

# U.C. Signal Barley

G. F. WORKER, JR. • C. W. SCHALLER

**UC Signal barley, developed at the Imperial Valley Field Station, El Centro, within 40 miles of Mount Signal for which it was named, is well-adapted to the lower desert areas of California. In comparative tests over a 3- to 7-year period, it has shown an 8 to 30 percent yield superiority over varieties previously recommended for the Imperial Valley.**

UC Signal is a single plant selection from the F<sub>12</sub> generation of a bulk population grown for 11 generations (F<sub>2-12</sub>) in the semi-arid environment at the Imperial Valley Field Station. The population was synthesized by C. A. Suneson in 1954, using male sterile selections from composite crosses CC XIV and CC XV as female parents and CC II, CC V and CC XII as pollen sources.

The characteristics of UC Signal and several of the varieties with which it is expected to compete are given in table 1. It has medium-short, weak straw and medium-dense, erect spikes with semi-smooth awns. The kernels are large, with medium-blue aleurone color and a short-haired rachilla. Although it has some tolerance to the barley yellow dwarf disease, it is not comparable to either CM 67 or UC 566 in this respect. The high yield potential under semi-arid conditions is its most important attribute.

A summary of yield comparisons between UC Signal and other commercial varieties is given in table 2. While showing a distinct yield advantage in the Imperial Valley, it is less competitive with other varieties in the San Joaquin and Sacramento Valleys and is not presently recommended for those areas. Susceptibility to the barley yellow dwarf disease and to lodging will restrict its use in areas where these production problems are likely to be serious.

UC Signal was released to growers in 1973. Foundation seed is available through the University of California Foundation Seed Program.

TABLE 1. CHARACTERISTICS OF UC SIGNAL AND SELECTED CALIFORNIA BARLEY VARIETIES

Characteristics	UC Signal	Calif. Maricut	CM 67	UC 566	Numar	Briggs
Height	Moderately short	Short	Short	Moderately short	Moderately short	Moderately short
Straw strength	Weak	Weak	Weak	Moderately weak	Moderate	Moderately strong
Disease resistance:						
Scald	Moderately susceptible	Susceptible	Susceptible	Susceptible	Susceptible	Moderately tolerant
Powdery Mildew	Susceptible	Susceptible	Susceptible	Susceptible	Susceptible	Moderately susceptible
Barley yellow dwarf virus	Susceptible	Susceptible	Highly tolerant	Highly tolerant	Susceptible	Susceptible
Grain color	Blue	Blue	White	Blue	Blue	White
Maturity	Moderately early	Early	Early	Early	Early	Moderately early
Spike type	Moderately compact	Lax	Lax	Lax	Lax	Moderately compact

TABLE 2. YIELD OF UC SIGNAL BARLEY

Location <sup>1/</sup>	Yield as a per cent of <sup>2/</sup>				
	Calif. Maricut	CM 67	UC 566	Numar	Briggs
<b>I.V.F.S.</b>					
1968	112	--	--	--	--
1969	118	--	--	116	--
1970	148	100	--	121	--
1971	134	119	--	110	--
1972	149	120	103	112	114
1973	122	118	107	106	91
1974	128	118	113	119	113
Avg.	130	115	108	114	106
<b>J.C. Riverside</b>					
1970	120	115	--	--	--
1973	108	89	65	93	95
1974	110	99	93	110	--
Avg.	113	101	89	102	95
<b>Kings Co.</b>					
1970	126	107	96	110	135
1973	115	107	109	103	126
1974	117	87	74	101	97
Avg.	119	100	93	105	119
<b>Fresno Co.</b>					
1973	112	98	100	106	105
1974	124	110	89	109	86
Avg.	118	108	95	109	96
<b>J.C. Davis</b>					
1970	123	86	--	96	114
1971	112	96	78	97	112
1972	92	97	93	100	85
1973	101	83	63	69	71
1974	109	97	90	104	107
Avg.	107	91	79	93	98

<sup>1/</sup>One to several tests per location/year.

<sup>2/</sup>Yield comparison valid only between UC Signal and variety indicated, not among varieties.

*G. F. Worker, Jr. is Specialist in Agronomy, Imperial Valley Field Station, El Centro; and C. W. Schaller is Professor of Agronomy, Department of Agronomy and Range Science, University of California, Davis. Cooperating in the study were J. D. Prato and W. H. Isom of Cooperative Extension at UC Davis and Riverside, respectively, and Farm Advisors G. J. St. Andre, Fresno County, and S. W. Kite, Kings County.*