Technology Development & Agronomy by MONSANTO

Agronomic SPOTLIGHT

Balancing Yield Goals and Input Costs

- Farmers aim to achieve the highest potential yield at the best cost to achieve maximum profitability.
- To help maximize profits, some farmers may consider cutting back on or completely cutting out some inputs altogether. These decisions should be calculated, thought through completely, and not emotional.
- By taking the time to set realistic goals based on the decisions you have made and planning ahead, you can help achieve maximum profit potential.

As a farmer, the goal is usually to achieve the highest potential yield at the best cost to achieve maximum profitability. Seems like a simple equation, right? Unfortunately, it is not always that easy.

Finding that sweet spot is a challenge in farming since agricultural producers cannot precisely control their production and they do not know the price that will prevail during the marketing year that begins some 4 months after they put the crop in the ground.[5]

Below are some tips for setting realistic yield goals and making calculated decisions when planning inputs.

Setting Yield Goals

Realistic yield goals can help achieve the greatest difference between the value of the crop and the cost of producing the crop.

There are a few different approaches to use when determining your yield goals:

Using historical records. This is a good tactic when a field has been used for over five years, if soil maps are out of date, or no maps are available.

Maximum yield approach. This approach is based only on inputs and management skills. Little, if any, consideration is given to soil potential and variations. This approach can be risky as it doesn't consider the costs of inputs needed to reach that goal.

Soil productivity approach. This approach focuses on soil productivity potential, available water, subsoil moisture, and management skills.[3]

Some helpful tips when setting goals:

- Recognize that exceptionally good years are the exception and not the rule.
- Do not count abnormally low yields that resulted from weather-related conditions.
- Yield goals should be set for each field individually.
- Set your goals 5 to 10 percent above your average yield of the past five years.
- Look into how technology can be used on your farm to aid you in goal setting.[4]

Consider Your Inputs

Inputs are resources used on the farm including chemicals, equipment, seed, and energy. Most farm inputs are purchased, making production costs susceptible to non-farm economic conditions.

When prices are low, farmers should attempt to maximize production in order to reduce the per-unit cost of production, with the goal of covering variable costs and as much of the fixed costs as possible. [5]

Table 1 outlines estimated crop production costs in Iowa from 2011-2014. This demonstrates the variations that

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can occur from year to year. Keep in mind, this chart is an example and the numbers can vary greatly from location to location and significantly from state to state. **Consult your university extension service for more information on your geographic area.**

One upside to farm inputs are that most of them are known. This allows farmers to plan ahead. Knowing in advance can allow farmers to purchase in advance at reduced prices in areas like the cost of land, fertilizer, and seed. Farmers can also save money on equipment costs by using existing equipment instead of purchasing new in years that may be tight.

In order to try to help maximize profits, some farmers may consider cutting back on or completely cutting out some inputs altogether. This needs to be well thought out and exercised with great caution. These decisions should be calculated, thought through completely, and not emotional. For example, use extreme caution when cutting back on inputs like fertilizers. Farmers need to ensure that the farm fertility is properly maintained in order to provide good yields and root structures that are able to support healthy stands and reduce erosion. Cutting back too much on fertilizer inputs not only lessens the chance of having a good yield year in the coming season, but also in future years. Another example is cutting back on your weed management program. If an herbicide application costs $5/acre, but delivers 2 bu/acre in yield improvement, you don't want to cut back on what might end up being a positive return on investment. [2]

Setting yield goals and balancing them with your farm's inputs can be challenging. However, by taking the time to set realistic goals based on the decisions you have made and planning ahead, you can help achieve maximum profit potential.

Table1. Estimated Crop Production Costs in Iowa, 2011-2014[1]

	2011	2012	2013	2014
Corn Following Corn				
Machinery	$152.73	$147.37	$147.37	$155.29
Seed, Chemicals, etc.	341.92	376.81	372.43	340.27
Labor	33.06	33.35	34.91	37.05
Land	215	258	276	287
Total Cost Per Acre	742.7	815.53	830.7	819.61
Assumed Average Yield	165 bu	165 bu	165 bu	165 bu
Total Cost Per Bushel	$4.50	$4.94	$5.03	$4.97
Corn Following Soybeans				
Machinery	$151.54	$144.22	$144.22	$152.28
Seed, Chemicals, etc.	300.13	329.14	324.61	298.8
Labor	30.16	30.42	31.85	33.8
Land	215	258	276	287
Total Cost Per Acre	696.83	761.78	776.68	771.88
Assumed Average Yield	180 bu	180 bu	180 bu	180 bu
Total Cost Per Bushel	$3.87	$4.23	$4.31	$4.29
Soybeans Following Corn*				
Machinery	$72.70	$80.70	$80.70	$84.70
Seed, Chemicals, etc.	156.52	180.89	163.44	155.65
Labor	28.42	26.33	27.56	29.25
Land	215	258	276	287
Total Cost Per Acre	472.64	545.91	547.71	556.6
Assumed Average Yield	50 bu	50 bu	50 bu	50 bu
Total Cost Per Bushel	$9.45	$10.92	$10.95	$11.13

*Soybean estimates are for herbicide tolerant products

Sources:

[1] Duffy, M. 2014. Estimated costs of crop production in Iowa - 2014. Ag Decision Maker File A1-20. University of Iowa Extension. http://www.extension.iastate.edu

[2] Hoskins, T. 2014. With corn prices down, focus turns to profitability. Iowa Farmer Today. http://www.iowafarmertoday.com

[3] Miller, A.G. 2000. Establishing realistic yield goals. Agronomy Pm-1268. University of Iowa Extension. http: //www.extension.iastate.edu

[4] This land. Publication 522. University of Illinois Extension. http://web.extension.illinois.edu

[5] Ray, D.E, and Schaffer, H.D. 2014. Farm-level production decisions and industry-level impacts. Farm and Ranch Guide. http://www.farmandranchguide.com

(Web Sources Verified 11/25/14.)

For additional agronomic information, please contact your local seed representative.