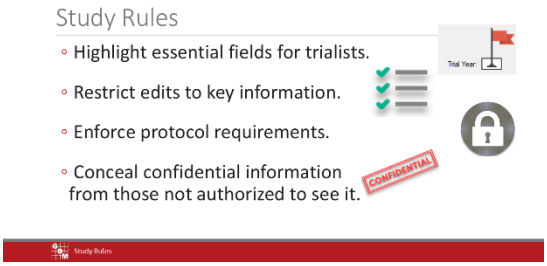
Introduction to Study Rules

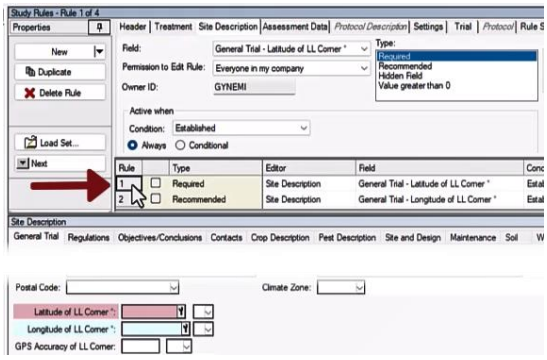


This video introduces Study Rules and how to leverage them to improve the consistency of trial data and protect critical information.

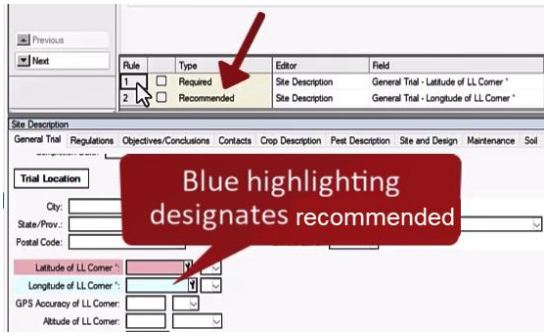
Open the Study Rules editor via Window > Study Rules or through the Navigation Pane.

ARM Study Rules create directions to follow when conducting a trial. Use the Study Rules editor to add or modify study rules. Add Rules to a study in order to:

- Highlight essential fields for trialists
- Restrict edits to key information
- Enforce protocol requirements
- and conceal confidential information from those who are not authorized to see it.



We already have a few rules configured. Click on a rule to display the relevant information above it. We will focus on the first rule as an example. We are working with the GPS coordinates, specifically the latitude field in the site description of the general trial. The rule type is Required, meaning the trialist must fill in this field in order for ARM to consider the trial valid.



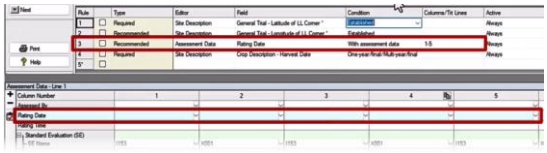
Use a Recommended rule as an alternative. This option highlights the field as important but not mandatory. It doesn't throw an error if left blank, but it prompts the user to fill it in. Use " Condition " to determine when the rule applies. ARM bases most of these options on the trial status, located on the General Trial tab of the Site Description editor.

The trial status provides a sense of progression, e.g.

- Setup refers to the planning stage of the trial.
- Established refers to when the trial is ready to start.
- Interim applies as the trial progresses throughout the season.
- Final indicates everything has been wrapped up and finalized.

This timeline helps us decide when to apply a rule. In this case, the GPS coordinates should be known as soon as the trial is planned and established. Other fields, such as a harvest date, require different timings. The harvest date typically isn't known until the trial is complete. Therefore, using Final trial status as the condition makes sense.

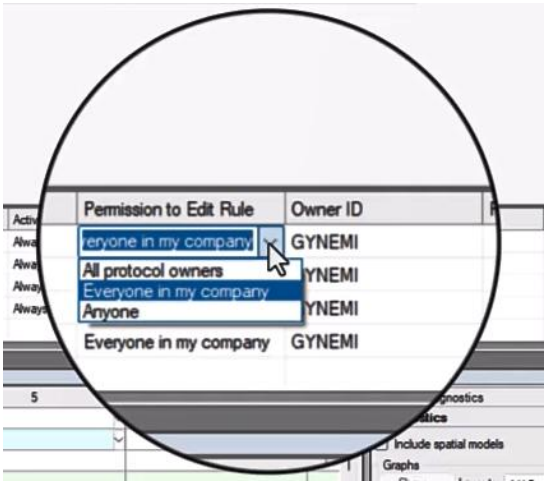
Moving to the next rule, we are now focusing on the rating date field in the Assessment Data Editor. This rule is recommended, not mandatory. However, this designation draws attention, making completion more likely.



Since each assessment appears as a separate column in the editor, the condition applies to individual columns rather than the trial status. Data is gradually entered into these columns as research progresses and assessments are performed. The rule activates when the trialist enters data into a specific assessment column.

A rule can apply to every column, or you can use Columns / Treatment Lines to specify that it only applies to specific planned assessments or treatment components. This flexibility lets you tailor rules to exactly where they are needed.

The Permissions column determines who can modify a rule. As the person creating the rule, you have master permissions, meaning it is your rule to manage. You can grant permissions to others if needed.



Permissions may extend to everyone in your company or all protocol owners. You can also make the rule editable by anyone, but that could lead to issues — like someone deleting a critical rule and invalidating the trial. Even if the rule remains visible as guidance (eg, a reminder to fill in the rating date) , allowing unrestricted editing could undermine its purpose.

Setting permissions to " everyone in your company " is advised. This ensures flexibility should something unusual happen and the protocol writer is unavailable to address the issues. While these scenarios might be unlikely, having the ability for anyone in the sponsor company to remove a rule and send the trial back is valuable flexibility.

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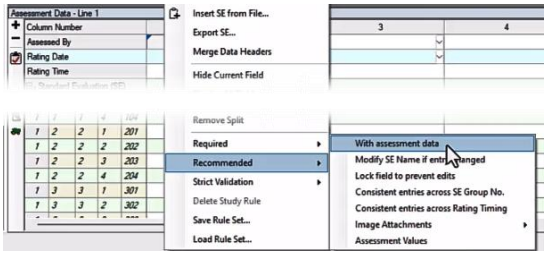
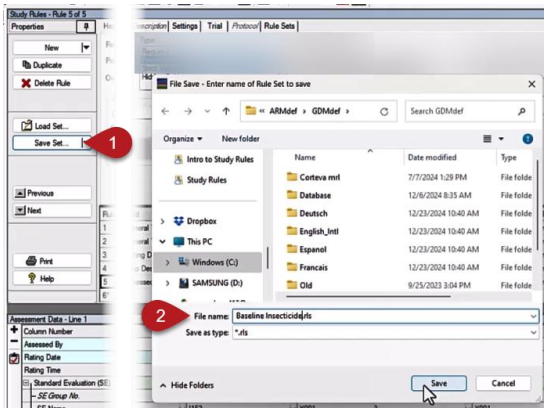


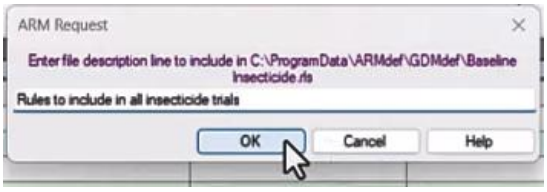
Add Study Rules with the New button on the Study Rules editor or by right-clicking directly in the desired field. Please note: not all trial fields appear in the protocol. This means that some study rules must be initially added in a trial but can be saved for later use, including in a protocol.

Once you have identified and created the necessary rules for a trial, save the list of rules as a set to reuse in other studies. This saves time and ensures consistency across trials.

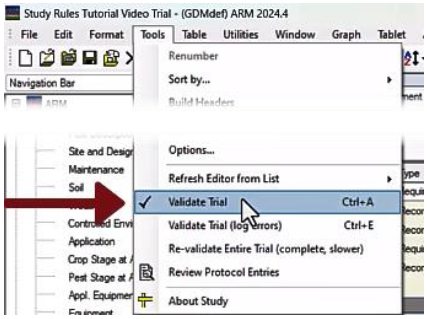


Click Save Set, which prompts you to create a file on your computer. This process is similar to saving report options in ARM. In the future, you can load the saved rule set instead of manually configuring rules for each trial.

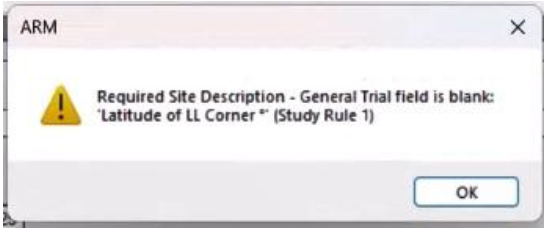
When saving a rule set, it is important to use a clear file name that describes its purpose. For example, if you frequently conduct fungicide trials, you may need specific Pest parameters. On the other hand, a variety study might focus more on crop details. Naming the rule set appropriately helps to quickly identify when to use it.



Additionally, ARM allows you to add a file description for further clarification. It provides additional context when selecting a rule set. Once saved, you can load rule sets in future protocols through the Study Rules Editor or the Rule Sets tab.



Run validation to double-check that your trial meets the defined study rules. This is the most efficient way to identify any unsatisfied rules and make corrections. The validation feature is marked with a checkmark icon at the bottom of the tools menu.



During the validation process, ARM quickly scans the trial for issues. For example, it flagged a required field in the site description that was still blank — specifically, the Latitude field. ARM even explains why the field is required, linking it to study rule number one.

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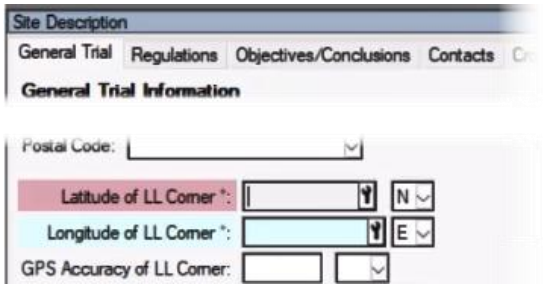
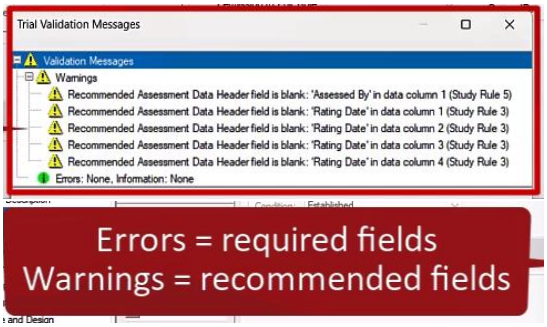
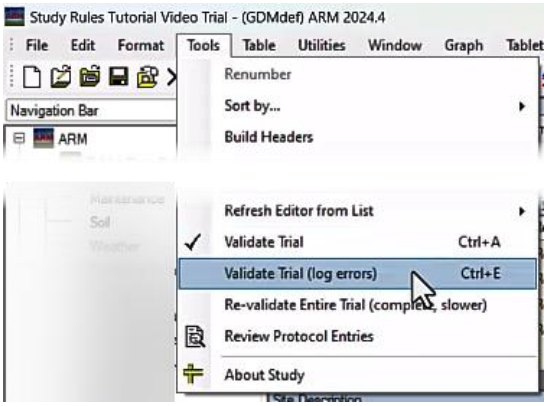


When you click OK, ARM automatically navigates to the exact field that needs attention. For instance, if I need to enter GPS coordinates, I fill in the field and watch as the highlight disappears, indicating the rule has been satisfied.

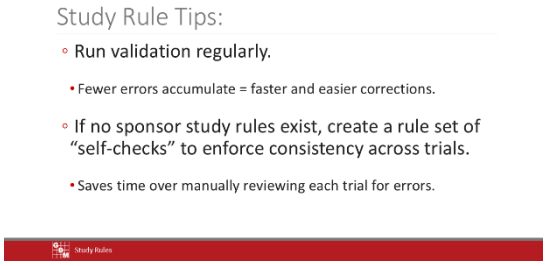


Next, let's check out another validation option: Validate Trial and Log Errors. Instead of stopping at the first issue, ARM runs through all the rules and checks, compiling a full list of errors. This list includes required fields from different study rules and warnings for recommended but non-mandatory rules.



Sponsors can run Validation and log errors to confirm whether the trialist completed all required data. You can copy the error list and email it to the trialist if information is missing. They can make the necessary updates to ensure the trial passes validation and meets all specified requirements.

This workflow is helpful for sponsors and encourages trialists to perform validation themselves before submitting their work.



It's essential to run validation regularly as data is entered throughout the trial season. The process is quick — rerunning validation will only check for new changes. The more frequently you run it, the fewer errors accumulate, making corrections faster and easier.

Trialists can use validation to check for any rules from the sponsor. If no sponsor rules exist, you can create a personalized set of self-checks to enforce consistency across your trials. Save them as a rule set to quickly load and run validation instead of manually reviewing each trial for common errors....

For more information on validation, check out our tutorial video: https://gdmdata.com/Resources/Video-Tutorials/Validate-Your-ARM-Trial

Study rules are powerful tools regardless of whether you are a sponsor or a trialist. Check out our Advanced Study Rules tutorial video to learn more about this valuable tool!