

NEWS & VIEWS

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What to Do when the Squeeze Is On

THERE has been a lot of talk about profits...or lack thereof...this season. Between the very late start in California caused by El Niño and the prospect of low prices of some of the crops that we grow in the West, it certainly can be discouraging. Examples for just two crops are given below. Concerns, of course, extend beyond just cotton and tomatoes.

“The (cotton) market is in the tank, and it likely will stay there for months. The planting season also turned out to be one of the worst in history for all cotton varieties, and anything near average yields would be a miracle, reducing cotton’s income potential even more. It will be a challenge for any cotton variety to do well.”

—Harry Cline, Editor, in *California-Arizona Farm Press*, June 20, 1998.

“Lower yields, higher costs and what many producers say is an inadequate price paints a sour scene for this year’s processing tomato crop. This is not a good year to sell at \$53.”

—Bruce Rominger, a grower from Winters, California, in *California-Arizona Farm Press*, August 15, 1998.

So, what to do? How do we make the most of a difficult situation?

Once the decision has been made to plant a certain crop, it becomes a matter of making the most of the opportunity. This is done by planning a program to produce at maximum efficiency...to produce maximum net return per acre. A management approach that still works is maximum economic yields (MEY).

Price...Production...Cost

Farming is a complicated business, but the basic economics is simple. Gross income (crop price x total yield) less total cost of production determines profit. So, there are only four basic factors to look at...**1) crop price, 2) yield level, 3) crop quality, and 4) production cost.** The question becomes, which ones can be significantly controlled, or at least influenced to a meaningful degree, by the grower?

Of those four factors, growers usually have least control over **crop price**. However, if a premium is paid based on quality, then here is an opportunity that should be considered when planning the production program. And, of course, any marketing strategy that increases crop price should certainly be employed.

Yield level is a key component to profitability and one that the grower can definitely influence. Greater profits come from higher yields. But higher yields also demand greater inputs that mean increased financial risk. But let's come back to financial risk. First consider the risk to the crop of cutting back on inputs to less than economic optimum...perhaps as a reaction to an anticipated low crop price. This is analogous to pulling money out of the stock market when the market is down, disregarding the basic soundness of the investment.

Production inputs such as fertilizer are investments that should be managed wisely, according to soil and crop needs. Crop price should have only a minor impact on such decisions. Research has shown many times that the optimum rate of fertilizer is relatively inelastic relative to both crop price and cost of the fertilizer itself. The risk of cutting back on fertilizer to below the economic optimum



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is illustrated in **Figure 1**. The slope of the curve is very steep below the economic optimum, meaning that small cutbacks (and, therefore, small savings) can result in large yield losses. There is also much less room for error in this part of the curve. A small miscalculation can also result in large yield losses.

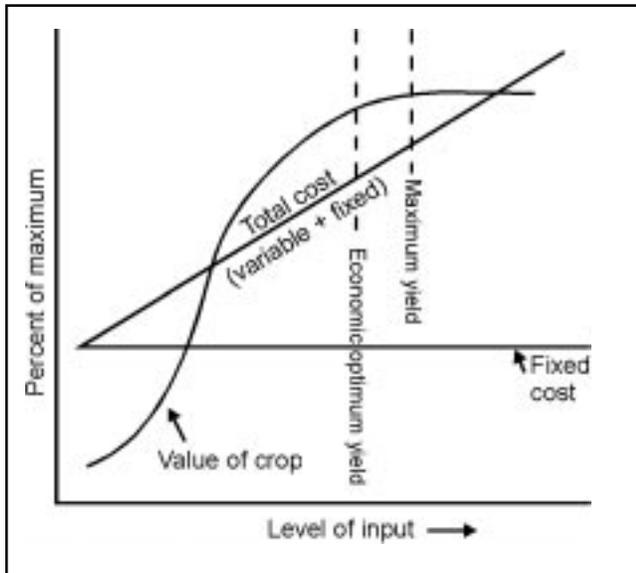


Figure 1. Typical response of crop to an input such as fertilizer and generalized relationship to costs of production.

The importance of high yield cannot be overestimated. After all, yield (and sometimes quality) is the entire basis for the income generated to offset...hopefully, more than offset...the costs of production. Stop and think a moment. How often do growers make much money producing at the county average yield level? Oh sure, there are exceptions. Vegetable growers make a real bonus when their crop hits the market at just the right time, regardless of yield level. But, for most of agriculture, crop prices do not vary several-fold in a period of weeks or months.

It has already been acknowledged that higher yields demand greater inputs (production cost). This in turn means greater financial risk. But how much additional risk are we talking about? There is a certain amount of cost involved regardless of yield level. In fact, the fixed costs (mortgage, taxes, etc.) are incurred whether the field is planted or not. It is only that relatively small incremental increase in variable costs for additional fertilizer, more irrigation water, extra insect spray, etc., above that typically incurred for a lesser yield goal that is at risk.

And besides, operating close to economic optimum yield is a more stable location on the production curve (**Figure 1**). Small errors above or below the economic optimum will have a relatively small impact on final production.

“When I speak of cost cutting, I don’t necessarily mean spending less on inputs. In fact, I may mean spending more per acre.”

—Ron Rayner, Cotton Grower, Goodyear, Arizona, in *Cotton Grower* magazine, August 1998.

The above statement by Mr. Rayner is an interesting one. In effect, spending more can cost him less in relation to income and his ultimate net profit.

Yield potential...Yield goal...the Environment

Yield potential and yield goal are two very different things. Yield potential is what a particular crop can produce growing in an ideal environment. In other words, it is the genetic potential of the crop. Yield goal, on the other hand, is what a grower *thinks* a crop can produce with his particular management skills. Seldom, if ever, does a crop produce at or even near its genetic potential. There are just so many factors (light, temperature, nutrition, water, disease, insects...) “chipping away” at its potential.

It is very important for a grower to have a realistic view of his management skills (or those of the grower’s advisers) so that sound yield goals can be set. All of the above discussion is moot if a yield goal, for example, for potatoes is set at 600 cwt/A when, in fact, due to a combination of management skills and the environment, 400 cwt/A is much more probable. Such high expectations should be reserved for small experimental plots.

High yielding crops...at optimum economic yields... can be and are produced while maintaining high environmental standards. The key is production efficiency. This means doing such things as encouraging rapid early season growth that also promotes early root and foliage growth to hold and protect soil from erosion, planting cover crops or using minimum tillage as appropriate, splitting nitrogen applications for maximum plant uptake and minimum loss to ground water, and utilizing soil and plant testing to prescribe nutrients in needed, not excessive, amounts. This and more can be accomplished if we use good judgement and realistic yield goals.■