



Notes in GREEN from WAPAC – Notes in RED from SnapPlus Steering Committee

Earlier this spring, the SnapPlus Advisory group, consisting of a few county conservationists and technical college professionals, extended an invitation to WAPAC to join their SnapPlus Steering Committee meetings. The goal of the meetings was to get a better idea of how consultants are using the program and where the program should go from there.

The SnapPlus team proposed a couple of ideas to the group. The first included incorporating support within SnapMaps to create variable rate application maps as a means to keep up with the current technology that is out there. Very little interest was provided by the group, as conservationists do not have a need for this technology and consultants who provide variable rate recommendations already have the software to do so.

Another proposed topic was moving all SnapPlus software from a desktop application to a web-based program. The move to web-based programming would allow the ability to save (or backup) data via a cloud and provide for regular updates throughout the year. For example, if a layer needs to be edited in SnapMaps, the SnapPlus team can readily do so without having to wait for the next new version of SnapPlus to be released. There was a lot of push back on this idea. The varying/unreliable internet service throughout the state would cause major issues from saving data to general operation. As a result, this idea was put on hold.

Further discussion of the meetings is as follows:

- It was decided that there will be some program design changes, in hopes to make the SnapPlus interface easier to use and navigate between tabs.
- There is a great need to improve the overall speed of the program operations and calculations.
- The SnapPlus team is also going to make an effort to create an export option of restriction boundary data and an import option of application rate data from equipment.

The SnapPlus Advisory group would like to maintain having at least two rotating WAPAC representatives be a part of their meetings, increasing the opportunities for input and expanding the geographic areas represented. It was also expressed that establishing an annual meeting between the SnapPlus Advisory team and WAPAC would be of great benefit in order to address needs, develop plans, and implement testing of the software.

Dear SnapPlus Advisory Group,

The SnapPlus team is very grateful to those of you who were able to attend the meeting in Fond du Lac or Marshfield. I have attached the combined list of notes and action items for both meetings. The team has reviewed these notes and observed several themes:

- Numerous design changes, ranging from small tweaks to big rearrangements of screens and features will make the program easier to use, more intuitive, and more helpful.
- Software operations and calculations should be faster.
- While there is no interest in having SnapPlus provide any additional support for variable rate applications, there is interest in supporting export of restriction boundary data to and application rate data from application equipment.
- There is no enthusiasm among planners for having SnapPlus be completely web-based.

Now that version 17 is finally out, our plan is to get back on our late summer release schedule with version 18. To that end, we will be concentrating on making relatively quick fixes you have suggested for usability and speed, and, of course, fixing any problems that come up with 17. Due to lack of enthusiasm, plans for moving more SnapPlus functions to the web are on hold.

We really do appreciate your help and guidance,

Laura
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Combined lists of Action Items, Large Group Notes and Small Group Notes from 2018 SnapPlus Advisory Group Meetings in Fond du Lac and Marshfield

Meeting Agenda:

9:30- 10:30 A. Nutrient Management Planning in version 17 Introductions and thoughts on 17 Beta

- Implementation of new 2015 590 Standard
- Additional concerns for CAFO NM planning (Spreadable acres)

10:30-12:00 B. Priorities for 2018 and beyond: How to make planning easier and more accurate and plans more implementable within the existing SnapPlus software features (small group discussions) (Laura, Rick, Sarah available as group scribes)

- Planner experience as planning rules and options get more complicated – Identify obstacles and concerns
- Potential modifications of existing SnapPlus features and planning strategies
- Bonus question for CAFO planners: How to facilitate planning fertilizer applications for fields that include areas with and without manure application prohibitions.

12-12:30 Lunch Break

12:30- 1:45 C. Variable rate applications and precision technologies

Identify software and technologies in common use in Wisconsin and roadblocks to SnapPlus nutrient management planning for users of these technologies

- Priority actions for overcoming these roadblocks in SnapPlus
- For the longer term, what are the opportunities the SnapPlus team should work on?

1:45 – 2:50 SnapPlusWeb: D. Moving nutrient management planning services to the web Strategy for adding SnapPlus features to the web

- How much of an obstacle is existing broadband service to SnapMaps use?
- What SnapPlusWeb potential are you most excited about?

2:50 – 3:00 Meeting wrap-up

During both meetings, we had note takers for each session and also someone assigned to update the running list of “Action items” displayed on a screen that we added to throughout the meeting.

Fond du Lac Meeting, February 23, 2018

Advisory Group present: Becky Wagner, Brian Smetana, Dan Smith, George Koepp, Matt Brugger, Kevin Beckard, Bill Stangel, Nikki Wagner

Agency representatives: Mark Jenks

SnapPlus team: Rick Wayne, Jim Beaudoin, Sarah Sebrosky, Laura Good

Action items

- Ability to verify things on site through the maps and apply them to SnapPlus
 - Ability to draw a 590 SWQMA (a blue line instead of a concentrated flow) or use USGS hydro layer instead of DNR (Jim Beaudoin will do GIS analysis on differences between DNR and USGS layer)
 - We could then maybe turn off the DNR layer for that farm (this would be a temporary solution that could be sent to DNR/agency that would be a custodian for a permanent solution)
 - Talk with DATCP/DNR about future edits to the well layer so that we can come up with a process for incorporating qualified data
 - Can we use USGS layer with refined well layer?
- Maybe next thing to add to map data: soil test analyses
- Create a cheat-sheet on when an upload to maps is necessary
- Changing acreage on a field will cause errors on the daily log and soil samples (too few)
 - Is there a way to may it look forward and not backwards?
 - Or a temporary split on a field
 - Or a “management zone” (like SST)
 - In the end, there is no perfect example of a solution, but we should be trying to find a way to address the issue
- Remove required number/actual number columns in soil sample summary report
 - This gives a management suggestion that adds undue liability to a planner
- In reports that sorts by crop – lump all corn
- Allow grouping by crops
- Identify default fertilizers and program calculates how much to apply, allow for multiple years of application
- Customizable timing for applications in fertilizer systems
- Display by groups and subfarms on maps

Notes

A.Thoughts on version 17

Fields that don't meet T in new version (cause may be wheat (grain+straw) fields – straw is now removed in RUSLE2 in SnapPlus, wasn't in past, was an error)

Discrepancy between 243 and new 590. Confusing because 243 follows old standard.

SWQMA and waterways:

- Can you draw stream 300ft SWQMA?
- Solid blue line concept using USGS for 590 SWQMA now based on DNR delineated. New stream that should have been an intermittent. Not accurate layer.
- Can we use USGS instead of DNR for stream layer?
- Don't have the control to delineate streams.
- Both ways some are there that should not be and some aren't there and should be. Should be able to verify if that feature is real.
- DNR will not come out to look at features when asked.
- DNR has their reason to do what they do, don't understand the Nutrient management side of things.
- Turn off DNR layer and draw all streams and rivers. Comes down to the County Land Conservation to allow this too.
- This is not just a SWQMA thing. This is other features too. Hold people to a qualifying standard. Way to check and review these things.
- Send data to a repository for data.

Wells buffers (municipal wells)

- Where did they come from? Missing or in the wrong place.
- Water tower does not mean it's a well
- How accurate are the wells
- 1000ft can mean a lot to a field.
- Need a process for updating these layers
- May not have had lat long for positioning may of just had township and range
- USGS apparently has a layer for wells. Can we tap into that? 6. Soil sample can you id it.

Would like cheat sheet when to upload. How to use SnapMaps tab in SnapPlus.

- Like watersheds and 303D and outstanding/exceptional waters in 17

Merging fields issues with daily log. When spreadable acres changes problems happen.

- Change acres on a field, when you go into daily log it will throw error for all years.
- Soil test compliant will also come up saying too few samples.
- Should be tied to manure total.
- Strips are a pain with this.
- Fields rarely get smaller.

Fields should be split into management zones. Temporary splits. There is not a perfect solution.

Complaint about spreader calibration for people that don't use manure spreader. Told them to just select something.
(Note: this feature is to allow people to easily comply with 590 standard to document calibration methods for all types of nutrient applications equipment, not restricted to manure)

Reports soil sample density. A2809 part. One person wants to take it out. Wants use of A2809 table 2.1 for minimum samples dropped . Does not want somebody see indication of too many samples. Contradicts good agronomic practices. Liability issues.

Cover crops people would like added, will email to Laura (or support email)

B. Priorities for 2018 and beyond (small groups)

Long term goals

- Nutrient Management should be part of a crop plan to help with implementation
- Export PI and recommendations to other platforms (commercial platforms like SST, SMS, MMP, or FarmWorks)
- Give people the option to pull in as applied information (from other programs)
- Instead of building a SnapPlus that is more like xyz software, could we be building public/private relationships with pre-existing software?
- Variable-rate or precision ag via geographical info - a lot of smaller guys won't know or use this, but it would be useful for the CAFOs
- Work on keeping the temporal integrity of data. Previously entered data should not change as much as it does
- Put in actual yield data for past, and the cost, and be able to show a dashboard report that would show an economic return. (Nutrient Use Efficiency and other metrics that would help people understand the use. Matt Ruark's research may help with this) Note: This contradicted later in meeting - only use midpoints of yield ranges (don't want DNR to require use of exact individual field yields)
- Admin rights on SnapMaps would be really helpful. but it comes at the expense of speed.
- The program should look at what you need, and what fertilizers you have, and what default rates you have, and then recommend everything.
- Trying to meet all of the needs of everyone is necessarily difficult - should we have a free version for farmer use and a paid version for professional use?

Shorter-term goals and pain points

- Merging fields - We lose the temporal uniqueness of the data. instead of tracking rate (which is flexible), track the total amount of manure
- Could we draw applications or application areas on the field? Separate areas for manure and fertilizer
- Create groups on SnapMaps - it would be really great to be able to zoom to a group/sub-farm or view only a group at a time without going back to the desktop
- Manure allocator does not rate by nutrient needs (less than P, then looking at crops, etc.). Adding criteria for which fields get manure first would be good.
- Cropping systems might work on a smaller field, but it would likely get really complicated on CAFOs. It is a nice idea, if it were year specific or really customizable.
- If you add manure to a field with a well in it, the whole field is found to be non-compliant (*Note: This is no longer the case with v.17. You get a guidance message to avoid well with applications*)
- Rotation wizard - would rather put stuff on both corn and alfalfa. Further customization would be better. Could we do corn, then with customization like silage or tillage or cover crop. Can we separate crop from management?
- Highlighting and right-clicking in the grids is not intuitive
- Wells - some way to encourage accuracy in spatial data.
- Printability of map needs work - can it scale to different paper sizes?
- 90% of the time, SnapMaps causes more problem than it is worth, because we have flexible restrictions that can't be programmed.
- There is a huge learning curve to SnapPlus.
- If we go to a mostly spatial tool, how do we show broadcast management decisions, like what crops you have and what strategies you use?

- Winter spreading for 590: how do we keep the idea of flexibility open in SnapMaps? *Note: We keep flexibility open in v.17 by letting you choose management strategies and having guidance messages. Slopes > 6% are not mapped as winter prohibition areas in SnapMaps.*
- If 17 doesn't work for CAFOs because CAFOs aren't required to use new 590, why switch?
- Turning in the package of a plan makes them very nervous. It would be too easy to steal. How do you protect plan-writers? Who owns the database? There is no resolution that makes people comfortable - DNR has given nutrient management plans on cds in court in opposition. They also don't like that DNR is creating an internal layer of CAFO fields.
- Soil tests should be proprietary information. How do we handle privacy issues as we move to the web?
- Can users control the zoom increment - maybe a settings thing? Or make it more apparent that you can shift-click to draw a box - or make drawing a zoom box a tool

Different group-

- There is still a problem with the zoom levels in the Beta. It is clumsy. This is important because it is causing people to use old maps in their ArcGIS program and they are missing waterways, etc. A true zoom would be better.
- Also there are people who want to zoom into a farm to keep the neighbors off map
- Request to add definitions of the features in the pdf map legend, especially SWQMAs. Add information on the restrictions in the definitions too.
- Request for custom sized incorporate-only buffer
- Would like to be able to export shapefiles of restriction areas to applicators GPS system. Think all of the systems can import shape files. Want the systems to be able to beep at restriction area boundary and tell the driver to turn around.
- Technology in use: two farmers that use Farm Works and one using PeRK out of the University of Nebraska for pesticide application and wanted to have something similar for nutrients.
- Would like to be able to name roadside ditches separately from drainage ditches.
- Think unvegetated channels and gullies are the same thing and should only have one name. Want to rename designed grassed waterways too.
- For drawing tile outlets and inlets, they should be on the menu together with the tile lines "Tile tools"
- For large farms, they would like to be able to turn off the calculations and just do data entry so it doesn't take so long. An example is when they added a manure source, the program chugged through all of the models (?) before opening the cropping screen.
- Many of the plans that get updated forget to include the update year in the rotation. Can updates reset the rotation to include the update year automatically? Maybe put in a pop-up box when you open the database to do an update that ask if you are fixing last year's plan and do you want to reset the rotation.
- The Rotation Wizard requires too much thought and care and they only use it when they set up a new farm.
- On farms with many small fields, most don't update correctly
- There is an issue with farmers having NMPs but not using them, applications getting made according to the plan of the coop and salesmen (doing plans twice!). Salesmen could sell more fertilizer, especially potassium, if used UW recs.
- One planner puts the fertilizer recommendation for manure prohibited acres in the Season Notes.

Third group:

- CAFO (3200-123) annual spreading report does not fulfill DNR requirements
- Want clear policies about data ownership and privacy for Web applications. E.g. spatial fertility data is a potential confidentiality breach.
- NAP "Please explain": Record previously-entered explanations and let user select, instead of having to copy and paste or retype.
- Have NAP suggest automatically calculated rates of selected fertilizers to round out crop needs based on manure applied, crop, yield potential, and yield goal. Should round to nearest common increment (e.g., five gallons). Likewise nutrient systems rates could self-adjust the rates applied, given manure applications.

- Major pain points: UI complexity for people who use the program only once per year; double data entry with other farm-management programs (e.g. SST). Sources change from year to year, making it hard to exploit Nutrient Systems.

C. Variable rate and other technologies

- A. Get setbacks into existing applicators for machinery (either turns off or beeps to alert)
- B. Possible download spreadable layer to a phone or iPad
- C. Either export shapefile for spreadable or restrictions (*presently we only have spreadable export*)
- D. Develop iPad application for spreading etc.
- E. VRT import for each field
- F. Look at negative carrying over phosphorus and potassium
- G. Farmers will not share yields -- stay with range. It's a pain to update yields.
- H. Possibly look at field to check if it's on the contour
- I. Checkbox automatically for vegetated buffer from SnapMaps

D. SnapPlus on Web

- Users want to assign access to the data in granular fashion (e.g. just some fields, "sunset" date on access so that access grant isn't forever). Access s/b reassignable (for example, if someone leaves the company).
- Offline or intermittently-online access to data would be important
- Want to record actual polygons spread for a given application
- Want to choose fields for map regardless of whether they're in same farm
- Have a check if a given field is showing up in multiple plans

Marshfield Meeting, March , 2018

Advisory Group present: Haily Sand, Amanda Schultz, Ashley Lorance, Ashley Kloth (for Abby Rotering), Jim Arch, Kirk Langfoss

Agency representatives: Aaron O'Rourke, Stephanie Schneider

SnapPlus team: Rick Wayne, Jim Beaudoin, Sarah Sebrosky, Laura Good, Joe Wolter

Action Items

Take a look at defaulting to existing soil series when re-opening a farm in a previous version

Send the dismissed SWQMAs to DNR

The common complaint is 'it's so complicated' – we need to clean up the user interface (UI)

Maybe have a dashboard screen that directs people

Turn on/off tips to prompt people where to go next

Better menu of activities (hamburger type menu?)

Start user testing (Where? - Counties?, College students?, Farmer Trainings?)

Crops on the farm page – the box needs to be bigger and there should be a way to search

Add indicator on cropping grid to show what fields have had manure

Add manure volume tracker on cropping tab

Give planners ability to hide unneeded columns on cropping grid

Add a pop-up for field records in the Season notes, print notes on a report

Add button to copy manure production volumes to nutrient sources tab, put manure production tab in front of nutrient sources tab

Make sure tillage explanation and STIR value tables are prominent in training materials and Help

Dashboard that gives one-click access to various SPV2 features/screens, with status indications so users can see at a glance what needs attention

Shareable read-only SnapMaps links (with selectable layers)

Links to videos: in each relevant help topic, where relevant in UI, and Help menu item to all vids

Change name of “daily log” to “actuals”, but ensure that CAFOs still see the former term.

“No livestock” checkbox (located on Farm screen?)

Automatically create template for farm for daily log with the field names of the farm. Maybe dropdown lists with sources.

Speed upload/download

Use existing SnapPlus download or SnapMaps usage as ammo for compelling broadband expansion

Look into refactoring SnapPlus so that useful features can be available on tablets or smartphones

Whole-farm P-index summary report (weighted average of all the fields). Rotational as well as annual.

Notes

A.Thoughts on version 17

17 runs slower than 16. (*Has not downloaded the newest Beta version.*)

- Cropping page is slow
- Users do not have faster computers so that's an issue.

If you open up in 17, then go back to 16, you lose stuff.

Going from 16.3 to 17.0 Soil series are missing (*Note: This is due to Soil survey changes in Series names and making one-series soil map units into two-series ones. SnapPlus team action: If one series in change, make sure it is selected. If original series is in complex soils, make sure it is selected*)

Ditches need to be identified that flow into stream - needs a SWQMA.

Wetlands no longer maintained by the DNR => Army Corps of Engineers. Wetland layer will be less features in the future if legislature passes it.

No use for soil sample points for some consultants.

User interface needs work and is complicated. So many tools to use. Screens make it look more complicated. The User Interface needs a facelift. Has not been worked on for a while. Ideas:

- Left to Right functionality
- Tabs inside tabs confusing
- Color code where data is needed or wrong
- Menu bar in upper right
- Group crops by type – search for crops

Suggest dashboard type of layout (instead of tabs). Like tax software. Turbo-Tax like guidance

B. Priorities for 2018 and beyond (small groups)

Need speed. Too slow going tab to tab.

How is SnapPlus used? - Most work on one crop year at a time (not using the rotation wizard)

Consultant with bigger farms uses rotation wizard, Land conservation department staff working with small dairies doesn't need to use the rotation wizard – fewer fields and farmers don't have defined rotations.

Don't use daily log.

Add a way to show on the cropping grid what fields have already had manure or those haven't had manure yet (discussed color flag, column with manure check) . This will be used for updating CAFO plans (going in and filling in where the manure was and the rate.

Can unneeded columns on cropping grid be hidden by user?

Put running tally of manure volume remaining on cropping screen and cropping grid (similar to nutrient applications by season table, but inserted into screen, of for only one manure type to show at a time). Laptop users have difficulty in using the Nutrient applications by season table because of lack of screen space and apparently the companies that do the NM consulting do not provide updated computers and screens for planners.

Coop agronomists use laptops with a replacement cycle of about six years.

Planner likes maps with solid red manure prohibition are (go-no go)

Add an optional record keeping dialog box that would be accessed by a button in the season notes space and that would have its own report. Suggested spaces in box (from a farmer) are: planting date, harvest date, moisture content – test weight, yields, spray dates, seed population and variety - also a table for dates and operations and applications that the grower chooses to record.

Manure production screen should be before nutrient sources screen.

On manure production tab, wants to have a "copy to nutrient sources" screen button for manure volumes - total volume doesn't need to go in the nutrient sources table, it can be on the side under the costs info, it's for reference.

They don't use grazing estimator, figure amount of manure for grazing using manure production estimation tab. They are ok with how they are doing it now – it works for them and they don't need any changes for calculating grazing manure volumes.

No good info on how to deal with planning for fertilizer only manure prohibited areas. One of the consultants farms just splits the fields already. For the other it isn't clear.

LCD wanted more information on how to explain the tillage options. Had not seen the info in Help, or in the SnapPlus Fast Facts, or on the website.

Very few clients use variable rate applications. For manure, rates vary by speed of spreading (fast or slow)

Another group:

Reduce the Learning Curve:

We spent a good deal of time talking about how it is difficult to get all the nuances into a training that only lasts a few days. A lot of this is because we have a lot of features that seem hidden. Some suggestions:

Make hidden functionalities of grids less hidden

- How do you open the NAP? That you have to click on one of those 6 grids makes no sense
- Right-clicking or Ctrl-clicking headers is not obvious
- Soil test import – right-clicking the column header to get the names of existing fields is not intuitive (did not know it existed)
- Cropping Screen – adjusting UW credits doesn't look like an adjustable grid

Use the information we have to make the program easier

- Changing the template daily log to include info specific to a particular farm
- Dropdowns that include the right source names and field names
- Make the soil test sample report (FM 7) more apparent in a normal workflow
- On the soil test screen?
- If someone indicates that they have no manure, hide all of the manure stuff in the program

Consistency

- Rotation Wizard doesn't default the info from the last application when adding a new application (Step 3 - > add fert. Add app. It is not defaulted as a fert.)

Unintuitive activities and screens

- Adding custom fertilizer is not intuitive
- Adding a manure/nutrient source screen goes from right to left rather than left to right
- Edit button icon does not make sense for most people (needs to remind people year after year)

In the same vein, the green plus and red minus are sometimes confusing. Maybe add text? Or move them closer to the grid? Or both? It works on the cropping grid where they are next to the "Add/Copy/Delete" button

Add shading to buttons (Easy Group Builder)

Manure Production Estimator has calibration underneath it – calibration should be its own tab

Soil test screen: People get confused about what goes in the top grid vs the bottom. Could we make it so you can't type at all into the top grid – it's just averages? Or grey out what can't be typed in? (Kirk got 2 calls in the last month about how to hand-enter soil tests)

Cropping Screen

- Rotation Settings are not obvious, and people struggle to remember to change them
- Gray out entire columns that are not in the rotation
- Move the dominant critical soil info to the top by the other soil test info (we have a lot of repetition there anyway) so that the rotation settings are at the top
- Make the soil test info/fast facts hideable. People don't look at it very often
- Does anyone look at Fast Facts? Do we need the button?
- Can we show benchmarks and actuals in Summary section? Target PI was specifically mentioned
- People don't know what SCI is – a link in help would be nice
- They don't like the yellow highlights in the grid – yellow is something to be filled in on a form, not clicked on

Rotation Wizard

- The screen for step 3 of editing is almost too simplified. People don't seem to know how many things it can do or get a good idea of what they are asking the program to do here.
- It would also be nice on this page to be able to edit spread methods without changing rates
- Coming back to the rot wizard after hitting "Apply and Continue" resets the rotation years. It should save what you used the last go-around.
- It would be nice if the crop years defaulted to just one crop year (the upcoming one, like we do in other areas of the software where we default a crop year)
- The delete workflow is not intuitive. People do not realize what it is doing so they don't use it

Nutrient Application Planner

- Move restrictions to right before the explanations, since you'll likely be looking at it when explaining a problem
- People want default explanations for common issues
- Would like to pare down the nutrient source availability section – they really only look to be sure that they are allocating what is produced

SnapMaps (desktop)

- Differences when downloading are not obvious
- Maybe show discrepancies side-by-side before importing

SnapMaps (website)

- Field names should be at the top of the menu, as should farm-drawn layers
- Manure spreading rates would be nice to see on the maps
 - Would help where people actually spreading don't speak the best English
 - They would want separate output maps for fertilizer rates and manure rates

Daily log

- Change the name for non-CAFOs
- Hide what's not required for non-CAFOs
- "Send to Applications" button is not clear enough. Maybe "Send to Cropping Applications"? Or "Send to Nutrient Application Planner"?
- Exporting Planned Applications

- Clunky screen
 - Spreader defaults are unnecessary
- Wants to be able to only overwrite actuals by season as well as year
- o Template daily log opens in Excel to column B rather than column A

Workflow tweaks

- Prompt to save snapshots before Rot. Wizard and before import from the maps
- It's not obvious to update the plan completion date. Is there a way to automate this?
- Adding manure defaults to adding in the spring – should default to the fall since it is more restrictive and people would be less likely to forget to change the season
 - Wants the season dropdown to show the year as well (Spring 2018)
 - Fertilizer should still default to spring
- Apply button in NAP runs the soil loss model and they don't think it's necessary

Ideas for connecting to users

- o Create a Facebook discussion group for SnapPlus
- o We could do a series of did you knows to bring more attention to special features
- o We could conduct surveys on designs

Future Direction

- One stop shop: bigger consultants and county workers can afford other software and generally hire people who can learn them, but farmers can't.
- Display/use micronutrients (this is greater priority than other one-stop shop things)
- Include seeds
- Make season notes more robust

Other Ideas

- The compliance check should flag if all the manure produced is not allocated over a rotation -Give 10% or so leeway room

Third group:

- Improve performance (17 runs more slowly than 16, especially cropping page)
- Users often have older, slower computers
- Data migration is one-way (data loss when opening in 16 once opened in 17)
- Ditches that flow into stream need a SWQMA – can't add that in SnapMaps
- No use for soil sample points for some consultants.
- User interface needs work and is complicated. Use a dashboard layout, like tax software

C. Variable rate applications and precision technologies segment

Right now farmers don't have money to pay for precision ag, though company has the software. (SST).

Other software in used for variable rate applications are Field validitics (?) and SMS

Only the more high-value crops get variable rate (ex. snapbean, other vegies)

Part of the group was not very interested in having SnapPlus do anything related to variable rates on maps (already have the software that does the krieging) and felt like even having the sample points on the map was a waste. Those consultants with the VRT software give a jumpdrive to the coop doing the spreading.

In contrast, another wanted the sample points and the recommendations or soil test values for each point to be on the map for producers who can't afford VRT ("poor man's VRT)

Manure Tracker (*app for recording manure applications developed by the NPM program - no one had used this yet*) - SnapPlus should create an excel template for manure tracking that has the fields and manure sources as drop downs. Some plan writers are sending this kind of spreadsheet for tracking to their farmers.

No one in the meeting used the daily log. The LCD staff said they had small farms with a small number of fields (15-20) and it was relatively easy for them to update fields one by one.

One person wants the aerial photos in black and white.

There is a need to be able to indicate that manure is injected with "low disturbance injectors". This requires a known standard for low disturbance injectors.

Recommend contacting Richard Halopka (extension agent) who could help get information about the low disturbance manure injectors available.