

'Genou' Winter Wheat

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Genou – is a white-chaffed solid-stem hard red winter wheat with improved yield potential (Tables 1, 2) and cold tolerance (Table 4) relative to Rampart and Vanguard. Genou was developed by the Montana Agriculture Experiment Station and released to seed growers in 2004. Genou's pedigree is 'Rampart' sib//'Vanguard'/'Norstar'. Genou performs well in locations where sawfly cutting has occurred (Table 2). Stem solidness is relatively good, although not as good as Rampart or Vanguard (Table 3). Test weight, maturity, plant height, grain protein, and end-use qualities are similar to those of Rampart and Vanguard (Tables 4, 5). Genou is susceptible to both stem and stripe rust. Genou (French for knee) is named after a school house in The Knees area of Chouteau County. Genou is recommended in sawfly areas of Districts 3, 4, and 5. Plant Variety Protection #2005003345. To be sold by variety name only as a class of certified seed.

Table 1. Yield of Genou, 2003-2008, compared to a set of recommended winter wheat varieties.

Variety	Districts					
	3 Huntley ^{1/}	4 Moccasin ^{2/}	5 Conrad ^{3/}	5 Havre ^{4/}	1,2,6 - non- recommended	All Locations
location-years	39	28	10	17	31	125
CDC Falcon	62.2**	51.0**	67.9**	56.5**	67.1**	60.6**
Genou	59.0	48.2	64.8	55.0*	60.7	56.9
Rampart	54.9	44.7	57.9	50.9	56.1	52.6
LSD (0.05)	2.5	1.7	2.6	3.2	3.6	1.3

** = indicates highest value within a column

* = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

1/ includes data from Forsyth, Hardin area, Lodge Grass, Molt, Rapelje

2/ includes data from Denton, Geraldine, Winifred

3/ includes data from The Knees

4/ includes data from North Havre, Loma

Table 2. Genou: Yield Performance under Sawfly Pressure and % Sawfly Cutting (2003-2008)

Variety	Yield (bu/a)			Sawfly Cutting (%)		
	Havre	North Havre	Aver- age	Havre	North Havre	Aver- age
location-years	4	5	9	4	5	9
Yellowstone	62.4*	47.0	53.8**	31.0	63.7	49.2
Genou	59.1*	48.9	53.4*	10.8*	22.1*	17.0*
CDC Falcon	63.4**	42.5	51.8*	29.7	40.7	35.8
Rocky	59.8*	44.7	51.4*	19.4	32.7	26.8
Pryor	60.0*	42.1	50.0*	17.1*	42.3	31.1
Jerry	55.6	44.2	49.3	32.5	52.3	43.5
Rampart	54.4	44.1	48.7	5.8**	9.4**	7.8**
NuSky	54.0	44.5	48.7	40.2	71.3	57.5
Promontory	54.0	44.0	48.5	40.0	70.7	57.0
Vanguard	53.6	43.0	47.7	29.6	54.3	43.3
Neeley	54.7	41.9	47.6	35.1	56.0	46.7
LSD (0.05)	5.9	ns	3.9	11.5	19.8	12.2

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Table 3. Stem solidness ratings of Genou and other varieties, (2003-2008)

	Stem Solidness Rating (scale 5-25, higher = more solid)						Stem Solidness by location, 2003-2008			
	2008	2007-08	2006-08	2005-08	2004-08	2003-08	Bozeman	Conrad	Havre	Moccasin
location-years	4	8	11	15	18	21	6	6	6	3
Bynum	20.2*	20.4	20.2	19.1						
Carter	14.1	14.5	14.5	14.1						
CDC Falcon	6.9	7.0								
Genou	18.5	18.9	19.0	18.2	18.5	18.5	16.3	20.0	19.8	17.5
Ledger	11.1	10.6	10.9	10.1	10.1					
Neeley	6.8	6.8	6.3	6.0	6.3					
Rampart	21.4**	21.9**	22.1**	21.2**	21.1**	21.3**	19.6**	22.8**	22.2**	20.2
Vanguard	18.0	18.9	19.3	19.2	19.4	19.4	17.2	20.6	20.7	19.1
LSD (0.05)	2.3	1.4	1.1	1.1	1.0	0.8	1.6	1.8	0.9	ns

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Table 4. Agronomic characteristics of Genou, 2003-2008, compared to a set of recommended winter wheat varieties.

Variety	Test weight lb/bu	Winter survival %	Heading date		Plant height in	Lodging score 1/ (0-9)	Protein %	Stripe rust %	Coleoptile length in
			Julian	Calendar					
location-years	123	14	60		124	11	124	6	5
CDC Falcon	60.1	58**	160.9	10-Jun	30.0	1.9	12.4	33	2.7
Genou	60.6**	46	161.8	11-Jun	34.6	4.1	13.0	29	3.8
Rampart	60.5*	36	162.2	11-Jun	34.3	5.6	13.6**	5	4.2
LSD (0.05)	0.2	5	0.4		0.4	1.6	0.2	16	0.2

** = indicates highest value within a column

^{1/} 0 = best

* = indicates varieties with values equal to highest variety within a column based on Fisher's protected LSD (p=0.05)

Table 5. Mill and bake characteristics of Genou, 2003-2007, compared to a set of recommended winter wheat varieties

Variety	PPO	Kernel hardness	Flour yield %	Flour protein %	Flour Ash %	Mixograph mix time min	Mixograph absorbtion %	Baking mix time min	Baking absorbtion %	Loaf volume cc
CDC Falcon	0.846	70.3	65.6	11.3	0.41	4.5	60.2	7.3	70.5	1045
Genou	0.784	78.3	69.1**	12.3	0.39**	4.6	62.2*	8.7	72.5	1089*
Rampart	0.643	77.2	68.7*	12.8**	0.41	4.5	63.0**	8.9	74.0**	1092**
LSD (0.05)	0.133	2.5	0.7	0.3	0.01	ns	1.0	1.2	1.2	34

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