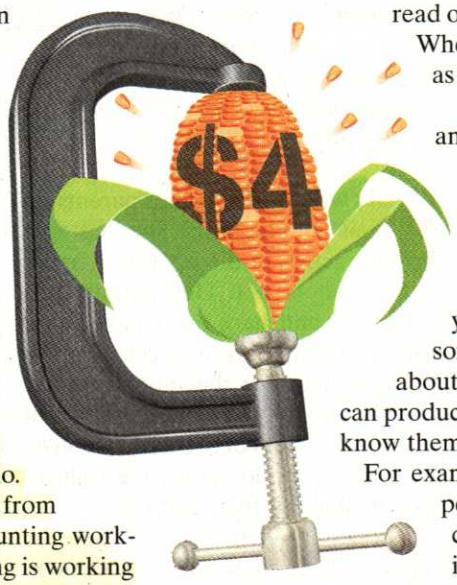
Mind Your Numbers

Knowing per-bushel, per-acre and per-field costs help farmers meet price uncertainty head-on

BY ED CLARK

Most farmers don't go into business so they can stare at spreadsheets on computer screens. Yet few—if any—tasks on the farm are as important as having an accurate read on your cost of production—more specifically, on a per-acre, per-bushel and even a per-field and whole-farm basis. Crunching numbers is necessary to squeeze out every cent of profitability.

This is hardly a new topic, but less than 5% of commercial farmers know their cost of production on a farm basis, and fewer still know on an enterprise basis, estimates Danny Klinefelter, ag economist at Texas A&M University. As we enter a new era of tighter margins with less room for error, those farmers most likely to survive and thrive will be those with a firm grip on their cost of production, he says. Such knowledge enables producers to calculate what-if scenarios and shock-test their balance sheets. "It's not only 'what-if' but 'what do I do if,' " Klinefelter says.



"I have grown to dislike accounting," admits Dick Wittman, a crop, livestock and timber farmer in Culdesac, Idaho. Such a statement is a bit of a surprise from Wittman, who teaches managerial accounting workshops. "What I hate more than accounting is working without good financial information," he says, which is why he invests so much time crunching numbers and beta testing accounting software.

Wittman says it's impossible to make sound financial decisions without understanding costs on a micro level, such as whether to lease equipment, purchase equipment—either on your own or share equipment with other farmers—or go the custom farming route. "How can you market without knowing your cost of production?"

Overestimation of costs can be a problem, too. Failure to follow good accounting procedures for unusual revenue and expense transactions can result in grossly overstating production costs, Wittman says, which can equally lead to poor marketing decisions. For farmers whose variable costs are high in relation to fixed costs, one of the best ways to boost returns given the present outlook is through improving cost efficiency. "The only way you can do that is to know what contributes to your cost structure," Wittman adds.

Experts are mixed on how precise farmers need to be on financial numbers and their calculation. For example, the most accurate calculation of production costs requires tracking not only the price and quantity of inputs but the costs of each piece of equipment per task and per field, how much fuel is used, even how much labor costs per task.

For many producers, that's probably too complicated and time consuming, says Mike Duffy, ag economist at Iowa State University. Most farmers have an accurate read on seed, fertilizer and crop chemical costs. Where it gets sticky is calculating costs such as grain drying and machinery.

While less precise and perhaps less ideal, an easier way is to keep track of total equipment costs and allocate it by crop after the fact, Duffy says. Combined with other costs, this will get farmers close to knowing production costs.

Grain farmers have enjoyed a five-year run of good prices, so much so that some producers have become a bit cavalier about monitoring production costs. No longer can producers afford to estimate costs; they need to know them inside and out, he says.

For example, one farmer can rent land for $300 per acre and lose money, while another can show a profit. "The risk of not knowing your costs is that you can end up paying too much," Duffy says.

Where to turn for help. For producers who are in the beginning stages of determining costs, Duffy recommends using spreadsheets available through land-grant universities, such as the sample on page 26. In addition, farmers can compare their costs to those developed by farm management associations and other benchmarking services.

Even so, some farm management association data are not actual but allocated, says Gary Schnitkey, University of Illinois ag economist. For example, University of Illinois farm management data uses real numbers supplied by farmers on variable costs such as fertilizer, seed, drying and storage, but allocated—or estimated—costs for power, machinery, land and labor. Allocated costs are determined by average costs over time and might differ farmer to farmer.

Be careful about using Extension data for calculating overhead costs. "Your costs are what they are, not what they ▶

To access numerous university spreadsheets to help estimate production costs, visit
www.FarmJournal.com/production_costs

could be," Wittman says. University templates are useful as long as you are using your own data for cost of equipment, depreciation, labor and other overhead costs.

The precision that Wittman advocates requires work and skills that not all farmers possess. "It takes a CFO mindset," he acknowledges. A better way for those who don't enjoy number crunching is to hire consultants to do the work for them. "Why do something you don't like doing? There are all kinds of CPAs who can help," he adds.

For example, Kennedy and Coe's AgKnowledge service tracks all costs and determines production costs by crop rather than by calendar year. "Growers can measure their costs against similar farms to make much more informed decisions than those anecdotal coffee-shop comparisons provide," says Alan Grafton, a Kennedy and Coe partner. Costs are similar to those charged by crop consultants.

How to Calculate Corn Breakevens

	Fixed	Variable	Your Estimate
PREHARVEST MACHINERY	$21.00	$19.80	$_____
SEED, CHEMICAL, ETC.	**Units**		
Seed, 3.78 per 1000 k	25,000	$94.60	$_____
Nitrogen, $0.44 per lb.	131	$57.64	$_____
Phosphate, $0.43 per lb.	60	$25.80	$_____
Potash, $0.41 per lb.	48	$19.68	$_____
Lime (yearly cost)		10.00	$_____
Herbicide		26.00	$_____
Crop Insurance		18.00	$_____
Miscellaneous		9.00	$_____
Interest on preharvest variable costs (8 months at 5%)		9.35	$_____
Total		$270.07	$_____
HARVEST MACHINERY			
Combine	$20.80	$11.30	$_____
Grain Cart	6.50	3.40	$_____
Haul	7.20	6.40	$_____
Dry (LP gas, $1.75 per gal.)	8.00	33.60	$_____
Handle (auger)	2.88	3.68	$_____
Total	$45.38	$58.38	$_____
LABOR			
2.6 hours, $13 per hour	$33.80		$_____
LAND			
Cash rent equivalent	$244.00		$_____
TOTAL FIXED, VARIABLE			
Per acre	$344.18	$348.25	Yield _____
Per bushel	$2.15	$2.18	bu./acre____
TOTAL COST PER ACRE	$692.43		$_____
TOTAL COST PER BUSHEL	$4.33		$_____

SOURCE: IOWA STATE UNIVERSITY.

This work sheet, based on 160-bu.-per-acre yield in a corn-following-soybean operation, from Iowa State University is one example of the tools available for farmers to determine their cost of production.

Catch any mistakes. Such detailed analysis that contrasts invoices against production data—on both a cash and accrual basis—can yield surprises.

"In one case, our analysis showed that cottonseed was not applied on 700 acres as invoiced," Grafton says. "That was a $40,000 mistake, which was refunded to the farmer. We've also found $10,000 mistakes and a number of $3,000 to $4,000 ones."

Schnitkey notes that precision ag production data from monitors and generic financial records often do not agree and that producers must determine which is accurate.

Grafton says that even calculating major costs can prove challenging. For example, different fields can have different plant populations, a number of different seed varieties priced at different levels, as well as different fertilizer and crop chemical application rates. These differences can easily run $4 to $5 per acre or more, he notes. "You have to take steps to segregate costs," he says.

"On our Iowa farm, I don't calculate one breakeven but three," says Mike Boehlje, an ag economist at Purdue University. He first makes a base estimate on what he thinks yields and costs will be, but for planning purposes, he also makes different estimates if things don't go quite as well as he thinks, and another for a better-than-expected outcome.

Once costs are known, managing in an era of uncertainty protects working capital, Schnitkey says, adding that given price and cost volatility, producers need more than they used to. "I recommend a 1.5-1 ratio of revenue to working capital," he says. FJ

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