Unlocking Your Header Data: A Grower's Guide

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Why this guide

If your header has a yield monitor, you may already own years of yield maps and not know it. Every harvest, the monitor logs yield, moisture and position to a card or USB stick in the cab. On older machines that data often just sits there, season after season, never looked at.

This guide walks you through getting that data off the card, opening it on your own computer, and answering two questions: do I actually have yield maps, and what do they show? No precision ag experience is needed, and the only cost is a card reader if you don't already have one.

Why bother? Yield maps are the cheapest starting point for precision agriculture. They show which parts of your paddocks consistently perform and which consistently don't, and that pattern is the foundation for zone soil testing, variable rate inputs and on-farm trials. You have likely already paid for the monitor. This is about collecting the return.

Step 1: Find the card and the right adapter

The media your monitor uses depends on its age and brand, and most laptops need a cheap USB adapter to read it. Pull the card from the monitor with the machine switched off, and check the glovebox and office drawer for older cards too. Cards from a previous owner of the machine are worth grabbing as well, their data can still be read.

Common setups (check your monitor manual if unsure):

Monitor era	Typical media	Adapter needed
John Deere GreenStar 1 (late 1990s to mid 2000s)	PCMCIA card	PCMCIA-to-USB reader (getting rare, buy online early)
John Deere GreenStar 2 (2600 display)	CompactFlash card	CF card reader, about $15 to $30
John Deere 2630 / GS3 and newer	USB stick	None, plugs straight in
Case IH AFS Pro 600 / 700	CompactFlash card	CF card reader
Ag Leader (Insight and older)	CF or PCMCIA card	Matching reader
Ag Leader Integra / InCommand, Topcon X-series, Trimble	USB stick or SD card	SD-to-USB reader if your laptop has no SD slot

A multi-format card reader (SD, CF and microSD in one unit) covers most situations for under $40 and is a good permanent addition to the farm office.

If the monitor has no removable card at all, or the card slot is dead, the data may still be exportable from the display’s internal memory. Check the manual for an export function before assuming the data is gone.

Step 2: Copy the card safely before you do anything else

The first thing to do with any card is copy the whole thing, untouched, to your computer. Yield monitor software is fussy about file names and folder structure, so a card that has been "tidied up" can become unreadable.

1. Plug the card in and open it in File Explorer.
2. Select everything on the card (Ctrl+A) and copy it into a new folder on your computer, for example `Yield Data Backup/Header card 1/`. One folder per card.
3. Do not rename, move or delete anything inside the copied folders, even files that look like junk. The odd-looking folders (names like `RCD`, `GS3_2630`, `CN1` or long strings of numbers) are exactly where the yield data lives.
4. Once copied, put the original card somewhere safe. From here on, work only from the copy.

If a card will not read at all, stop rather than reformatting it. A dealer or precision ag consultant can often recover data from a card that a laptop refuses to open, but not from one that has been wiped.

Step 3: Install SMS software (free)

SMS, made by Ag Leader, is the tool we recommend for this job because it opens the proprietary file formats from nearly every brand of yield monitor, including John Deere, Case IH, Topcon, Trimble and Ag Leader itself. That means one program handles whatever is on your card.

Two things to know upfront:

- SMS runs on Windows only. If the farm computer is a Mac, borrow a Windows laptop for this exercise.
- The free download is fully featured for 30 days. After that it can still be used to open and export raw yield maps, so there is no deadline hanging over your data. If you want the full feature set long term, SMS Basic is a one-off purchase of roughly US$750 plus annual maintenance.

To install, go to agleader.com, find SMS Software and download the free trial of SMS Basic. Follow the installer prompts and accept the defaults. When it first opens, SMS asks you to set up a "grower, farm, field" structure. Just enter your own name as the grower for now, it can all be renamed later.

Step 4: Import the data into SMS

SMS finds the yield data itself. You just point it at your backup folder and let the import wizard do the work.

1. **Read Files** is the import function on the main toolbar. Choose it in SMS.
2. Browse to the backup folder you made in Step 2 and select it. Select the whole card folder, not individual files. SMS scans it and works out which monitor and brand the data came from.
3. SMS lists what it found: operations like harvest, planting or guidance, with dates and field names (or generic names if the monitor was never set up with field names).
4. Tick everything harvest-related and run the import. On an older laptop a card with several seasons on it can take a few minutes.

5. When the wizard asks how to assign data to growers, farms and fields, accept its suggestions. Sorting out naming can wait.

Repeat for each card you backed up. SMS merges everything into one database, so multiple seasons and even multiple machines end up in the one place.

If SMS reports “no supported files found,” the most common cause is selecting a subfolder instead of the whole card copy. Go one folder level up and try again.

Step 5: Do you actually have yield maps?

After the import, expand the tree on the left of the SMS screen (grower, then farm, then field, then year). What you find will be one of three situations.

Situation A: harvest operations with yield data. You see harvest entries under your fields, and double-clicking one opens a coloured map of the paddock. This is the good outcome. You have yield maps, go to Step 6.

Situation B: coverage or guidance data only. The card imported, but there are no harvest operations, or the harvest maps show coverage (where the machine drove) without yield values. This usually means the yield monitor was switched off, not calibrated, or not fitted with a working flow sensor. The data still has some value, as coverage maps confirm the GPS worked. The fix is in the cab, not the computer: before next harvest, get the yield monitor logging and calibrated. Your dealer or a precision ag consultant can help set this up.

Situation C: nothing imported, or the card was blank. Some cards only ever held display firmware or setup files, and some were wiped when the machine was traded. If you have other cards, try those. If not, you are starting the data record this coming harvest, which is still a perfectly good place to start, and everything in Situation B's fix applies to you too.

Whichever situation you land in, you now know where you stand, which is more than most grain growers with older gear can say.

Step 6: Reading your raw yield map

Open a harvest map and ask one question first: does it show a real spatial pattern, or random noise? Real patterns look like patches, hills, dune swales, old fence lines or soil type changes you recognise from driving the paddock. Noise looks like salt and pepper with no shape.

Raw yield data always contains some rubbish, and knowing the usual suspects stops you either trusting the map too much or writing it off. Common quirks to expect:

- **Start and end of pass effects.** The first and last 20 to 50 metres of each run read low or erratic because grain takes time to travel from the front to the flow sensor.
- **Part-swath overestimation.** Runs where the comb was not full (edges, point rows, opening up) read artificially high or low depending on the monitor setup.
- **Uncalibrated seasons.** If the whole paddock reads a suspiciously flat 2.0 t/ha, the monitor was probably never calibrated with a weighed load that year. The pattern can still be real even if the absolute numbers are not.

- **Moisture spikes and GPS dropouts.** Odd single points or short jagged runs, usually isolated and easy to spot.

The key message: raw does not mean useless. Look at two or three seasons of the same paddock side by side. The low patches that appear in every season, wet year or dry, are telling you something durable about that soil, and that stable pattern is what precision ag builds on. Proper data cleaning can come later, and is a job a consultant can do in bulk once you know the data exists.

Where to from here

Once you have seen what you own, it is still worth getting a copy of the data into a permanent home in an open format. Two sensible options:

- **Export from SMS.** Export each field's harvest data as shapefiles or generic text/CSV files into your backup folder. These open in almost any mapping software, now or in ten years.
- **A free cloud platform.** John Deere Operations Center is free regardless of machinery colour and imports most common formats, giving you online maps without buying software. Other platforms exist, and your agronomist may already use one you can share data into.

Either way, also keep the untouched card copies from Step 2. Storage is cheap and original files are irreplaceable.

Then set the next harvest up to log well, because from here every season adds to the record:

1. Calibrate the yield monitor with at least one weighed load (a truck over a weighbridge, or chaser bin scales) early in harvest, per crop type.
2. Check the moisture sensor is clean and reading sensibly.
3. Confirm the swath width setting matches the front, and that operators cut full swaths where practical.
4. Pull the card and back it up straight after harvest, while it is front of mind.

Finally, once you know you have usable yield maps, the door opens to the next steps of the precision ag journey: multi-year yield pattern analysis, management zones, zone-based soil testing and variable rate inputs. Those steps are where an agronomist or precision ag specialist earns their keep, but the step you have just taken, finding out what data you own, costs almost nothing and is yours to do.