Late Planting Implications for Marketing Spring Wheat

Producer Marketing Management— CURRENT REPORT #3

by **George Flaskerud** and **Richard Shane**[1]

A window of opportunity for selling the balance of old crop spring wheat as well as a portion of anticipated production may be availing itself to producers. Prices for old crop and new crop spring wheat have increased sharply in response to planting delays.

Planting Progress

Planting progress this year in North Dakota ranks among the slowest ever (Table 1). Records since 1965 show that planting progress of spring wheat in North Dakota was the most prolonged during the years 1970, 1972, 1974, 1975 and 1979. During those five years, the amount planted by May 10 ranged from 2 percent to 22 percent and averaged 11 percent. This year, 8 percent was planted by May 7 and 12 percent by May 14.

The situation in South Dakota is even bleaker. During those same years, planting progress of spring wheat ranged from 48 percent to 94 percent and averaged 71 percent. This year, 17 percent was planted by May 7 and 18 percent by May 14.

Planting progress is way behind normal in Minnesota too. Only in Montana is planting progress close to normal.

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Yields

The late planting could take its toll on yields (Table 2). The U.S. yield for other spring wheat (mostly hard red spring wheat) during the five late North Dakota springs varied from 5.3 bushels below a moving average to 2.8 bushels above. It was 5.3 bushels below in 1974 when only 52 percent of the spring wheat in North Dakota was planted by May 30. On average, the yield was 0.4 bushels below the moving average during the late springs. The five-year moving average for other spring wheat in 1995 is 35.5 bushels.

The response to late plantings by individual states is quite variable but the conclusion is the same as for the U.S. as a whole: yields are not drastically changed by late planting. Weather conditions after planting appear to be more significant. Yields and the deviations in yields from the five-year moving average are presented for select states in Tables 3-6 with a summary of the late spring years in Table 7.

North Dakota, South Dakota, Minnesota and Montana produce 80-90 percent of other spring wheat in the U.S. annually. The annual percent of U.S. other spring wheat production in these states is presented in Table 8.

The moving average for this analysis was an average of the five years prior to the current year. For example, the moving average for 1974 consisted of an average of the yields for the 1969-1973 period, while for 1979 the moving average was an average of the yields for the 1974-1978 period.

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Acres

Will farmers plant as many acres to spring wheat as they intended in March? Probably not. Compared to the other late springs, 1995 is unique.

Producers in South Dakota may be considering alternatives since planting progress there as of May 14 was so very low compared to progress during any other year looking back to 1970. Also in 1995, producers have the 0-92 government farm program alternative that they did not have during other late springs, which may offer benefits under certain conditions to producers who cannot plant or who plant an alternative crop such as sunflowers or flax.

During the five late North Dakota springs, actual plantings of other spring wheat varied from 95 percent to 106 percent of intended plantings (Table 9). On average, producers did not make substantial changes in their planting plans.

Historical Prices

Although it is not known yet how large a crop will be produced in 1995, knowing something about the pattern of prices during short-crop years may be useful when developing a marketing plan. This plan will need to be updated as the growing season unfolds.

Prices tend to trend up during most years with smaller-than-expected new crop supplies (Flaskerud and Johnson). A pronounced increase occurred during the growing season in 1988 when both the all wheat and hard red spring wheat (HRS) new crop supplies were smaller than expected. The increase was less pronounced in 1980 when only HRS wheat new crop supplies were smaller than expected.

During planting delays, wheat futures prices may rise more than supply and demand conditions warrant as expectations and psychology tend to cause an over reaction. This tendency to push prices higher than required could offer an early marketing opportunity which may last for only a few days.

Minneapolis September futures prices generally increased during the late planting years (Figure 1). September futures increased sharply during June in 1974 and 1979, and during late-June through mid-August in 1975. While the September futures price dropped sharply during late-June through July in 1979, it increased through mid-July in 1974 before decreasing into harvest.

Supply and Demand Fundamentals

Price inferences from the delayed planting years to 1995 must be made with caution since the world situation has changed. The export situation is different as is the price response to grain stock levels.

The level of exports in 1995 may be a little higher than the level of exports during 1974 and 1975 (Figure 2). But, importers and exporters have

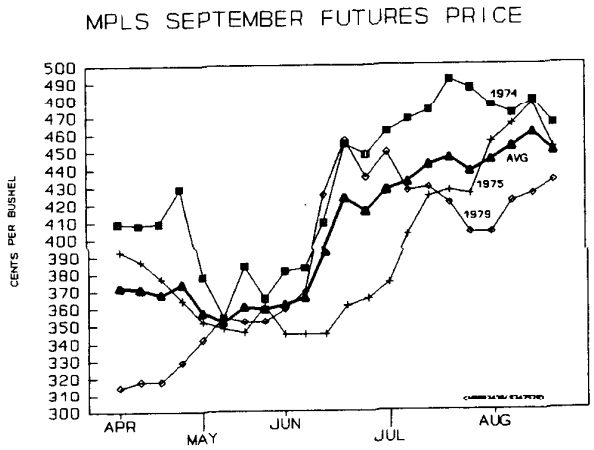

Figure 1

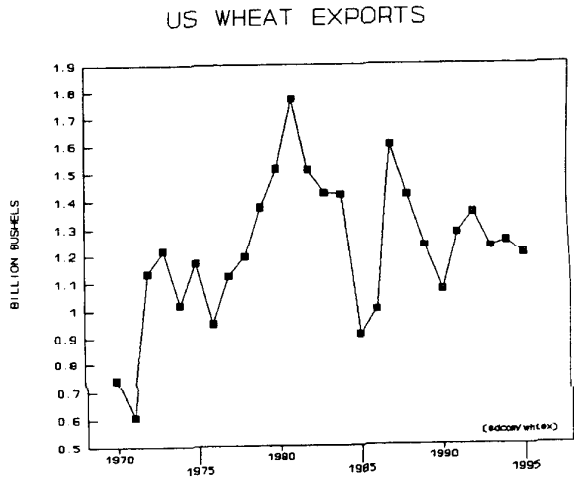

Figure 2

better knowledge today of world conditions, and unexpected imports may be less likely than in the early 1970s. Also, China is a major importer today instead of the former Soviet Union, and may react differently to supply and demand conditions at home and abroad.

U.S. and world ending stocks of wheat as a percent of total use were projected by USDA on May 11 to be about as tight as during the past several years and tighter than during the mid-1970s (Figure 3). Price responses in recent years have been modest since world supplies have not been threatened. However, sharply higher prices are certainly a potential. Tight world supplies could lead to a significant post harvest rally similar to the one in 1994 when wheat prices peaked in October-December.

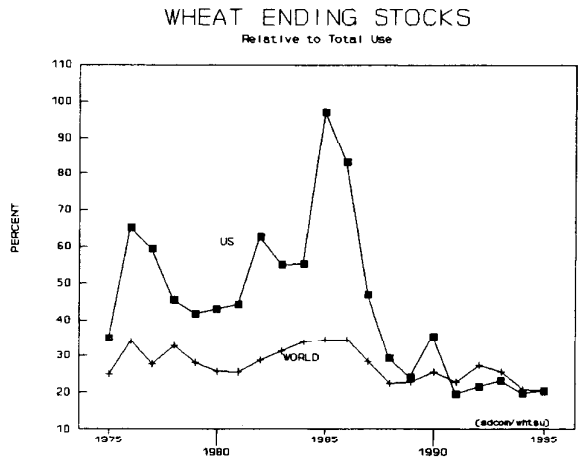

Figure 3

Protein Levels

Protein premiums are influenced by a number of factors, and predicting premiums is not an easy matter. The amount of protein in the hard red winter (HRW) wheat crop is generally regarded as one of the most important factors because of the large size of that crop. The amount of protein in the HRS wheat crop is also considered to be very important. In addition, other quality factors such as damage likely play an important role in determining protein premiums.

Protein levels vary considerably and do not appear highly correlated to delayed planting of spring wheat (Figure 4). In the Kansas HRW wheat crop, protein was relatively low during 1974 and 1975, but probably close to average in 1979. In the North Dakota HRS wheat crop, protein was relatively high during 1974, close to average in 1975 and relatively low in 1979.

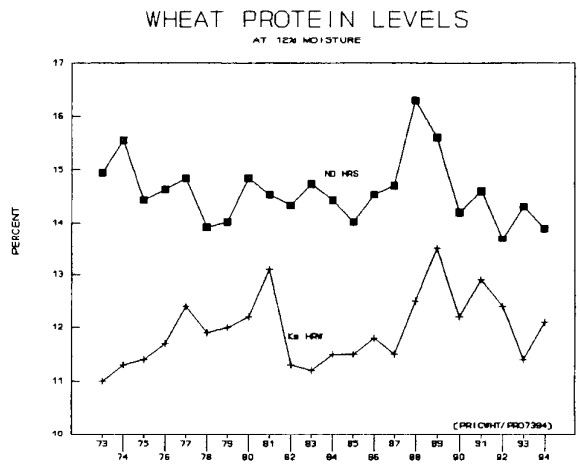

Figure 4

Marketing Strategy

Producers face a major marketing problem this spring: fear that prices may continue increasing and fear that their wheat yield will be low or that they may not get all their wheat planted. For this situation, options are clearly a desirable low stress marketing tool. A put option establishes a price floor but does not require a delivery commitment.

The purchase of put options may be the appropriate strategy on 20-35 percent of anticipated production for now. Additional purchases of put options may be warranted in June if price strength continues. Downside price risk from early-May levels appears to be relatively low.

A similar alternative is the synthetic put. The producer sells futures and buys calls. If the price goes up, the gain on the calls may partly offset the loss in the futures. Another choice on a price rally is to offset the call and hold the futures for downside price protection until harvest.

A payoff to storage for 1995 wheat appears likely at this time. In a year of tight world and U.S. supplies, a post harvest rally is very probable. The 1995 supply condition will most likely approximate the 1994 spring wheat carryover and stocks-to-use situation, which led to the fall rally. On the other hand, if wheat futures are around $4.00 at harvest time due to continued weather problems and short supply, a storage strategy may be questionable. If weather concerns keep wheat prices volatile throughout the marketing year, producers should update their marketing plan as conditions change.

Options and elevator contracts are explained in North Central Regional Extension Publication No. 217, Fact Sheet No. 18 (Flaskerud and Shane). Additional information on options can be found in Fact Sheet No. 1 (Campbell) and in a publication by the Minneapolis Grain Exchange entitled *The Power of Options*.

Data

Planting progress information was obtained from the National Agricultural Statistics Service by state. Supply and demand information was taken from USDA publications. September wheat futures prices were provided by the Minneapolis Grain Exchange, closing prices on Thursdays were used.

References

Campbell, Gerald. *Primer on Agricultural Options*. North Central Regional Publication No. 217, Fact Sheet No. 1. Fargo: North Dakota State University, Extension Service.

Flaskerud, George, and Johnson, Demcey. *Seasonal Price Patterns for Crops*. Publication No. EB-61. Fargo: North Dakota State University, Extension Service, August 1993.

Flaskerud, George, and Shane, Richard. *Use of Crop Futures and Options by the Nontrader*. North Central Regional Publication No. 217, Fact Sheet No. 18. Fargo: North Dakota State University, Extension Service, June 1994.

Minneapolis Grain Exchange. *The Power of Options*. Minneapolis: Author, 1991.

Table 1. *Spring wheat planting progress (percent planted) by May 10, 20 and 30 in select states.*

	North Dakota			South Dakota			Minnesota			Montana		
	10	20	30	10	20	30	10	20	30	10	20	30
1965	41	81	95									
1966	66	82	97									
1967	25	58	94									
1968	91	96	99									
1969	70	89	98									
1970	13	29	61	84	100	100				19	50	90
1971	57	83	97	96	100	100				74	91	98
1972	15	47	73	64	85					62	89	94
1973	70	88	97	97	100	100	95	99	99	67	90	97
1974	22	34	52	94	100	100	35	40	55	76	86	
1975	5	27	71	48	88	100	19	68	96	4	37	80
1976	71	92	99	100	100	100	99	99	99	79	94	100
1977	81	95	99	99	100	100	98	99	99	85	93	97
1978	23	55	88	57	87	100	60	93	99	44	65	78
1979	2	21	70	63	93	100	11	46	80	11	50	96
1980	73	85	93	100	100	100	97	99	99	82	90	
1981	77	92	97	100	100	100	97	99	99	80	90	
1982	44	55	81	86	94	99	77	85	96	66	77	86
1983	47	71	95	83	95	99	70	90	99	79	88	96
1984	39	83	98	66	87	100	77	96	99	78	88	98
1985	88	97	99	100	100	100	90	97	99	79	97	100
1986	34	71	96	54	81	96	52	76	95	73	84	94
1987	87	97	99	99	100	100	99	99	99	75	96	100
1988	82	93	98	100	100	100	99	99	99	89	97	100
1989	58	90	98	84	99	100	72	96	99	47	77	93
1990	75	93	99	100	100	100	90	98	99	84	96	98
1991	72	91	99	96	100	100	86	99	99	71	88	96
1992	72	92	99	100	100	100	86	95	99	89	95	98
1993	68	93	100	81	94	98	72	99	99	80	91	98
1994	48	83	96	86	97	100	64	95	99	77	92	98
1995	10			17			21			64		
Five latest North Dakota springs: 1970, 1972, 1974, 1975 and 1979												
Avg	11.4	31.6	65.4	70.6	93.2	80.0	21.7	51.3	77.0	34.4	62.4	90.0
Min	2.0	21.0	52.0	48.0	85.0		11.0	40.0	55.0	4.0	37.0	80.0
Max	22.0	47.0	73.0	94.0	100.0	100.0	35.0	68.0	96.0	76.0	89.0	96.0

(plprog1)

Table 2. Yields, five-year moving average of yields and deviations of yields from the moving average of U.S. other spring wheat (mostly hard red spring wheat).

	Yield	Five–Year Moving Average	Deviations of Yields From Moving Average
1965	23.6		
1966	21.6		
1967	23.4		
1968	26.0		
1969	27.3		
1970	23.6	24.4	−0.7
1971	30.7	24.4	6.3
1972	29.0	26.2	2.8
1973	28.3	27.3	1.0
1974	22.4	27.8	−5.3
1975	26.8	26.8	0.0
1976	26.8	27.4	−0.6
1977	28.6	26.7	1.9
1978	30.0	26.6	3.4
1979	28.2	26.9	1.3
1980	25.3	28.1	−2.8
1981	30.6	27.8	2.8
1982	33.8	28.5	5.3
1983	31.7	29.6	2.1
1984	35.3	29.9	5.4
1985	35.4	31.4	4.1
1986	32.3	33.4	−1.1
1987	33.7	33.7	0.0
1988	19.5	33.7	−14.2
1989	28.8	31.2	−2.5
1990	36.7	29.9	6.8
1991	33.4	30.2	3.2
1992	41.8	30.4	11.4
1993	33.7	32.0	1.6
1994	31.8	34.9	−3.1
1995		35.5	
Five latest North Dakota springs: 1970, 1972, 1974, 1975 and 1979			
Avg	26.0	26.4	−0.4
Min	22.4	24.4	−5.3
Max	29.0	27.8	2.8

(plprog2)

Table 3. Yields, five-year moving average of yields and deviations of yields from the moving average of hard red spring wheat produced in North Dakota.

	Yield	Five–Year Moving Average	Deviations of Yields From Moving Average
1965	24.0		
1966	22.0		
1967	22.0		
1968	26.0		
1969	28.0		
1970	23.0	24.4	−1.4
1971	31.5	24.2	7.3
1972	29.7	26.1	3.6
1973	27.5	27.6	−0.1
1974	20.5	27.9	−7.4
1975	25.5	26.4	−0.9
1976	24.5	26.9	−2.4
1977	25.0	25.5	−0.5
1978	29.0	24.6	4.4
1979	26.5	24.9	1.6
1980	18.5	26.1	−7.6
1981	28.0	24.7	3.3
1982	31.0	25.4	5.6
1983	27.0	26.6	0.4
1984	34.0	26.2	7.8
1985	37.0	27.7	9.3
1986	31.0	31.4	−0.4
1987	31.0	32.0	−1.0
1988	15.0	32.0	−17.0
1989	24.0	29.6	−5.6
1990	36.0	27.6	8.4
1991	31.0	27.4	3.6
1992	42.0	27.4	14.6
1993	31.0	29.6	1.4
1994	31.5	32.8	−1.3
1995		34.3	
Five latest North Dakota springs: 1970, 1972, 1974, 1975 and 1979			
Avg	25.0	26.0	−0.9
Min	20.5	24.4	−7.4
Max	29.7	27.9	3.6

(plprog3)

Table 4. Yields, five-year moving average of yields and deviations of yields from the moving average of hard red spring wheat produced in South Dakota.

	Yield	Five–Year Moving Average	Deviations of Yields From Moving Average
1965	17.5		
1966	15.0		
1967	24.0		
1968	23.0		
1969	20.5		
1970	20.0	20.0	0.0
1971	28.0	20.5	7.5
1972	24.0	23.1	0.9
1973	23.0	23.1	−0.1
1974	15.0	23.1	−8.1
1975	18.0	22.0	−4.0
1976	11.0	21.6	−10.6
1977	23.5	18.2	5.3
1978	20.0	18.1	1.9
1979	22.0	17.5	4.5
1980	18.0	18.9	−0.9
1981	22.0	18.9	3.1
1982	25.0	21.1	3.9
1983	26.0	21.4	4.6
1984	39.0	22.6	16.4
1985	30.0	26.0	4.0
1986	25.0	28.4	−3.4
1987	27.0	29.0	−2.0
1988	12.0	29.4	−17.4
1989	22.0	26.6	−4.6
1990	32.0	23.2	8.8
1991	28.0	23.6	4.4
1992	34.0	24.2	9.8
1993	27.0	25.6	1.4
1994	26.0	28.6	−2.6
1995		29.4	
Five latest North Dakota springs: 1970, 1972, 1974, 1975 and 1979			
Avg	19.8	21.1	−1.3
Min	15.0	17.5	−8.1
Max	24.0	23.1	4.5

(plprog4)

Table 5. Yields, five-year moving average of yields and deviations of yields from the moving average of hard red spring wheat produced in Minnesota.

	Yield	Five–Year Moving Average	Deviations of Yields From Moving Average
1965	27.5		
1966	22.5		
1967	32.0		
1968	33.0		
1969	30.0		
1970	27.5	29.0	−1.5
1971	38.0	29.0	9.0
1972	33.0	32.1	0.9
1973	39.0	32.3	6.7
1974	29.0	33.5	−4.5
1975	31.0	33.3	−2.3
1976	32.5	34.0	−1.5
1977	40.0	32.9	7.1
1978	33.5	34.3	−0.8
1979	35.0	33.2	1.8
1980	32.5	34.4	−1.9
1981	40.0	34.7	5.3
1982	40.0	36.2	3.8
1983	37.0	36.2	0.8
1984	48.0	36.9	11.1
1985	55.0	39.5	15.5
1986	37.0	44.0	−7.0
1987	41.0	43.4	−2.4
1988	23.0	43.6	−20.6
1989	38.0	40.8	−2.8
1990	49.0	38.8	10.2
1991	31.0	37.6	−6.6
1992	50.0	36.4	13.6
1993	31.0	38.2	−7.2
1994	28.0	39.8	−11.8
1995		37.8	
Five latest North Dakota springs: 1970, 1972, 1974, 1975 and 1979			
Avg	31.1	32.2	−1.1
Min	27.5	29.0	−4.5
Max	35.0	33.5	1.8

(plprog5)

Table 6. Yields, five-year moving average of yields and deviations of yields from the moving average of hard red spring wheat produced in Montana.

	Yield	Five–Year Moving Average	Deviations of Yields From Moving Average
1965	20.5		
1966	22.0		
1967	18.0		
1968	22.0		
1969	27.0		
1970	23.5	21.9	1.6
1971	23.0	22.5	0.5
1972	26.0	22.7	3.3
1973	21.0	24.3	−3.3
1974	19.0	24.1	−5.1
1975	25.5	22.5	3.0
1976	29.5	22.9	6.6
1977	22.0	24.2	−2.2
1978	29.0	23.4	5.6
1979	20.5	25.0	−4.5
1980	22.5	25.3	−2.8
1981	26.0	24.7	1.3
1982	31.0	24.0	7.0
1983	27.0	25.8	1.2
1984	17.5	25.4	−7.9
1985	11.0	24.8	−13.8
1986	27.0	22.5	4.5
1987	29.0	22.7	6.3
1988	12.0	22.3	−10.3
1989	25.0	19.3	5.7
1990	22.0	20.8	1.2
1991	34.0	23.0	11.0
1992	31.0	24.4	6.6
1993	37.0	24.8	12.2
1994	30.0	29.8	0.2
1995		30.8	
Five latest North Dakota springs: 1970, 1972, 1974, 1975 and 1979			
Avg	22.9	23.2	−0.3
Min	19.0	21.9	−5.1
Max	26.0	25.0	3.3

(plprog6)

Table 7. Summary of yield deviations from the five-year moving average for spring wheat in selected states and for other spring wheat in the U.S. during the five latest North Dakota springs.

	North Dakota	South Dakota	Minnesota	Montana	U.S.
1970	−1.4	0.0	−1.5	1.6	−0.7
1972	3.6	0.9	0.9	3.3	2.8
1974	−7.4	−8.1	−4.5	−5.1	−5.3
1975	−0.9	−4.0	−2.3	3.0	0.0
1979	1.6	4.5	1.8	−4.5	1.3
Avg	−0.9	−1.3	−1.1	−0.3	−0.4
Min	−7.4	−8.1	−4.5	−5.1	−5.3
Max	3.6	4.5	1.8	3.3	2.8

(plprog7)

Table 8. Percent of U.S. other spring wheat production in select states.

	North Dakota	South Dakota	Minnesota	Montana	Total
1965	50.7	11.7	8.7	15.2	86.3
1966	53.4	12.0	8.8	17.2	91.4
1967	50.4	16.0	12.4	12.3	91.1
1968	53.8	14.6	12.6	13.2	94.2
1969	55.5	10.7	11.1	14.7	92.0
1970	52.7	11.0	10.6	19.4	93.7
1971	54.4	10.9	14.9	14.0	94.2
1972	52.0	9.4	16.8	16.1	94.3
1973	47.9	10.2	21.1	10.6	89.8
1974	42.0	9.2	23.8	11.3	86.3
1975	43.3	9.7	23.2	11.3	87.5
1976	43.0	4.5	27.5	13.4	88.4
1977	39.3	12.2	29.5	10.6	91.6
1978	42.9	10.5	20.9	12.8	87.1
1979	38.7	10.8	20.1	12.3	81.9
1980	28.5	10.1	26.1	15.5	80.2
1981	39.1	10.5	2.6	14.4	66.6
1982	38.4	10.8	22.1	16.5	87.8
1983	37.7	10.2	20.9	15.0	83.8
1984	42.6	14.3	24.1	7.9	88.9
1985	43.7	13.3	26.9	5.4	89.3
1986	42.0	10.5	20.8	14.9	88.2
1987	42.1	10.8	21.9	14.8	89.6
1988	34.3	7.6	24.1	8.8	74.8
1989	35.5	9.2	19.8	17.4	81.9
1990	47.5	11.5	23.1	9.2	91.3
1991	42.1	9.7	12.7	16.2	80.7
1992	50.4	11.2	18.1	10.4	90.1
1993	48.5	9.6	12.3	17.7	88.1
1994	49.6	9.2	12.5	17.9	89.2

(plprog8)

Table 9. Intended planting, actual planting and percent change in intended planting of U.S. other spring wheat (mostly hard red spring wheat).

	Intended Planting	Actual Planting	Percent Change
1970	8.54	8.95	1.05
1971	11.38	12.81	1.13
1972	10.68	10.14	0.95
1973	12.34	12.80	1.04
1974	15.38	14.85	0.97
1975	13.38	14.12	1.06
1976	16.44	17.83	1.08
1977	15.27	15.76	1.03
1978	13.25	14.33	1.08
1979	14.78	15.60	1.06
1980	17.09	17.49	1.02
1981	17.00	16.93	1.00
1982	17.10	16.43	0.96
1983	13.96	11.75	0.84
1984	13.84	12.52	0.90
1985	13.53	14.62	1.08
1986	14.19	15.11	1.06
1987	13.52	13.68	1.01
1988	12.76	13.39	1.05
1989	15.70	17.73	1.13
1990	17.00	16.72	0.98
1991	14.70	15.60	1.06
1992	17.24	18.75	1.09
1993	18.96	18.34	0.97
1994	18.08	18.32	1.01
Five latest North Dakota springs: 1970, 1972, 1974, 1975 and 1979			
Avg	12.55	12.73	1.01
Min	8.54	8.95	0.95
Max	15.38	15.60	1.06

(plprog9)

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