



1. Why should I use AFFIRM v.2?

There are numerous factors that need to be considered when making fertilizer decisions. AFFIRM is a full spectrum nutrient recommendation software that incorporates a marginal economic analysis into the recommendation process. Based on the principle of diminishing returns, this interactive program will assist you in determining where best to allocate your resources to maximize the earning potential of your farm. The ability to run different scenarios will allow you to understand and quantify all factors involved in determining your crop nutrient requirements.

2. How is AFFIRM different from the Manure Management Planner?

The Alberta Manure Management Planner (MMP) is a software program where the user enters information about the operation's fields, crops, storage, animals, and application equipment. MMP helps the user allocate manure (where, when, and how much) on a monthly basis for the length of the plan (1-10 years). This allocation process helps determine if the current operation has sufficient crop acreage, seasonal land availability, manure storage capacity, and application equipment to manage the produced manure in an environmentally responsible manner.

The MMP was developed using the yield equations and soil test calibrations from AFFIRM. However, AFFIRM extends beyond MMP by incorporating soil moisture and growing season precipitation, to predict yield response to nutrient application and crop nutrient requirements. AFFIRM also differs by focusing on the economics of crop response to fertilizer application for whole farm optimization.

3. What information do I need to use AFFIRM?

AFFIRM requires the following information to generate recommendations:

- 1) Field location or soil group
- 2) Current crop to be grown and previous crop
- 3) Irrigation (if applicable)
- 4) Soil test results, sampling time and sampling depths
- 5) Spring soil moisture conditions
- 6) Fertilizer nutrient costs
- 7) Expected crop price
- 8) Available fertilizer budget

4. How is version 2 different from version 1?

If you previously used AFFIRM v.1, the first difference you will notice is the software design. New programming techniques allowed for the re-design, but more importantly, the software is now compatible with current operating systems. To support the software, a user manual, tutorial and a help description bar are now available.

For this version, adjustment coefficients have been changed to reflect new agronomic management knowledge and improved laboratory methods. You are no longer required to know the lab test methods, rather you just need to select the laboratory you had your samples analyzed at. The laboratory selection list has been expanded to include all 6 laboratories conducting soil analyses in the province.

The most significant additions to version 2 was the inclusion of the farm optimization model. This tool will assist you in allocating your farm fertilizer budget to maximize your investment potential, taking into consideration the total cost of all fertilizer nutrients for the farm, rather than just the consideration of N for each individual field.

5. What is the layout/design of the AFFIRM v.2 software?

The new layout is focused on the farm level rather than individual fields (i.e. general information is gathered for the farm and then individual fields are analyzed). The software is composed of 7 main screens sequentially ordered for you to enter information. This new design allows for easy navigation and reduces repetitious data entry.

6. Why don't some crops have an economic analysis?

In order to conduct an economic analysis, AFFIRM predicts yield at varying levels of nitrogen and moisture for each crop and soil group with non-linear regression equations. The development of such equations requires intensive field research to collect the required data (i.e. yield, soil nitrogen level, spring soil moisture, growing season precipitation) and advanced statistical analysis. Though available for 14 different cereal and oilseed annual crops, equations have yet been developed for the remaining crops listed in AFFIRM.

7. What is the ENR calculator?

The ENR (Estimated Nitrogen Release) calculator provides an indication of the soil to mineralize (release) nitrogen over the growing season. The ENR is related to the soil organic matter level, and influenced by soil moisture and soil temperature, residue management and landscape position. As a first approximation, the ENR calculator uses the legal location and soil test area organic matter levels to predict the nitrogen release. With specific soil organic matter tests or ENR soil tests, better predictions of ENR can be calculated. There are several laboratory soil tests to measure the ENR. These tests will provide field specific estimates of nitrogen release that are more precise than estimates based on regional soil organic matter levels. The calibration for the nitrogen recommendation and or yield response to applied nitrogen fertilizer in AFFIRM is based on soil groups and the typical ENR for cultivated soils in Alberta. Fields or portions of fields within soil zones may have higher ENR due to higher organic matter levels or the result of management practices such as manure applications. Soil group estimates supplied in the user guide will allow you to compare these averages with your field estimates. High field ENR values may be used as a basis to alter nitrogen fertilizer applications.

8. How is the economic analysis different from the farm optimization?

The economic analysis involves the analysis of added returns to added costs of additional applications of fertilizer to an individual field. Based on your comfortable profit margin, the economic analysis determines the recommended N rate for that particular field. The farm optimization model then incorporates the P, K, S and micronutrient costs of all fields, and based on a set budget, will determine the dollars available for N application. According to the results of the economic analysis, AFFIRM will optimize your investment by allocating N fertilizer (in 10lb increments) to those fields with the highest profit potential.

9. Why can't P, K, S and micronutrient recommendations be altered in the farm optimization?

The P,K,S and micronutrients have been optimized at the field level based on soil test levels, crop selection, soil test zone, and moisture level prior to the whole farm optimization. The farm optimization process focuses on allocating the dollars for nitrogen to maximize production and returns after the cost of the P, K, S and micronutrients have been covered.

Ideally, this is not the best way, but given the limitation of our data, it is the best we can do. If we had research data for crop response to all nutrients, then a multi-nutrient optimization would be possible. The experimental design would require a huge number and level of interactions to get all possible combinations of nutrients and fertilizer rates.

10. Why doesn't AFFIRM give the same recommendations as my lab report?

The intent of AFFIRM is not to reproduce fertilizer recommendations and target yield predictions made by various private laboratories. Rather, AFFIRM makes use of the recommendations outlined in the Soil Test Recommendations for Alberta: Technical Manual, the soil test calibration research conducted by AAFRD, the yield response equations developed by AAFRD and when necessary soil and fertilizer research from western Canada. Soil test laboratories have various mechanisms for developing fertilizer recommendations that may include research from AAFRD.

11. Are there examples and supporting documentation that comes with the program?

A tutorial, user manual and a help description bar are now available. The tutorial takes you through an example step by step from downloading the program to developing a fertilizer package that fits your budget. Tips are offered throughout the tutorial and print screens help you to follow along. Various example farms are included with the software, representing all soil groups of the province.

The user manual provides detailed information on each of the 4 models included in AFFIRM (including economic calculations) and identifies the limitations that exist. Current AAFRD references are supplied with the software for further information on those factors impacting crop nutrient requirements. Historical fertilizer costs are available and the website link to current AB crop prices is provided.

A help description bar appears at the bottom of the screen of the program. Variable definitions and descriptions are displayed when you point your mouse on a particular input cell. The information provided will assist you in selection the correct information to reflect to field/farm status.

12. Can AFFIRM be used with other software?

Money Map, Crop Choice\$ and Alberta Manure Management Planner software can used to complement and supplement the information from AFFIRM. No one software can provide all the answers for crop production and farm management. It is important to use the best tool to address the specific farm management decision. Information can be exported into Excel.

13. Is AFFIRM only suitable for Alberta conditions?

AFFIRM was developed using research data from Alberta with Alberta soil and climate conditions. It is possible to use AFFIRM outside of Alberta, but the user must be careful that the precipitation probabilities and soil types (organic matter, texture, etc.) are similar.

14. Is AFFIRM a record-keeping program?

Yes, AFFIRM may prove to be a very useful record-keeping program for you. The software requires information that may be use for different applications in the future. Obviously, stored soil test data may be used to track fertility trends, while documenting details in the user comment section may provide answers to questions in the succeeding years. As well, AFFIRM will record fertilizer costs and crop prices each year that may be used to track production economics over time.

15. What operating system does AFFIRM require to run?

A 32-bit Windows operating system is required. AFFIRM will run on any Windows operating system newer than Windows 3.1. This includes Windows 95, 98, 98 SE, Me, NT 4.0, 2000, and XP. No other software is required for program operation.

16. Can I import data into AFFIRM (i.e. lab data or from AFFIRM v. 1.0)?

Presently AFFIRM does not have the capability to import data. Due to the change in programming language, data from AFFIRM 1.0 cannot be imported. Differences in each laboratory report format creates difficulty for importing the data. The potential for this option will be re-evaluated when developing the next version.

17. Can I copy and paste information to avoid re-entering duplicate field data?

AFFIRM v. 2 is designed to reduce data entry and therefore you will not have to copy and paste duplicate information. Data such as producer information, fertilizer cost, crop price does not have to be entered for each field as it applies to the entire farm. Field information (i.e. soil group, field size) will not have to be entered year after year.

18. How do I enter my historic information?

AFFIRM is designed to store field data on a yearly basis. When a new farm is created, AFFIRM will request you to enter the first year that you will be analyzing data for. Once you have set this year, additional fertilizer costs will continue to the next year. It is important to set the appropriate year, as you cannot enter data preceding this entered year.

19. How can I see more columns to avoid scrolling left and right so much?

Within the producer, field list, fertilizer cost and crop price tabs, data is displayed in a spreadsheet style format. Column widths can be narrowed to see more columns or widen to display the complete description of the data.

20. How do I save my data/results in AFFIRM?

AFFIRM saves your entered data in .fir files (fertilizer information recommendations). All field data of a farm is saved in one file and multiple farms can be included in a single file.

21. Can I export data/results from AFFIRM?

Yes, you can export all entered data and/or results into Excel. Within each tab, there is an option to print or copy the displayed data of that tab. Use the copy button and then open Excel and paste.

22. Is there a Macintosh version of AFFIRM available?

No, there is not a Macintosh version of AFFIRM.

23. What video level does AFFIRM use?

The program requires a minimum resolution of 600 x 800 dpi.

24. What changes does AFFIRM's installer make to my computer system?

Unlike the first version, AFFIRM v.2 does not have an installation wizard. The AFFIRM v.2 software is composed of a single executable file. It is recommended to download this one .exe file to your desktop for installation. A directory can be created to save your data in .fir files.

25. How do I uninstall AFFIRM?

To uninstall AFFIRM, simply delete the AFFIRM.exe file from the stored directory. All AFFIRM files (.fir) will have to be manually deleted.