

Clearing Up Break Even Questions

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As agriculture producers across the northern plains continue to plan for the 2022 crop season, it has come to my attention that there are still some questions to be answered about what goes into a break-even price.

Projected break - even prices are utilized to put marketing plans together for the upcoming crop. Marketing plans can be aggressive or conservative for future sales of crops not yet grown or harvested. Marketing plans can also push price risk away from producers depending on what marketing tools the producer decides to use. Break evens are used to set a minimum pricing point needed to make zero dollars. From there producers can set profit goals.

The first step is to start with a good projection. When I sit down with a producer to complete a projection for the upcoming year, we focus on what expenses are going into the next crop regardless of what has been prepaid. Seed, fertilizer, or chemical are often prebought before the end of the year. We want to include those costs for the upcoming year even though the checks have already been written. The key is to make sure that the expense is associated within the crop year it is utilized. Even with a projection made early in the year, these few variable expenses usually have a price quote associated with them. Then we look at our history for yield and other expenses like repairs, utilities, fuel, and hired labor. A 3 - year average is good, but a 5 -year average is better. We are always looking at an accrual number for these expenses also.

As we look at prior years, accrual adjustments are calculated the following way: Cash outlay plus (+) Beginning Prepaid minus (-) Ending Prepaid minus (-) Beginning Accounts Payable plus (+) Ending Accounts Payable plus (+) Accounts Payable Forgiven. As we look ahead, we focus on adding the Beginning Prepaid. Example: filters are bought and paid for in December 2021 the cost needs to be included in the 2022 repair cost estimate. Just because the cost was incurred in a prior year does not mean the cost is lower or zero.

If we run across something like a high repair bill one year out of the 5 – year history, we may decide to use an Olympic average by throwing out the high and the low and averaging the remaining 3 years. This takes out an unusual situation that has a low probability of occurring again. One example is repairing a combine after a fire. High repair year, but also an insurance payment. Not typical.

As a Farm Management Education Instructor, I look at two methods: **Net Cash Income (NCI)** break even and **Net Farm Income (NFI)** break even.

Net Cash Income break - even is a number that meets all your cash payment obligations including the portion of family living that the farm or ranch is expected to cover. Net Farm Income is an accrual - based break even without family living that uses *cost depreciation* in a machinery cost number rather than a payment to the lender. Family living should be replaced by a “value of labor and management”, but this is a difficult number to forecast as farmers and ranchers rarely value their time very high.

Cost depreciation is calculated by taking the purchase price or the remaining balance of the cost value times 10% for equipment, 15% for titled vehicles, and 5% for buildings. Example: \$10,000 piece of equipment purchased and put into service in 2019 has a remaining cost value of \$7,290 at the end of 2021 so the depreciation will be \$729 for 2022. This will continue until the item is sold. If an accurate equipment list is available with year of purchase and purchase price, we can create a whole farm cost depreciation.

As a comparison, payments to a lender of this same \$10,000 piece of equipment at 5% interest for 5 years would have a \$2,309.75 cash payment to be made in 2022. Once the last payment is made, no cash expenditure needs to be made. Information about the debt payment is easier to come by through producer balance sheets or information from the lender.

Both ways should be calculated to provide the producer with the knowledge to make an informed decision about what to grow, how much to grow, how to market that crop, and when to market that crop.

We also look at dividing out the cost categories differently between different crops. Example: an acre of corn will take more fuel, repairs, labor, and operating interest than an acre of wheat or soybean in a typical year. It can be challenging to split these expense categories. As a rule of thumb, corn raised conventionally will be 1.5 times the cost of soybeans and wheat per acre. No till corn will be about 1.45 times higher than soybeans and wheat.

The goal is to get as close to next year's expenses as possible, adding expense proportionately to higher cost crops, and diving by the average yield. Then we look for pricing opportunities well above that break-even price. Some will come in the form of cash sale contracts, some will be basis contracts with futures positions, some will be futures positions, and some will be options positions depending on the time of the year and the weather and typically change as harvest approaches.

The largest determining factor in a break-even is yield. Higher than average yields with average costs will create a lower break - even. Conversely, lower than average yields with average costs will create higher break - even prices.

The North Dakota Farm Management Education Program provides lifelong learning opportunities in economic and financial management for persons involved in the farming and ranching business. Visit ndfarmmanagement.com, Facebook @NDFarmManagementEducation, or contact Craig Kleven, State Supervisor for Agricultural Education, at crkleven@nd.gov or 701-328-3162 for more information. The ND Farm Management Education Program is sponsored by the North Dakota Department of Career and Technical Education.

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