTBRED 926 - Developed by Western Plant Breeders from a recurrent selection population. It is a semidwarf hard red spring wheat similar to WestBred 906R. WestBred 926 was released in 1987. The spike is awned, white chaffed, slightly longer and more oblong than WestBred 906R. The kernel is red, ovate, with medium length brush, and rounded cheeks. It is resistant to stem rust and powdery mildew.

WESTBRED 936 - Developed from a male-sterile facilitated, recurrent selection population, "906 alpha-84" by Western Plant Breeders. It is a semidwarf, hard red spring wheat released in 1992. The spike is awned, white chaffed, oblong and lax. The glumes are long and wide, with narrow elevated shoulders. The beak is very long, narrow and the apex is acuminate. The kernels are mid-long, mid-wide and ovate with rounded cheeks. The crease is shallow, mid-wide and the germ is mid-sized. The brush is long with no collar. WestBred 936 is resistant to stem rust and stripe rust. This variety is protected under the Plant Variety Protection Act.

Soft White Spring Wheats

PENAWAWA - Developed from the cross of Potam 70/Fielder, jointly by the Agricultural Research Service, USDA, and Washington Agricultural Experiment Station. It was released in 1985. Penawawa is a soft, white, semidwarf spring wheat, awned, white-chaffed variety. The spikes are erect, semilax, oblong in shape, with medium long awns. The kernels are mid-sized, soft, white, mid-long and ovate with a large brush and ovate germ. Penawawa is resistant to stripe rust, leaf rust and stem rust. It is moderately susceptible to mildew and susceptible to common bunt. It is also susceptible to hessian fly. Industry has accepted Penawawa as having satisfactory quality for milling and pastry.

VANNA - Developed and released by Western Plant Breeders in 1993. Vanna is a semidwarf, soft white spring wheat. It is white chaffed with a lax, strap-shaped, awned spike. Leaf sheaths have a waxy bloom. Auricles are purple and slightly hairy. The glumes are long, mid-wide, shoulders are square and the beak is acuminate. Kernels are mid-long, mid-wide, ovated and have round cheeks. The brush is long and does not have a collar. The kernel crease is narrow and shallow, germ is mid-sized. Vanna is resistant to the prevalent races of stripe and leaf rust in the Pacific Northwest. In northern Idaho it shows susceptibility to the Hessian fly. Vanna has a variant of approximately one tall head (one head taller than the normal field) at a ratio of one per 10,000 plants. This variety is protected under the Plant Variety Protection Act.