

#### In this video:

Specifying P

- Reasons to fill in planned assessments
- Enter a couple of examples
- Hidden fields / View options

	Why	describe	assessments	now
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- 1. Communicate what data must be recorded
- Precise definition > casual description

Record data consistently across trials
Required for combining and summarizing data

Pest Code	AMAPA	~	AMAPA	$\sim$	AMAPA	$\sim$
Rating Type	CONTRO	~	%CONTROL	~		~
Rating Unit	%	~	0-100	~	0-100	~

In this video we will discuss the reasons for entering planned assessments into a protocol, demonstrate with a couple of examples, and introduce editor views by utilizing hidden fields.

There are two main reasons for filling in planned assessment ratings in a protocol.

First, this communicates to the trialist what data *must* be recorded. Using the assessment data editor provides a precise definition of what assessments to take and how they should take place, which is superior to a casual description that could be misunderstood.

The second reason is that the data will be returned in a consistent format across trials. There are often several ways to describe the very same assessment in ARM. For example, a simple % Control assessment could be filled out in at least three different ways if given to three different researchers.

By describing the rating ahead of time in the protocol, you ensure that the data is recorded consistently, and thereby can be combined and summarized easily. It is not an overstatement to say that spending 1 more hour to add assessment descriptions can save 10 hours standardizing trial data that was otherwise entered in different ways.

Column Number	1	2	3	4
Pest Type		~	~	~
Pest Code	~	~	· · · ·	
Pest Name	~	~	· · · ·	
Crop Code	~	~	· · · · · · · · · · · · · · · · · · ·	
Crop Name	~	~	· · · ·	
Description				
Rating Date	~	~	· · ·	
Part Rated	~ ~	~ ~	· · ·	~ `
Rating Type	~	~	· · · ·	
Rating Unit	~	~	· · ·	
Sample Size, Unit	~	~	· · · ·	
Number of Subsamples				
Assessed By	~	~	· · ·	
Rating Timing	~	~	· ~	

To demonstrate, let us begin by opening the tutorial protocol 'SpecifyingPlannedAssessments'.

In a protocol, the Assessment Data editor consists of just the assessment headers. This table is used to *describe* the assessment ratings that will be taken in the trial. Once we create a trial, a table will appear underneath the header, for entering actual plot data.



Assessment Data - Line 23			
Column Number		1	
Pest Type	w ~	Weed	8
Pest Code	AMAP	A	>
Pest Name	Palmer	amarar	nth ~
Crop Code			~
Crop Name			>
Description	Pest S	tand Co	unt
Rating Date			~
Part Rated	PLAN	T ~ I	• ~
Rating Type	COUP	LA	>
Rating Unit	PLANT	R)	>
Sample Size, Unit	1	PI	OT~
Number of Subsamples	1		
Assessed By			~

Rating Timing	Description	
OL	After Storage	
OS	Pre Emergence Shortly After Sowing	
OT	Shortly After Setting	
OU	Time	
OV	Average of X Evaluations	
WO	Evaluation: Winter	
OX	Total of X Evaluations	
P6	4-6 weeks Post Emergence	
PC	Shortly Before Closing of Rows	
PD	10 - 14 Days Post Emergence	
PE	Pre Emergence	
PG	Post deposition of Eggs	
PH	Shortly Before Harvest	
PI	Pre Sowing Incorporated	
PM	Just Before Post-Emergence Application	
PO	Early Post Emergence	
PP	Shortly Pre Planting or Pre Potting	
PU	Pre Sprouting	
SP	Stop Application	

Assessment Data - Line 36		_	_		_		_	_
Column Number		1		2		3		
Pest Type	W~I	Need		~		~		~
Pest Code	AMAPA		~		Y		~	
Pest Name	Palmer a	maranth	~		~		~	
Crop Code			~		Y		~	
Crop Name			~		~		~	
Description	Pest Sta	nd Count	100					
Rating Date			-		~		~	
Part Rated	PLANT	P	>	~	~	~	~	
Rating Type	COUPLA	1	~		Y		~	
Rating Unit	PLANT		~		Y		~	
Sample Size, Unit	1	PLOT	~		~		~	
Number of Subsamples	1							
Assessed By			~		~		~	
Rating Timing	PE		~		Y		~	
Days After First/Last Applic.	1							
Tit-Eval Interval								
Days After Emergence								
ARM Action Codes			~		~		~	
Number of Decimals								

otocol - (GDMdef) ARM 2019.2		ъ	Undo Selection		
Table Utilities Window	Graph Add-	x	Cut		
<b>⊠</b> • <b>≜ ∄ № ∦ №</b>	💼  🕄	-	Сору		
Assessment Data - Line 36			Copy Current Data Column		
Column Number	1		Paste		
Pest Type	W - Weed	-			
Pest Code	AMAPA		Insert Data Column		
Pest Name	Palmer amaran		Delete Data Column		
Crop Code			Insert SE from File		

Our first planned assessment is a Pest Stand Count taken pre-emergence. If we have a particular weed that we are studying, we can specify it here. Otherwise it would be up to the trialist to document which weeds were present.

Since we are not assessing the crop, we leave the Crop fields blank. The Description can be used as a short freetext description of the assessment.

We are counting how many weeds are present, so the Part Rated would be whole plants, and then specify that we are rating our pest (not the crop). Now filter the Type list on "Count" to see the Types related to counting. The unit is number of weed plants, and we want the total number of weeds in the entire plot.

Finally, use the Rating Timing to describe when the assessment should be taken within the season. This could be relative to an application, a previous assessment, harvest, or in our case, emergence.

Note that each assessment column corresponds to one individual rating or assessment. You may *record* several assessment values for each plot at one time, but each of these goes into a different column when entering the data.

Our next rating will be a Percent Control knockdown a week after our treatment application.

We are studying the same weed, so just copy those fields across from the previous column. Then enter a description for this assessment.

Assessment Data - Line 5										
Column Number			1					2		
Pest Type	w ~		Wee	d		W	~	We	ed	
Pest Code	AMA	PA			~	AM	AP/	ł		~
Pest Name	Palme	ar	amar	anth	~	Palmer amaranth				~
Crop Code					~					~
Crop Name					~					~
Description	Pest	Sta	and (	Count		%0	ont	rol -	1 wee	ek.
Rating Date					~					~
Part Rated	PLAN	١T	~	Ρ	~	PL	ANT	r ~	P	~
Rating Type	COU	PL	A		~	CO	NT	RO		~
Rating Unit	PLAN	IT			~	%				~
Sample Size, Unit	1		1	PLOT	~	1			PLO	T~
Number of Subsamples	1					1				
Assessed By					~					~
Rating Timing	PE				~					~
Days After First/Last Applic.										
Trt-Eval Interval						7 D	A-B			
Days After Emergence										
ARM Action Codes					~					~
Number of Decimals										

Assessment Data - Line 23							_			
Column Number		1			2	) I			3	
Pest Type	w ~	Weed		W~	W	ed		~		
Pest Code	AMAPA	1	~	AMA	PA		~			~
Pest Name	Palmer	amaran	th 🗸	Palme	er am	aranth	-			~
Crop Code			~				>	GLXMA		>
Crop Name			>				>	Soybean	1	~
Description	Pest Sta	and Cou	Int	% Cor	ntrol -	1 we	ek	Raw Gra	iin Wg	t
Rating Date			~				~			~
Part Rated	PLANT	~ P	~	PLAN	T	~ P	~	GRAIN	~ 0	
Rating Type	COUPL	A	~	CON	TRO		>	WEIGH	Г	~
Rating Unit	PLANT	1	Y	%			~	kg		~
Sample Size, Unit	1	PL	от~	1		PLO	T~	1	PL	.OT~
Number of Subsamples	1			1				1		
Assessed By			~				>			~

Assessment Data - Line 23				
Column Number		3	4	5
Pest Type	~		~	~
Pest Code		~		~
Pest Name		~		~ ~
Crop Code	GLX 🗤	Undo Ty	ping	
Crop Name	Soyt y	Cut		
Description	Raw	Conv		
Rating Date		Сору		
Part Rated	GR/	Copy Cl	urrent Data Colu	mn
Rating Type	WEI	Paste		
Rating Unit	kg	Insert Da	ata Column	
Sample Size, Unit	1	Delete D	ata Column	
Number of Subsamples	1	Insert SE	from File	
Assessed By		Export S	F	
Rating Timing		Merce F	)ata Headerr fro	m Study
Days After First/Last Applic.		werge	ata meaders no	in Study
Trt-Eval Interval		Hide Cu	rrent Field	
Days After Emergence		Display	All Fields	15
ARM Action Codes		Display	Hidden Fields wi	th Information
Number of Decimals		Assessm	nent Data View C	ptions

We are still rating the weed plant, but this time recording the percent of weeds knocked down in the plot, relative to the check. Thus, the untreated plots will be recorded as '0' when data is entered.

The Treatment – Evaluation interval defines the amount of time between a treatment application and this assessment rating. Since we want this rating to occur a week after the last application, enter "7 Days after application code B". Note that in a protocol this field is used to communicate when to take the rating, but in the trial it is used to document the actual timing of the assessment.

Our final assessment will be the harvested weight. We want the trialist to simply enter the raw harvested weight, then when we get the data back we can convert the yield to a "per area" basis ourselves.

This time we fill in the Crop information, since we are rating an aspect of the crop.

Again, the Part Rated, Rating Type and Rating Unit are critical for describing the assessment.

Please note that this not intended to be the BEST way to fill in a Yield data column or a % Control assessment. Everyone may fill the assessment header in differently, but the key is to enter the assessment description IN THE PROTOCOL so that all of your trials will use the same description when data is returned.

You may have noticed that there several fields that we never filled in, like the Rating Date or Assessed by. In our case these would only be filled in by the trialist, and maybe some of these fields you would never use for your type of research. ARM can hide these fields from your view, so are not visible on the screen.

Right-click into a field and choose 'Hide current field' to remove it from the table. You can even hide fields that contain information. Know that this is simply the *view* of the information in the study, so entered information is not actually lost.



Column Number		3				4		5			6		Properties		ą.
Pest Type	~				~			~		~	Hide	den Rields		_	*
Pest Code				~			~		~			Pest Scientific N	lame	Collection Basis, Unit	
Pest Name				~			~		~			Crop Scientific I	lame	Crop Stage Scale	
Crop Code	GLXM/	A		~			~		~	Ì		Crop Variety		Crop Stage Majority	
Crop Name	Soybea	an		~			~				N	Rating Date		Crop Stage Minimum	/Maximum
Description	Raw G	irain 1	Wgt		-	-	-				45	E Group No.		Pest Stage Majority	
Part Rated	GRAIN	N V	C	~	5	~	~	~	~	Ì	5	E Name		Pest Stage Minimum	/Maximum
Rating Type	WEIGH	HT		~			~		~			SE Description		Pest Density, Unit	
Rating Unit	kg			~			~		~			alculation			
Sample Size, Unit	1		PLOT	~			~		~		<				>
Number of Subsamples		-		~			-						Default - Brie	ef fields visible	
Assessed By				~			~		~			~	Default - Fert	tilizer helds visible n-pest fields visible	
Rating Timing				-			4		~			~	Default - Tak	blet Data Entry	

sessment Data View Data	Collector Special Config.	ration GD	Mdef Studies		Assessment View		
Column filter					View Options		
Promot	Match	Sout	Vieible A	- Data origin	Visible Col 3/3		
Crop Density, Unit	(All)			Both	Refresh		
Pest Stage Majority	(All)			Entry status	Hidden: Row		
	(AII)			Both ~	Manua		
Pest Stage Minimum/Maxim	(AI)			- Hide columns with no treatment	Original		
AN ALL AND AN	(AII)			differences	All fields		
Pest Density, Unit	(AII)				Hidden fields with info Hide empty fields		
Footnote Number	(AE)				Default - All visible		
Assessed By	(AII)				Default - Fertilizer field		
	Clear	Clear	Show Al	Î.	Default - Non-pest fiel Default - Tablet Data		
Directory and an table			Hide All				
3					Merge from Study		
Display using decimals ac Restore assessment data	sort order			View subsamples			
Auto-hide Properties pane	d.			By column 🗸			
Display treatment informat	tion for current treatment			Cursor order			
Automatically recalculate	after edits	1		By column across 'Plot' 🗸 🗸			
Display Treatment Name	as in V	1		Columns: 1			
Ask whether to add new	data column into existing 5	Earoup		Lise color bands			
	,		By 'Plot' experimental unit				
Beep at end of subsample				Restance 1 1 Constant 0 1			
Beep at end of subsample Beep when movement ch	langes			PLACE PLACE IN CONTRACT PLACE INC.			
Beep at end of subsample Beep when movement ch Automatically rename ima	ges Prompt ~			man ines.	1		

Then on the Properties Panel at the right,  $\Box$  you can re-enable fields that were previously hidden, by simply clicking on the box next to the field name.

The choice of which data entry fields are visible and the way they are presented on the screen is called the editor **View** in ARM.

Most of the editors in ARM have their own View Options with even more choices for customization. Note that all of these settings are saved to your computer, not within the study file itself. Thus, they apply to any study that you open, and anyone else viewing your studies can have their own view of the information.