HRWW Summary, Langdon 2008-2010

	Yield (bu/a)					Test Weight (lbs/bu)					Protein(%)				
			NoF*	wF*				NoF*	wF*				NoF*	wF*	
Variety	**08**	**09**	**10**	**10**	**3yr**	**08**	**09**	**10**	**10**	**3yr**	**08**	**09**	**10**	**10**	**3yr**
CDC Falcon	90	106	72	93	90	59.9	61.0	56.7	58.9	59.1	11.0	10.6	12.3	12.1	11.5
Jagalene	80	87	56	102	82	59.0	61.0	55.6	58.8	58.6	12.0	11.4	11.6	11.4	11.6
Jerry	85	101	79	94	90	59.0	60.7	56.9	58.1	58.7	11.8	11.7	13.0	12.8	12.3
Millennium	91	85	84	97	89	60.7	60.5	58.1	59.7	59.7	11.4	11.3	12.5	12.5	11.9
Wesley	80	104	61	81	81	57.8	59.4	54.7	57.4	57.3	12.1	11.3	13.2	13.4	12.5
Yellowstone	85	104	53	90	83	57.6	59.5	52.8	55.6	56.4	11.3	10.9	12.3	12.3	11.7
Darrell	92	107	73	93	91	60.2	60.8	57.7	58.8	59.4	11.1	11.2	12.1	12.3	11.7
Hawken	88	88	55	88	80	60.4	60.5	55.5	58.6	58.8	11.8	11.9	12.7	13.0	12.3
Accipiter	92	99	79	99	92	60.1	61.4	57.1	58.5	59.3	11.2	10.7	11.4	11.7	11.2
Peregrine	91	108	77	89	91	60.3	61.4	58.5	58.7	59.7	10.8	10.4	11.7	11.6	11.1
Lyman	90	102	88	98	95	60.7	61.3	59.2	59.6	60.2	12.1	12.2	13.0	13.1	12.6
Overland	95	103	89	97	96	60.4	60.9	58.5	60.1	60.0	12.0	10.8	12.3	12.4	11.9
Art	--	115	85	101	--	--	61.5	58.9	60.4	--	--	11.5	12.8	12.7	--
Boomer	--	108	79	95	--	--	60.1	56.3	58.7	--	--	11.3	12.3	12.3	--
Mace	--	88	74	90	--	--	59.1	56.5	58.7	--	--	11.1	11.9	11.9	--
Striker	--	100	79	90	--	--	61.4	57.3	59.1	--	--	11.7	12.3	11.9	--
Decade	84	--	59	95	--	58.0	--	54.6	57.9	--	11.8	--	12.2	12.8	--
WB-Matlock	--	89	74	92	--	--	61.2	58.9	59.7	--	--	11.7	12.9	12.7	--
Camelot	--	--	72	94	--	--	--	57.0	59.2	--	--	--	12.7	12.8	--
Carter	--	--	65	95	--	--	--	57.5	59.5	--	--	--	12.4	12.3	--
SY-Wolf	--	--	74	94	--	--	--	57.2	59.0	--	--	--	12.1	12.2	--
CDC Buteo	88	97	--	--	--	61.3	62.1	--	--	--	11.2	11.1	--	--	--
Expedition	85	109	--	--	--	60.0	60.7	--	--	--	11.9	10.9	--	--	--
Alice	82	100	--	--	--	59.1	60.7	--	--	--	11.4	11.3	--	--	--
Roughrider	71	--	--	--	--	60.8	--	--	--	--	11.9	--	--	--	--
Radiant	83	--	--	--	--	59.4	--	--	--	--	11.7	--	--	--	--
NuDakota	80	--	--	--	--	56.6	--	--	--	--	12.0	--	--	--	--
LSD 5%	7.9	10.4	13.5			1.2	0.7	1.8			0.8	0.7	0.8		

HRWW Summary, Langdon 2008-2010

	Winter Survival (%)				Heading Date (after June1)				Height (in)				Lodging (0-9)			
Variety	**08**	**09**	**10**	**3yr**	**08**	**09**	**10**	**3yr**	**08**	**09**	**10**	**3yr**	**08**	**09**	**10**	**3yr**
CDC Falcon	98	91	100	96	27	51	19	32	34	33	34	34	0.0	0	2.0	0.7
Jagalene	96	90	100	95	27	53	16	32	35	34	36	35	0.5	0	2.2	0.9
Jerry	93	90	100	94	29	52	20	34	43	42	42	42	0.5	0	3.5	1.3
Millennium	100	95	100	98	25	55	18	33	41	38	41	40	0.0	0	1.5	0.5
Wesley	97	96	100	97	23	53	14	30	30	32	34	32	0.0	0	1.0	0.3
Yellowstone	98	93	100	97	30	56	22	36	41	38	38	39	0.0	0	1.8	0.6
Darrell	100	91	100	97	25	55	15	32	38	38	37	38	0.3	0	1.8	0.7
Hawken	98	92	100	97	21	50	12	28	32	30	33	32	0.0	0	0.0	0.0
Accipiter	98	89	100	96	29	55	22	36	37	35	40	37	0.0	0	1.5	0.5
Peregrine	98	95	100	98	28	54	20	34	45	44	44	44	1.5	0	2.3	1.3
Lyman	94	91	100	95	24	52	15	30	38	36	37	37	0.8	0	3.7	1.5
Overland	100	97	100	99	24	51	15	30	39	37	39	38	0.5	0	1.5	0.7
Art	--	95	100	--	--	51	16	--	--	33	36	--	--	0	1.0	--
Boomer	--	90	100	--	--	54	20	--	--	37	39	--	--	0	1.8	--
Mace	--	89	100	--	--	50	19	--	--	32	35	--	--	0	1.8	--
Striker	--	86	100	--	--	53	17	--	--	33	35	--	--	0	0.8	--
Decade	98	--	100	--	27	--	17	--	36	--	36	--	0.0	--	1.7	--
WB-Matlock	--	85	100	--	--	55	19	--	--	37	39	--	--	0	1.3	--
Camelot	--	--	100	--	--	--	14	--	--	--	37	--	--	--	3.2	--
Carter	--	--	100	--	--	--	16	--	--	--	32	--	--	--	3.3	--
SY-Wolf	--	--	100	--	--	--	16	--	--	--	36	--	--	--	0.5	--
CDC Buteo	98	93	--	--	27	54	--	--	43	41	--	--	2.3	0	--	--
Expedition	95	93	--	--	23	52	--	--	35	36	--	--	0.0	0	--	--
Alice	97	88	--	--	23	51	--	--	33	32	--	--	0.0	0	--	--
Roughrider	91	--	--	--	29	--	--	--	44	--	--	--	3.8	--	--	--
Radiant	96	--	--	--	29	--	--	--	41	--	--	--	0.0	--	--	--
NuDakota	92	--	--	--	25	--	--	--	30	--	--	--	0.0	--	--	--
LSD 5%	4.3	NS			2.4	2.1			2.1	2.2			0.9	NS		

2010 data is average of fungicide and no fungicide plots

HRWW Summary - Tolna, Leeds, Lakota - 2010

Yield (bu/a)

	No Fungicide				E. Flower Fungicide			
Variety	Tolna	Leeds	Lakota	Ave	Tolna	Leeds	Lakota	Ave
Accipiter	77	95	96	89	87	101	106	98
Boomer	77	101	98	92	83	107	108	99
Camelot	88	98	95	94	94	108	109	104
CDC Falcon	81	91	96	90	91	102	106	99
Hawken	85	97	89	90	91	97	104	97
Jerry	79	106	99	95	91	112	104	102
Lyman	86	110	98	98	91	108	100	100
Millennium	83	106	107	99	88	113	112	104
Overland	88	109	99	99	92	119	104	105
Peregrine	83	97	104	95	89	99	109	99
Striker	80	97	94	91	89	109	103	100
WB-Matlock	82	104	101	95	84	114	106	101
Site Average	82	101	98	94	89	107	106	101
LSD 5%	6	16.0	10.0		6	16.0	10.0	

Test Weight (lbs/bu)

	No Fungicide				E. Flower Fungicide			
Variety	Tolna	Leeds	Lakota	Ave	Tolna	Leeds	Lakota	Ave
Accipiter	59.9	59.5	61.5	60.3	61.2	62.1	63.0	62.1
Boomer	58.5	59.1	59.6	59.1	58.5	61.0	60.7	60.1
Camelot	59.4	58.2	60.7	59.4	59.7	60.7	62.0	60.8
CDC Falcon	59.1	58.2	60.2	59.2	60.1	61.0	61.3	60.8
Hawken	60.4	59.2	60.6	60.0	61.1	60.7	62.2	61.3
Jerry	59.0	58.4	60.3	59.2	59.6	60.5	61.2	60.4
Lyman	60.4	60.4	61.5	60.8	60.2	59.4	61.7	60.4
Millennium	59.6	60.0	61.1	60.3	60.2	59.5	61.7	60.5
Overland	60.0	59.9	60.9	60.3	60.0	60.7	61.2	60.6
Peregrine	60.6	59.5	61.4	60.5	60.5	60.8	61.8	61.0
Striker	59.3	58.8	61.0	59.7	60.4	60.5	61.4	60.8
WB-Matlock	60.5	59.7	60.8	60.3	60.2	61.4	61.6	61.1
Site Average	59.7	59.2	60.8	59.9	60.1	60.7	61.6	60.8
LSD 5%	0.7	1.4	1.0		0.7	1.4	1.0	

Protein (%)

	No Fungicide				E. Flower Fungicide			
Variety	Tolna	Leeds	Lakota	Ave	Tolna	Leeds	Lakota	Ave
Accipiter	10.9	11.3	10.1	10.8	11.3	11.1	10.4	10.9
Boomer	11.6	11.7	10.9	11.4	11.7	12.0	10.9	11.5
Camelot	11.4	12.1	11.5	11.7	11.3	12.3	11.7	11.8
CDC Falcon	10.8	11.6	10.6	11.0	11.6	11.6	10.9	11.4
Hawken	11.6	12.8	11.5	12.0	11.8	13.0	11.5	12.1
Jerry	11.8	12.2	11.8	11.9	12.1	12.0	11.6	11.9
Lyman	11.8	12.4	12.5	12.2	11.7	12.2	12.4	12.1
Millennium	11.3	11.7	11.2	11.4	11.3	11.6	11.0	11.3
Overland	11.5	11.7	11.5	11.6	11.3	11.7	11.9	11.6
Peregrine	10.9	11.4	10.4	10.9	11.1	11.7	10.5	11.1
Striker	11.3	11.8	11.5	11.5	11.9	11.8	11.4	11.7
WB-Matlock	11.6	12.0	11.7	11.8	11.6	12.1	11.8	11.8
Site Average	11.4	11.9	11.3	11.5	11.6	11.9	11.3	11.6
LSD 5%	0.6	0.5	1.2		0.6	0.5	1.2	

Foliar Necrosis % at Soft Dough

	No Fungicide				E. Flower Fungicide			
Variety	Tolna	Leeds	Lakota	Ave	Tolna	Leeds	Lakota	Ave
Accipiter	77	65	33	58	50	40	20	37
Boomer	88	87	77	84	80	50	20	50
Camelot	77	75	43	65	47	60	17	41
CDC Falcon	80	65	80	75	67	60	23	50
Hawken	80	85	73	79	53	55	30	46
Jerry	70	50	33	51	43	30	23	32
Lyman	83	60	33	59	53	40	17	37
Millennium	85	75	40	67	70	60	13	48
Overland	77	70	27	58	53	40	17	37
Peregrine	57	50	50	52	40	45	17	34
Striker	77	70	73	73	70	40	30	47
WB-Matlock	63	70	67	67	57	35	33	42
Site Average	76	69	53	66	57	46	22	42
LSD 5%								

Tombstone Kernel (%)

	No Fungicide				E. Flower Fungicide			
Variety	Tolna	Leeds	Lakota	Ave	Tolna	Leeds	Lakota	Ave
Accipiter	1.0	2.0	1.3	1.4	0.0	0.0	0.0	0.0
Boomer	1.7	3.3	3.3	2.8	0.3	1.3	1.3	1.0
Camelot	1.3	0.3	2.0	1.2	0.7	0.0	0.0	0.2
CDC Falcon	2.0	3.7	3.7	3.1	0.7	0.7	1.3	0.9
Hawken	1.7	0.3	2.0	1.3	0.7	0.3	0.0	0.3
Jerry	0.3	0.7	0.3	0.4	0.3	0.7	0.0	0.3
Lyman	0.7	0.7	0.3	0.6	0.3	0.0	0.0	0.1
Millennium	1.0	1.7	1.0	1.2	0.7	0.3	0.3	0.4
Overland	0.0	0.3	0.0	0.1	0.3	0.0	0.3	0.2
Peregrine	1.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Striker	2.0	2.0	2.0	2.0	1.3	1.0	1.3	1.2
WB-Matlock	2.0	1.3	0.0	1.1	0.0	0.0	0.3	0.1
Site Average	1.2	1.4	1.3	1.3	0.4	0.4	0.4	0.4
LSD 5%								

Height (in)

	Height (in)			
Variety	Tolna	Leeds	Lakota	Ave
Accipiter	36	37	36	36
Boomer	31	31	31	31
Camelot	35	38	36	36
CDC Falcon	36	35	35	35
Hawken	33	34	33	33
Jerry	42	41	42	42
Lyman	37	36	36	36
Millennium	38	38	40	39
Overland	36	37	37	37
Peregrine	43	42	42	42
Striker	35	33	33	34
WB-Matlock	38	38	38	38
Site Average	37	37	37	37
LSD 5%				

Lodging (0-9)

	Lodging (0-9)			
Variety	Tolna	Leeds	Lakota	Ave
Accipiter	0.3	0.3	0.0	0.2
Boomer	0.3	0.5	0.0	0.3
Camelot	0.3	0.2	0.7	0.4
CDC Falcon	1.7	1.8	1.7	1.7
Hawken	0.3	0.0	0.2	0.2
Jerry	0.7	2.3	1.8	1.6
Lyman	2.7	3.5	3.6	3.3
Millennium	0.3	0.7	1.0	0.7
Overland	0.3	0.3	0.8	0.5
Peregrine	1.2	2.2	2.3	1.9
Striker	0.3	0.3	0.3	0.3
WB-Matlock	0.3	0.8	1.8	1.0
Site Average	0.7	1.1	1.2	1.0
LSD 5%				

Early Flower Fungicide = Prosaro at early flower, 6.5 oz/a + NIS 0.125% v/v

Height and lodging data is an average of fungicide and no fungicide plots

HRWW Disease Summary, Langdon 2007-2010

	Foliar Necrosis (%)					Leaf Rust (%)				FHB Field Severity (%)				FDK (%) Tombstones				Stripe	Bacterial
	NoF*			wF*		NoF*		wF*		NoF*		wF*		NoF*		wF*		Rust (%)	Leaf (%)
Variety	**08**	**09**	**10**	**10**	**3yr**	**07**	**10**	**10**	**2yr**	**08**	**10**	**10**	**2yr**	**08**	**10**	**10**	**2yr**	**2010**	**2009**
CDC Falcon	35	58	90	27	52	24	1	0	8	0.2	2.2	0.3	0.9	0.3	15	9	8	0.3	0.0
Jagalene	43	55	100	23	55	25	8	0	11	1.8	15.5	2.8	6.7	5.0	32	23	20	2.0	11.3
Jerry	24	25	30	12	23	5	0	0	2	0.2	0.1	0.0	0.1	0.8	6	4	4	0.3	0.0
Millennium	25	58	37	10	32	15	1	0	5	0.1	0.5	0.1	0.2	1.0	18	8	9	0.0	3.8
Wesley	43	35	53	27	40	18	3	0	7	0.7	18.2	2.9	7.3	1.5	39	18	19	0.3	0.0
Yellowstone	43	48	83	27	50	30	8	0	13	2.0	4.8	0.3	2.4	7.8	28	11	15	0.0	3.5
Darrell	23	25	67	10	31	35	2	0	12	0.2	3.3	0.2	1.2	0.3	14	4	6	0.7	0.0
Hawken	25	45	73	23	42	--	0	0	--	0.3	14.2	3.6	6.0	0.8	25	19	15	1.0	6.3
CDC Accipiter	30	30	57	17	33	--	1	0	--	0.3	0.5	0.0	0.3	1.8	14	2	6	0.3	0.0
CDC Peregrine	15	15	53	20	26	--	0	0	--	0.1	0.4	0.1	0.2	0.0	5	3	3	0.3	0.0
Lyman	28	35	30	13	27	--	0	0	--	0.2	0.2	0.1	0.2	0.3	10	7	6	0.0	0.0
Overland	23	25	30	13	23	--	0	0	--	0.1	1.4	0.3	0.6	0.5	17	11	10	0.3	0.0
Art	--	43	57	17	--	--	0	0	--	--	1.6	0.2	--	--	17	6	--	0.3	2.5
Boomer	--	28	47	17	--	--	0	0	--	--	0.5	0.0	--	--	16	8	--	1.0	0.0
Mace	--	55	57	23	--	--	0	0	--	--	0.7	0.0	--	--	17	7	--	0.0	0.0
Striker	--	55	70	27	--	--	1	0	--	--	4.2	2.3	--	--	22	14	--	0.0	0.5
Decade	35	--	90	13	--	--	8	0	--	1.1	4.6	1.2	2.3	2.5	42	23	22	0.0	--
WB-Matlock	--	48	63	30	--	--	2	0	--	--	0.2	0.3	--	--	11	4	--	0.7	0.0
Camalot	--	--	77	23	--	--	0	0	--	--	7.1	2.0	--	--	31	14	--	0.0	--
Carter	--	--	93	20	--	--	0	0	--	--	2.2	0.5	--	--	16	4	--	0.0	--
SY-Wolf	--	--	33	13	--	--	0	0	--	--	8.7	0.5	--	--	28	13	--	0.7	--

NoF = No Fungicide, wF = Prosaro at early flower, 6.5 oz/a + NIS 0.125% v/v

2009 had very low levels of leaf rust and FHB

Winter Cereals

Sustainability in Action

Winter Cereals Sustainability in Action, in northeast ND, is a joint research and education initative between Ducks Unlimited, Bayer Crop Science, NDSU Extension Service and NDSU Langdon R/E Center. The objective is to improve agricultural productivity of winter wheat. Thus, increasing winter wheat acres to provide improved habitat for wildlife in areas with low levels of grassland. This program now provides all salaries and operating funds for the winter wheat effort based at the NDSU Lagndon R/E Center. Fungicide, fertility and weed control research on winter wheat is also in progress. Contact John Lukach at the Langdon R/E Center for additional information.