FIELD ID NO: _____

IR-4 FIELD DATA BOOK

PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

A. EQUIPMENT

*INSTRUCTIONS: Complete a separate form for **each piece** of planting equipment used for planting seed in the trial.*

EQUIPMENT USED FOR PLANTING _____

EQUIPMENT IDENTIFIER[1] _____

[1]*Each piece of equipment must have a unique identifying name or code*

ANY OTHER EQUIPMENT EMPLOYED WITH THE PLANTER: *(e.g., tractor)* _____

_____

NUMBER OF PASSES THAT ARE NEEDED TO PLANT THE PLOT _____

NUMBER OF HOPPER OUTLETS USED	
SPACING BETWEEN HOPPER OUTLETS	
DESCRIPTION OF PLANTER (HOPPER/DRILLS)[Please include a picture in Part 6B]	

_____

_____

_____

_____

PLANTED AREA (include units) _____

ABOVE DATA ENTERED BY: _____ *DATE:* _____

Total number of pages in this section at initial pagination: ____

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IR-4 FIELD DATA BOOK

PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

B. DIAGRAM OF PLANTING EQUIPMENT

*INSTRUCTIONS: Complete a separate form for **each piece** of planting equipment used in the trial. Sketch a diagram and/or provide clear photograph or other image of planting equipment.* Include the following required items in the sketch or image:1) Relative location of the bed and the hopper outlet placement and planting pattern in relation to the field

2) Assign each hopper outlet a unique number

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IR-4 FIELD DATA BOOK

PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

C. SEEDING RATE CALIBRATION FOR **PLANTING EQUIPMENT**

INSTRUCTIONS: Use this form when conducting full (3-run) calibrations or rechecks. If conducting a recheck, please provide calculations to verify that the output is within +/-5% of the most recent full calibration.

If you are conducting a 3-run target check, please use the 3-run target check form provided on the IR-4 website.

EQUIPMENT IDENTIFIER_____

DISCHARGE CALIBRATION DATE_____ TIME_____ PERFORMED BY_____ *(INITIALS)*

APPROXIMATE TIME OF DAY THAT THE CALIBRATION WAS PERFORMED_____

LOCATION WHERE THE CALIBRATION WAS PERFORMED_____

DISCHARGE UNITS MEASURED *(e.g. kg, lb, g, oz)* _____

INSTRUMENT USED TO MEASURE SEED WEIGHT_____

BRIEFLY DESCRIBE PROCEDURE USED TO CALIBRATE EQUIPMENT _____

_____

_____

Output Run Number		1	2	3	
Hopper Outlet Number on Planting Equipment (These numbers should match those shown in the equipment diagram in 6.B)	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				
	10				
	11				
	12				Total
Total Output Volume					A
Mean per outlet					B
Time (seconds)					C
Hopper Discharge Rate					Average Discharge Rate* D _____

Is this a recheck?

Yes _____
No _____

* A/C=D

Is the discharge rate of each run within 5% of the mean? YES____ NO_____ NA_____

Are individual outlet outputs within 5% of the mean during each run? YES____ NO_____ NA_____

If this is a recheck, are results within 5% of original output? YES____ NO_____ NA_____

ABOVE DATA ENTERED BY: _____ DATE: _____

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IR-4 FIELD DATA BOOK

PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

D. SPEED CALIBRATION FOR PLANTING EQUIPMENT

INSTRUCTIONS: Complete a separate form for additional times when a complete calibration or calibration- recheck of planting equipment is required.

EQUIPMENT IDENTIFIER _____

SPEED CALIBRATION DATE _____ _____ PERFORMED BY_____ *(INITIALS)*

TERRAIN OF CALIBRATION TRACK *(e.g. tilled field)* _____

LOCATION WHERE THE CALIBRATION WAS PERFORMED_____

BRIEFLY DESCRIBE PROCEDURE USED FOR SPEED CALIBRATION _____

_____

_____

_____

SPEED CALIBRATION: *Calculate the speed of the planting equipment. If appropriate, note the gear setting and /or RPM setting used in the speed calibration. Indicate the distance (in feet) of the track on which the planting equipment was tested to determine speed (e.g. speed of planting equipment tested for 100 ft.). The speed is calculated by dividing the length of test track (in feet or meters) by the time needed to cover that length (in seconds). Entry prompts have been provided for 2 additional runs. If this is a recheck, calculate the result is within 5% of the original calibration. Show all calculations.* ***A speed recheck (one run) is required whenever an output recheck is performed, except for multiple plantings within a study that are made on the same day on the same farm.***

RUN	GEAR	RPM	Length of test track (include units)	TIME (sec)	CALCULATED SPEED (include units)	
1						
2						
3						
Total of test run times (sec)			Average time (sec)		Average speed	

CALCULATIONS:

WHAT THIS A RECHECK OF SPEED CALIBRATION? *(Check one)* YES_____ NO_____

IF YES, WERE RESULTS WITHIN 5% OF ORIGINAL CALIBRATION? YES_____ NO_____

The original calibration data, or a true copy, must be in this field data book.

NOTE: A target speed may be used for planting calculations, rather than the mean of three runs, but for each planting a full speed calibration must be conducted (except for multiple plantings within a study made on the same day on the same farm), and the mean of the three runs must be within 5% of the target speed.

WAS THIS A CHECK OF A TARGET SPEED? *(Check one)* YES_____ NO_____

IF YES, WERE RESULTS WITHIN 5% OF TARGET SPEED? YES_____ NO_____

ABOVE DATA ENTERED BY: _____ *DATE:* _____

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PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

E. SEEDING RATE CALIBRATION FOR PLANTING

INSTRUCTIONS: Complete a separate form for each planting, unless the same parameters are used; such as you are using the same equipment, and have performed a recheck to confirm the result of the full calibration. Determine the seeding rate delivery from the planting equipment. Briefly describe the procedure, including formulas used to determine seeding rate calibration. Show all calculations and units. Equations used in electronic (computer software) calculations in this trial must be transcribed or printed out and attached here. Computer-generated values (as opposed to those entered by the field cooperators) must be reviewed and clearly delineated by circling, initialing, and dating.

PROCEDURE/FORMULA:

CALCULATIONS:

ABOVE DATA ENTERED BY: _____ *DATE:* _____

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IR-4 FIELD DATA BOOK

PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

F. MIXING CALCULATIONS FOR **ANY INOCULANT**

INSTRUCTIONS: Complete a separate form for the inoculant calculations. Show all calculations, formulas, and results below, define units of measure, and cite the initials of the person performing the calculations. Equations used in electronic (computer software) calculations in this trial must be transcribed or printed out and attached here. Computer-generated values (as opposed to those entered by the field cooperators) must be reviewed and clearly delineated by circling, initialing, and dating.

DESCRIBE HOW THE INOCULANT WAS APPLIED AND IF THERE WERE ANY AFFECTS ON THE TREATED SEED (i.e., loss of colorant)_____

_____

_____

_____

DESCRIBE HOLDING AND TRANSPORT OF SEED FROM STORAGE AREA TO LOCATION OF TEST SITE *(E.g.: "Seed held securely in an insulated cooler during transport to field site in the bed of a pickup truck" or "Seed mixed with additive within walking distance of the storage building")*

_____

_____

_____

_____

ABOVE DATA ENTERED BY: _____ *DATE:* _____

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PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

G. PLANTING INFORMATION PLANTING DATE _____

HAS THE PLANTING EQUIPMENT BEEN USED SINCE THE LAST CALIBRATION/RECHECK WAS PERFORMED? *(Check one)* YES_____ NO_____

(If you are about to check YES, then a recheck is usually required.)

INSTRUCTIONS: Complete information in the space provided below. Provide the name of the test substance on the seed; the batch or lot number of the seed; the approximate time the seed was weighed and the approximate time the seed was planted in the plots, along with starting and ending weight of the seed, the name and weight of the additive used, if any.

	TRT Number_____	TRT Number _____
TEST SUBSTANCE ON SEED		
BATCH/LOT NUMBER OF SEED		
TIME WEIGHED /BY WHOM[1]		
TIME PLANTING BEGAN/BY WHOM[1]		
TIME PLANTING ENDED/BY WHOM[1]		
EQUIPMENT IDENTIFIER		
STARTING WEIGHT OF SEED (*Include units: kg, lb, g, or oz)*		
ENDING WEIGHT OF SEED (*Include units: kg, lb, g, or oz)*		
TOTAL SEED PLANTED (*Include units: kg, lb, g, or oz)*		
ADDITIVE INCLUDED		
WEIGHT OF ADDITIVE (*Include units: kg, lb, g, or oz)*		

[1] *The identity of the person that performed this task may be entered by the person entering the rest of the data on this page. Initials are acceptable for identification.*

ABOVE DATA ENTERED BY: _____ *DATE:* _____

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PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

H. ADDITIONAL INFORMATION FROM **FOR PLANTING OF SEED**

PLANTING DATE_____

ENVIRONMENTAL DATA AT THE TIME OF PLANTING		Enter data in this column
MEASURED AIR TEMPERATURE *(Check F or C)*		**^{O}F___ ^{O}C___**
MEASURED WIND SPEED *(Check MPH or Km/Hr)*		**MPH___ Km/Hr___**
WIND DIRECTION FROM *(Check one)*	**N___ NE___ E___ SE___ S___ SW___ W___ NW___** or **NO WIND___**	
ESTIMATED % OF CLOUDS IN THE SKY		
MEASURED RELATIVE HUMIDITY%		
DEW *(heavy, light, none, etc.)*		
DESCRIPTION OF SOIL TILTH *(smooth, firm, packed, cloddy, etc.)*		
ESTIMATE OF SOIL SURFACE MOISTURE *(wet, moist, dry, etc.)*		
SOIL TEMPERATURE *(Check F or C)*		**^{O}F___ ^{O}C___**
DEPTH OF MEASUREMENT OF SOIL TEMPERATURE *(Check INCHES or cm)*		**INCHES___ cm___**

BRIEFLY DESCRIBE PROCEDURE USED TO CLEAN PLANTING EQUIPMENT BEFORE AND AFTER PLANTING THE UNTREATED AND TREATED PLOTS, AND IDENTIFY WHO CLEANED IT:

_____

_____

_____

_____

_____

CLEANED BY: _____

CLEANING DESCRIPTION ENTERED BY: _____ *DATE:* _____

ABOVE DATA ENTERED BY: _____ *DATE:* _____

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PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

I. PASS TIMES FOR **PLANTING OF SEED** PLANTING DATE_____

RECORD PASS TIME AND PASS DIRECTION - *Complete the table by providing the time required to make each pass of the planting equipment through the plot and direction of that pass (e.g. NE).*

	TREATMENT __		TREATMENT __		
PASS NUMBER	TIME	DIRECTION	PASS NUMBER	TIME	DIRECTION
1			1		
2			2		
3			3		
4			4		
5			5		
6			6		
7			7		
8			8		
TOTAL PASS TIME					

ABOVE DATA ENTERED BY: _____ *DATE:* _____

PROVIDE A BRIEF NARRATIVE SUMMARY OF THE SEED PLANTING

(E.g. *"Treated seed was planted in the treated test plot in two passes; one pass down each side of the row.")*

_____

_____

_____

_____

_____

_____

_____

_____

_____

SEED WAS PLANTED BY_____ *DATE:* _____

NARRATIVE ENTERED BY_____ *DATE:* _____

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PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

J. POST PLANTING RATE CONFIRMATION FOR **SEED TREATMENT**

PLANTING DATE_____

EXAMPLE FORMULAS: The formula below may be used to calculate the amount of TREATED SEED planted per hectare. Other formulas may be used instead; however, it is not sufficient to merely compare the actual seeding rate to the "practice" seeding rate.

1) $\frac{\text{X g seed planted in plot} \times \text{1 plot}}{\text{Plot dimensions (width (m) x length (m))}} \times \frac{10,000\ m^2}{\text{hectare}}$ OR

= grams seed applied per hectare

2) $\frac{\text{X g seed planted in plot} \times \text{1 plot}}{\text{Plot dimensions (width (ft) x length (ft))}} \times \frac{43,560\ ft^2}{\text{acre}} \times \frac{\text{lb}}{453.6\ g}$

= lbs seed applied per acre

****

WAS ACTUAL SEEDING RATE WITHIN -10% TO +10% OF PROTOCOL RATE?

(Check one) YES____ NO____ IF NO, **Contact the Study Director immediately.**

ABOVE DATA ENTERED BY: _____ *DATE:* _____

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IR-4 FIELD DATA BOOK

PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

K. POST TREATMENT RECORDS

Was There Any Visible Phytotoxicity? *(Check one)* YES___ NO___

If YES, fill in the box below* (or 6P if required by the protocol) and contact the Study Director. Provide a detailed description and if possible email pictures.

Is a phytotoxicity rating required in the protocol? *(Check one)* YES___ NO____

If YES, fill in the box below* (or 6P if required by the protocol).

Date Crop Was Observed: _____ *Initials/date*: _____

*Alternatively, a separate sheet with a description of the phytotoxicity may be inserted at the back of Part 6.

DESCRIPTION OF PHYTOTOXICITY SYMPTOMS:
PHYTOTOXICITY DESCRIBED BY: *(Initials/date)*
DATE STUDY DIRECTOR WAS CONTACTED: CONTACTED BY: *(Initials/date)*

Enter the requested information below for both the first rainfall and first irrigation after each planting. The rainfall/irrigation data entered below should be transcribed from the data included in Part 9 unless otherwise indicated on this page. **"NONE BEFORE HARVEST" or "NONE BEFORE SAMPLING" may be entered, if applicable.**

DATE OF FIRST RAIN *(Note the date of first rainfall after this planting.)*	
TIME AFTER PLANTING THAT PLOTS WERE EXPOSED TO FIRST RAINFALL (*Check DAYS or HOURS*) *(Enter #hours if first rainfall was on the date of planting.)*	**DAYS___** **HOURS ___**
AMOUNT OF WATER (*Check INCHES or mm*)	**INCHES___** **mm___**
RAIN INFORMATION RECORDED BY *(Initials/date*)	
TYPE OF IRRIGATION *(e.g. overhead, trickle, flood)*	
DATE OF FIRST IRRIGATION *(Note the date of first irrigation after this planting.)*	
TIME AFTER PLANTING THAT PLOTS WERE EXPOSED TO FIRST IRRIGATION (*Check DAYS or HOURS*) *(Enter #hours if first irrigation was on the date of planting.)*	**DAYS___** **HOURS ___**
AMOUNT OF WATER (*Check INCHES, mm, or mL*)	**INCHES___** **mm___** **mL___**
IRRIGATION INFORMATION RECORDED BY*(Initials/date*)	

If the data entered above differ from the rainfall/irrigation data included in Part 9, explain: _____

_____

_____ *Initials/date*: _____

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PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

L. DIFFERENTIATION OF MULTIPLE TRIALS CONDUCTED IN CLOSE PROXIMITY*

Are you conducting more than one trial in this study? YES___ NO___

Is another field research director in this study conducting a trial within 30 kilometers (18.6 miles) of your trial(s)? YES___ NO___

If "NO" is checked twice, then no other input is needed except for signing and dating at the bottom of each page.

If "YES" is checked at least once, then an independently prepared tank-mix must be used in each trial, except in studies in which this is not applicable such as studies with granular formulations.

In order to differentiate these trials, select one option from the list below.

If 3 or more trials in this study cannot be differentiated by the same options, then you should check all options that have been used, and explain below which options are differentiating between which trials.

If different crop varieties are being used as a differentiation option, then enter below information that explains why these varieties were chosen. Examples: Variety A produces large fruit, whereas Variety B produces small fruit. Variety A produces fruit with a smooth skin, whereas Variety B produces fruit with a rough skin. Variety A has heavy foliage that shields the commodity, whereas Variety B has light foliage that exposes the commodity more.

If options are used that are listed in the protocol but are not listed in the table below, then enter descriptions below.

*Trials conducted in different calendar years are exempt from these requirements. (If separate trials by the same person or within 30 km are conducted in late fall/early winter, then the differentiation options should be used to reduce the possibility of data rejection by a regulatory agency.)

Check the options used to differentiate the trials that you are conducting in this study:

Option	√	Description
A		Trial sites must be separated by at least 30 km (18.6 miles) [measured as straight line distance]
B		Planting date (for annual crops) or first application date in each trial is separated by at least 30 days
C		Different crop variety (different size or shape at maturity, rough vs. smooth surface, different amount of foliage shielding the commodity, different rate of growth)—confirm with Study Director if this option will be chosen

Trial IDs of other trials in this study to which these options are being applied:

_____

Enter below any additional information that will improve the understanding of the options that have been chosen:

_____

_____

_____

_____

_____

ABOVE DATA ENTERED BY: _____ *DATE:* _____

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PART 6. PLANTING RECORDS-SEED TREATMENT TRIALS

M. EQUIPMENT MAINTENANCE AND REPAIR LOG

INSTRUCTIONS: Complete this form or provide equivalent information. Provide dates and a brief description of maintenance and repair work completed on the application equipment relevant to this trial. Be sure to date and initial all entries.

APPLICATION EQUIPMENT IDENTIFIER_____

EQUIPMENT USED FOR **APPLICATION NUMBERS**_____

INITIALS/DATE_____

RECORD DATES AND BRIEF DESCRIPTION OF ANY MAINTENANCE AND REPAIR WORK DONE ON THE APPLICATION EQUIPMENT, OR ATTACH TRUE COPIES OF THE LOGS.
ALSO RECORD SOP# FOLLOWED, IF APPLICABLE.

Initials and Date	Was Maintenance or Repair routine? (Check one)		SOP#	Description
	Yes	No[1]		

[1] If non-routine, include in the description the nature of the defect, when discovered, and the action taken.

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