

1978

WASHINGTON Farmer-Stockman

Established in 1884

Jacmar —

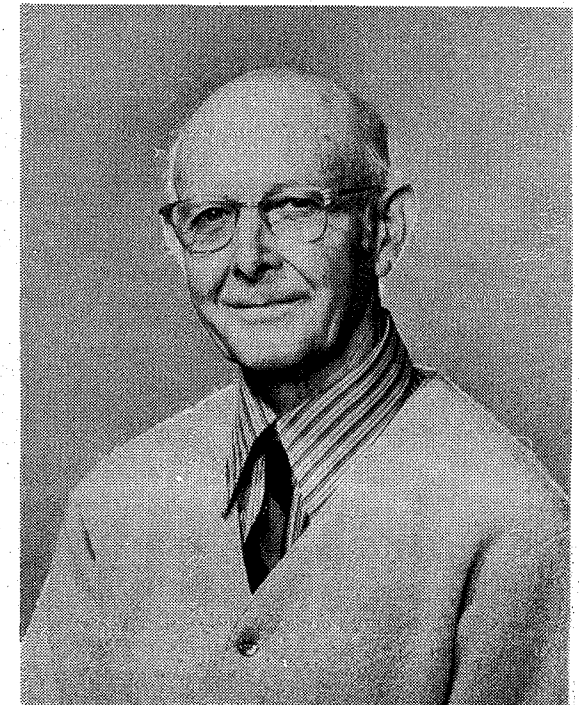
White Club Wheat For The Northwest

By Harley D. Jacquot

JACMAR, a new white club winter wheat variety, developed on the McGregor Ranch, has a special characteristic for early fall seeding on stubble mulch fallow prepared by minimum tillage. It has red chaff, very similar to Paha, and originated from a collection of over 250 individual plants contained in a

these few strains, Jacmar was developed.

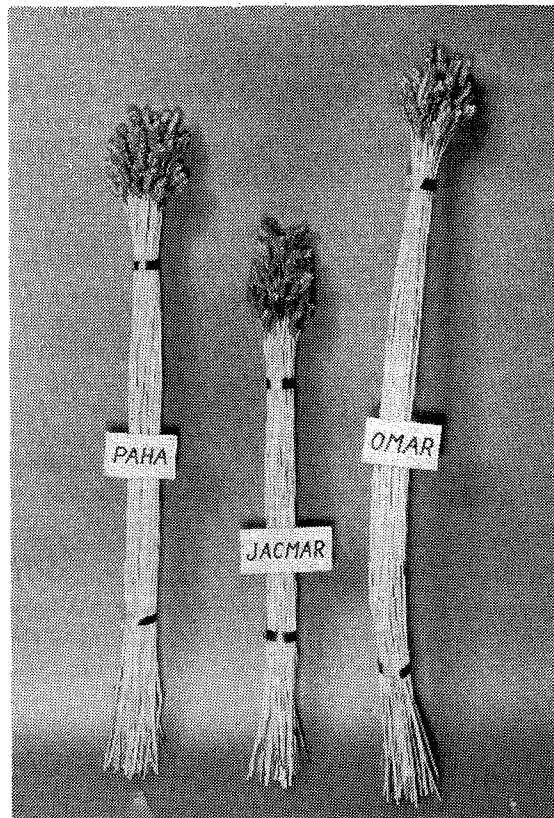
This wheat development is the result of original research conducted in west Whitman County on the use of fertilizer for wheat production in both annual cropping and summer fallow farming systems. The fertilizer work conducted from 1947 to 1973, was the



The author, Harley D. Jacquot, developer of the new variety Jacmar. From 1947 until his retirement in 1973, he was agronomist for the McGregor Land & Livestock Co. From 1930 until 1947, was superintendent of Washington Agricultural Experiment Station Lind Unit, working in the wheat breeding program. During the 23 years he worked for McGregor, in addition to wheat breeding, he conducted extensive research on moisture and nitrate use by wheat, minimum tillage systems for wheat and herbicides and herbicide combinations for use with minimum tillage wheat production methods.

field of Omar in 1961 during the great yellow stripe rust epidemic.

After 16 years of continual re-selection for strain improvement, a few strains were finally developed that possessed all the characteristics required for wheat production using high fertilizer rates in the intermediate rainfall areas of the Pacific Northwest. From



Jacmar height as compared to Paha and Omar. All are red-chaffed.

seed. He will be permitted to

primary research program, and the soil management investigation was an important secondary aspect.

The use of fertilizer for wheat production created a new agricultural environment that required investigations in the associated phases of agriculture. These included: Varietal improvement, new soil management practices and more efficient utilization of plant nutrients with greater efficiency of soil moisture conservation and use. Soil erosion is still a primary problem throughout the Northwest in spite of efforts by the Soil Conservation Service to promote proper land use since 1935.

Jacmar has been tested for performance on the McGregor Ranch in the past four years. An early planting date, from late August to mid-September, provides maximum grain yield and optimum soil erosion control. In the winter of 1973, severe freezing weather in early December was followed by unusually mild temperature for 10 days around Christmas. Then, sub-zero weather in early January caused considerable winter damage. Other contributing factors were frigid north winds and a lack of snow cover to protect the wheat plants. The sudden and rapid weather change destroyed most strains being tested along with commercial varieties. It also provided an opportunity for an effective segregation of a few remaining strains that showed good survival traits. These were preserved for further study. Jacmar was one that exhibited unusual hardiness — about three times that of Paha.

Early in 1977, an application was submitted to the Varietal Protection Office of the United States Department of Agriculture for certification. Last fall, the Commissioner of the

Protection Office issued a Certificate authorizing the owner of Jacmar to make it available for release to farmers of the Pacific Northwest. Arrangements are being made with the Washington State Crop Improvement Association and the State Department of Agriculture to distribute Jacmar Certified seed to commercial seed growers in Washington within the next two years.

If there is any doubt on anyone's part about the authenticity of efforts exerted in the wheat improvement program conducted on the McGregor Ranch, scores of farmers and professional people attended field tours conducted in the early 60's and witnessed numerous plots and nursery rows containing strains of Omar being developed for adaptability to the new minimum tillage concept of farming.

Some of the merits of Jacmar are seen by comparing it with Paha, the well-known variety grown in the intermediate rainfall areas of the Northwest during the past 10 years. Yield of Jacmar had a four-year average of 55.9 bushels per acre and plant height of 32 inches, compared to Paha with an average yield of 47.8 bushels with plant height of 37 inches grown under identical conditions. Even in the

Agronomic & Yield Data Average For 1974-1977

Variety	Yield Bu/a	Plant height*	Bu.wt. lbs.	% of Paha
Omar	39.3	129	42	60.9
Paha	47.8	126	37	60.1
Jacmar	55.9	87	32	57.8

*Pounds of straw per bushel of grain in 1976.

...Jacmar

drought of 1977, Jacmar yielded 43.0 bushels as compared to Paha's 35.0 bushels per acre. In addition, Jacmar has sufficient winter hardiness to make it especially desirable for early planting. This means replanting could be avoided in winters with extreme cold weather and deficient snow cover.

Jacmar has relatively short straw and is stiff enough to resist lodging when sown early under favorable growing conditions. A low straw yield of about 90 pounds for each bushel of grain harvested prevents excessive straw production that would interfere with normal summer fallow operations. Paha produced about 125 pounds and Gaines about 110 pounds of straw.

Jacmar has high resistance to all known strains of yellow stripe rust prevalent in the Pacific Northwest including one that attacks Paha. Milling and baking qualities of Jacmar, as determined by the Western Region Wheat Quality Laboratory at WSU, are comparable to those of Paha, but test weight is somewhat low, close to the minimum acceptable as number one wheat by the United States Grain Grading Standard for club type wheat.

increase the seed supply for his own use in the succeeding year, and to sell any in excess of his own seeding requirements as grain through the usual market channels as commercial wheat of white winter club classification.

Anyone interested in testing this new variety may contact Harley D. Jacquot, NE 435 Campus Street, Pullman WA 99163, to obtain necessary information on procurement of the desired seed, and to determine requirements necessary for producing

and handling seed for planting and harvesting the crop. In order to determine the amount of testing seed to treat, orders must be received on or before June 30, 1978.

The present wheat surplus may raise a question about introducing a new, higher yielding variety. Its use might appear to be a doubtful undertaking for farmers who are experiencing a market price near or below the cost of production. However, about one-third of the world population is undernourished

and has very limited purchasing power. Therefore, Jacmar, with yields about 17% greater than present varieties grown, will cut the cost of production by approximately the same percentage. This would make its production economically feasible for the farmers in the Pacific Northwest, even when exporting at the world market price.

It is logical that growing a wheat variety with higher yielding ability is an important factor in reducing the cost of production of each bushel of wheat.

Emergence of Jacmar is slightly inferior to that of Paha, but it is still satisfactory for early planting using modern deep furrow drills. It matures about three days earlier than Paha.

The seed supply of Jacmar has been increased on the McGregor Ranch and a limited quantity is available at no royalty cost as testing seed to interested farmers. This will not exceed 20 bushels per farm and will allow testing its performance, in various areas of the Northwest in comparison with varieties usually grown.

Since this seed is not qualified at present under the Washington State Crop Improvement Association for certification, it can be distributed for testing purposes only as permitted by the USDA Varietal Protection Office regulations. Farmers testing the seed will be contacted at harvest to obtain their evaluation of Jacmar and to determine the extent of adaptability and its potential value for future production. There will be a certain limitation, as provided by the federal regulation pertaining to the varietal protection against possible infringement, that will be spelled out in the labeling of each sealed bag of seed released for testing.

Each farmer acquiring seed for testing will be required to sign a special agreement prohibiting the sale of Jacmar for seed. He will be permitted to