

Cost Trade-offs for Drying Wheat and Planting DC Soybeans¹

An early June survey of local cash prices for wheat and soybeans showed current levels at \$5.00 and \$9.80/bu, respectively. Energy prices are near the same level as last year with LP gas around \$1.50 per gallon, so drying costs will also be similar this spring. Armed with this information, double crop farmers are deciding whether it's better to harvest wheat early and dry it with heated air so that soybeans can be planted earlier to achieve their maximum yield potential...OR...is it better to let the wheat dry in the field and delay soybean planting a few days. To help put some numbers to that decision, a spreadsheet was developed that takes into account grain and energy prices along with anticipated yield losses for both crops and the field drying rate for wheat. When combined, this information can be used to calculate gross profits from the soybean crop and net returns to the wheat enterprise after subtracting out drying costs.

For both crops, the spreadsheet uses price, yield, and yield loss per day. For wheat, a field drying rate is also assumed in addition to the price of LP gas to calculate the drying cost as the harvest season progresses. Of course, towards the end of the harvest season, wheat will be dry enough to avoid a drying charge, but by that time soybean yields will have fallen off dramatically.

To run thru an example, consider the costs of the most important variables a week before and a week after the optimum harvest date. With the grain and energy prices mentioned earlier, average yields of 50 bu/ac for soybeans and 80 for wheat, a daily soybean yield loss of 2% for delayed planting, a wheat yield loss of 0.5% for each day that harvest is delayed, and a wheat moisture level of 24% when harvest begins, the drying and handling cost would be about 23 cents per bushel (or \$19 per acre) and the returns would be \$490/ac for soybeans and \$381/ac for wheat after paying for drying, as shown in Table 1. However, if harvest is delayed a week beyond the optimum date, the returns falls sharply to \$767 per acre.

Table 1. Returns to the soybean and wheat enterprises when wheat harvest is delayed for field drying over a two-week period.

Days before or after optimum	Soybean @ \$ 9.80		Wheat @ \$ 5.00		\$/bu						Gross Soy +
	Gross		Gross	Yield	Harvest				Net	Net Wheat	
	Yield	Return	Yield	Return	loss	MC	Dry + Handling		D + H + Y	Return	Returns
	bu/ac	\$/ac	bu/ac	\$/ac	\$/ac	%	\$/bu	\$/ac	\$/ac	\$/ac	\$/ac
-7	50.0	\$ 490	80.00	\$ 400	\$ -	24.0	\$ 0.23	\$ 19	\$ 19	\$ 381	\$ 871
0	50.0	\$ 490	77.2	\$ 386	\$ 14	17.0	\$ 0.09	\$ 7	\$ 21	\$ 366	\$ 856
7	43.4	\$ 425	74.6	\$ 373	\$ 27	12.5	\$ 0.06	\$ 4	\$ 31	\$ 342	\$ 767

Data in the table are shown in more detail in Figure 1, where daily changes in soybean and wheat yield losses, wheat drying and hauling and the total of these costs are illustrated. The slight rise in cost for wheat towards the end of this period is due to over drying, which amounts to 6 cents per bushel for each point of moisture below 13.5%. Corresponding net returns for wheat harvest and gross returns for the soybean crop are shown in Figure 2, where losses average about \$2 per acre-day before the optimum harvest date and increase to about \$12/ac for each day soybean planting is delayed afterward. For these reasons, more farmers may be interested in drying wheat this spring to boost soybean yields and net wheat profits. More information on wheat drying and this spreadsheet is available at the UK BAE website (www.uky.edu/bae).

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Fig. 1. Changes in operating costs for drying wheat/planting soybeans early vs field drying/delayed planting with current grain and energy prices (\$9.80 for beans, \$5.00 for wheat and \$1.50 for LP gas).

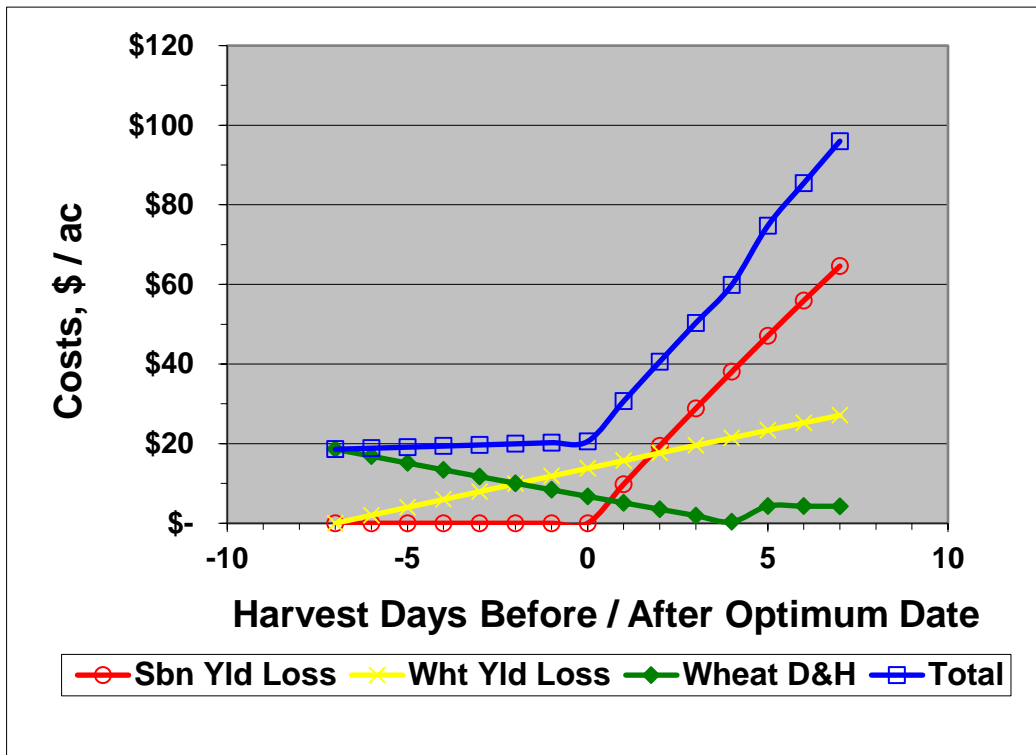


Fig. 2. Gross returns to double crop enterprises for 2018 with stated assumptions for grain and energy prices.

