

TECHNICAL NOTE

USDA-Natural Resources Conservation Service
Boise, Idaho - Salt Lake City, Utah

TN PLANT MATERIALS NO. 17

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FIELD AND DEMONSTRATION PLANTINGS

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Aberdeen, Idaho PMC Grass Display Nursery demonstrating differences in phenology and morphology of 'Bromar' and 'Garnet' mountain brome (*Bromus marginatus*). Photo by Dan Ogle, NRCS, Idaho

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Introduction

Field plantings are non-replicated, small acreage plantings used by the Plant Materials Program (PM) to assess the conservation potential of new or developing plant materials and technology under actual field conditions. Field plantings are among the many tools used in the plant materials program to evaluate and promote plant materials and can serve a number of purposes.

First, field plantings are an excellent way to complete final evaluations of promising plant materials under real life (farmer installed with actual farm equipment) conditions. The plant materials program depends on landowner participation to field-test new selections of grasses, forbs, and woody plants and the best methods to get them established. This happens by working with local conservation districts and NRCS field offices that are routinely in contact with local farmers and ranchers who show interest in looking at new plants and technologies. This unique relationship allows the plant materials program to field-test new plant materials and establishment technologies in a “real world” setting on farms and ranches throughout the PMC service area and other promising locations. The results of field plantings provide information and confidence to conservation planners to recommend these plant materials to address various conservation needs.



Field Planting of Aberdeen PMC Releases

Snake River Plains fourwing saltbush

Northern Cold Desert winterfat

Anatone bluebunch wheatgrass

Photo: Dan Ogle, Plant Materials Specialist, NRCS, Boise, Idaho; Near White Bird, Idaho

Second, field plantings can be utilized to further test and potentially promote released plant materials. This includes both new and older releases whose adaptation or utilization in addressing conservation concerns and landowner priorities may not be fully understood. This technique builds field staff confidence in well-adapted plant materials. Conservationists will more readily recommend plant materials they are familiar with over materials with which they have no experience.

Third, field plantings are a good means to evaluate the plant material's value to solve a specific resource problem or concern; for example, when it is uncertain what materials will work best to solve that specific problem or concern. This application is essentially a non-replicated Conservation Field Trial (CFT). These are used as a tool to evaluate new technologies, species or plant releases to address local soil and water resource problems. Data obtained in field plantings can further be used to expand information available in plant guides and technical note recommendations for specific practices.

Field offices should also consider the use of demonstration plot plantings. Demonstration plantings are composed of small plots of plants that are grown side by side for simple comparison of vigor, plant size and other growth characteristics. The species planted in these plots should be those typically used for conservation purposes within the general area of the demonstration planting. These simple demonstrations allow land owners and field staff to compare different species or different releases of the same species. Demonstration plots are also a useful place for field staff to show a land owner what a species looks like when it is being recommended.



Demonstration Turf Plot Planting, Ontario, OR. Photo: Dan Ogle, NRCS, Idaho

Field plantings should not be confused with other plant materials selection trials such as Initial Evaluation Plantings (IEPs), Advanced Evaluation Plantings (AEPs) and common garden

studies. These are replicated scientifically designed studies conducted under controlled settings in order to find and document differences between accessions of a species.

Field Planting Design and Development

Field plantings are not intended to be a scientific study. These plantings are almost never installed under replicated conditions. However, under most circumstances, they should be installed along side a standard of comparison (the species or plant materials currently utilized under similar conditions). The Plant Materials Specialist or Plant Materials Center staff can work with you to design a planting or suggest species appropriate to the site and landowner objectives.

The field planting process should be initiated either by the conservation district, field office staff or the land owner. Field offices are encouraged to suggest field plantings to cooperative land owners. The field office can then contact the plant materials center or plant materials specialist to determine if potential species and accessions are available and for assistance in developing a planting plan.

Because there is rarely much seed available for allocations, field planting seed requests are usually limited to enough seed to plant 0.25 to 5 acres, and the cooperator is asked to plant the remaining area to the standard of comparison. Demonstration plots are typically considerably smaller in scale and require a minimal amount of seed.

The form NRCS-ECS-09 (appendix) is required for developing plans for field plantings in cooperation with the land owner(s).

Obtaining Seed

To obtain seed for a field planting, seed can be requested from the Plant Materials Center(s) (PMCs) or Plant Materials Specialist (PMS). This is often done through the representative to the state Plant Materials Committee. If seed is available at the PMC(s), no cost is required for the field planting seed. If seed is not available through PMC(s), then seed may need to be purchased. This is most commonly done by working with the State Resource Conservationist or Assistant State Conservationist and using CTA funds to complete the purchase. Because this is a technology transfer – technology development program primarily between the Field Office and landowner, no PMC funds (funds intended for the operation of the PMC) should be expended. The standard of comparison seed is normally provided by the landowner. Remember to plan ahead - seed requests must be made well in advance of the desired planting.

Evaluation

The PMC and PMS would like to obtain as much information as possible regarding the planting in order to make the data obtained accessible to a broad audience. Typically field plantings are evaluated for percent germination, survival of planted material and other general growth measurements. Evaluations are commonly conducted annually for the first three to five years of the planting and then only every 3- 5 years thereafter. Once all information considered of value to the Field Office, PMC or PMS has been obtained, then the planting is commonly cancelled and no longer evaluated.

A Planting and Site Information form ID-ECS-01 (appendix) should be completed at the time of installation. This will provide basic site information and installation/management practices that can be useful in developing progress reports, plant guides, technical notes and other documents.

Several forms are available for the evaluation of different types of field plantings.

- ID-ECS-02 Evaluation of Herbaceous Species
- ID-ECS-03 Evaluation of Woody Species
- ID-ECS-04 Evaluation of Demonstration/Plot Plantings
- ID-ECS-05 Evaluation of Seed Increase Plantings

These forms are usually filled out by the field office staff and the landowner. Not all data is required, but the more information that is provided, the more valuable the results will be for future reference. Certain items on the evaluation sheet may not apply to all plantings. The forms are intended as a guide and can be modified or supplemented as necessary.

Field planting evaluations (copies) should be submitted to the PMC or PMS. Evaluations will then be used to develop summaries of this information which will be presented at Plant Materials Committee Meetings, Field Offices and other interested parties.

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PLANTING PLAN FOR FIELD, SPECIAL AND INCREASE PLANTINGS

Planting No. _____ Field Office _____

Cooperator _____ Phone Number _____

Address _____

State _____ County _____ MLRA _____

Township _____ Range _____ Section _____

Latitude _____ Longitude _____ Location Map Provided Yes

Soil _____ Texture _____ Soil Modifier _____

Slope % _____ Aspect N S E W Elevation ft or m _____

Annual Precipitation in or mm _____ Irrigation Available Yes No

Number of Acres to be Planted/Seeded _____

	Scientific Name or Common Name	Cultivar/Release Name	Accession Number	Seeding / Planting Rate	Amount Needed	Supplied By
1						
2						
3						
4						
5						

Site History Previous Three Years

20 _____

20 _____

20 _____

Purpose of Planting

Proposed Planting Date or Period _____

Method of Planting to be Used

Materials Needed	Rate/Acre	Notes
Lime		
Fertilizer		
Herbicide		
Mulch		
Material 1		
Material 2		

Print Form

Clear Form

PLANTING PLAN FOR FIELD, SPECIAL AND INCREASE PLANTINGS (CONTINUED)

To Be Completed By The Assisting Conservationist

- | | | |
|---|------------------------------|-----------------------------|
| Does the cooperater understand the purpose of planting? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Does the cooperater understand the cultural practices needed? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Does the site meet the requirements in the planting guide? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Is it conveniently located? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Is it on the soil identified in the plan? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Will the planting be grazed? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| When? | | |
| Has the cooperater agreed to properly manage the planting? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Are weed control measures needed? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Will weeds be managed? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Will field and equipment be checked prior to planting? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Does the cooperater need assistance with planting? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Will NRCS personnel assist with planting? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Will follow-up assistance be provided? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| To periodically check on the planting? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| To complete required evaluations? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
- Location map for the planting must be provided/attached.

Evaluations to be conducted

Comments

I understand that this planting is for research and demonstration purposes and agree to participate in the establishment, maintenance and evaluation of this planting.

Cooperator:	Name/Signature	<input style="width: 95%;" type="text"/>	Date _____
Submitted By:	Name/Signature	<input style="width: 95%;" type="text"/>	Date _____
Approved (SCD):	Name/Signature	<input style="width: 95%;" type="text"/>	Date _____
Approved (PM):	Name/Signature	<input style="width: 95%;" type="text"/>	Date _____

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Print Form

Clear Form

PLANT MATERIALS – PLANTING AND SITE INFORMATION (as installed)

COOPERATOR _____ PLANTING NO. _____

CULTIVAR/ACC.NO. 1. _____ 2. _____ 3. _____
 4. _____ 5. _____ 6. _____

FIELD OFFICE _____ PURPOSE _____

PLANTING DATE _____ EVALUATOR _____

SOIL _____ SOIL pH _____ SOIL LIMITATIONS _____
 SLOPE / ASPECT _____ / _____ RAINFALL ZONE _____ ELEVATION _____

INSTRUCTIONS; EACH COLUMN REPRESENTS A DIFFERENT SPECIES
 WRITE IN THE APPROPRIATE DATA

WRITE IN SPECIES AT TOP OF COLUMNS: _____

SEEDBED PREPARATION	TILLAGE	_____	_____	_____	_____	_____	_____
	PACKING	_____	_____	_____	_____	_____	_____
	OTHER	_____	_____	_____	_____	_____	_____
CONDITION OF SEEDBED	excellent, good fair, poor	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
KIND OF MATERIAL	seed, sod, clone, cutting, graft, sprig, layering	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANTING METHOD	SEED	DRILL - SPACING	_____	_____	_____	RATE PER ACRE	_____
		AERIAL - BROADCAST	_____	_____	_____	RATE PER ACRE	_____
	TREE/ SHRUB	HAND PLANT	_____	_____	_____	TREE PLANTER	_____
SOIL MOISTURE	good, adequate, too dry, too wet	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WEED INFESTATION	none, light, moderate, severe	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
IRRIGATION	KIND	_____			FULL-SEASON	LIMITED-SEASON	
HERBICIDE KIND:		LBS/ACRE	_____	_____	_____	DATE APPLIED	_____
FERTILIZER, NITROGEN		LBS/ACRE	_____	_____	_____	DATE APPLIED	_____
FERTILIZER, PHOSPHORUS		LBS/ACRE	_____	_____	_____	DATE APPLIED	_____
FERTILIZER, POTASSIUM		LBS/ACRE	_____	_____	_____	DATE APPLIED	_____
FERTILIZER, OTHER	_____	LBS/ACRE	_____	_____	_____	DATE APPLIED	_____

COMMENTS:

PLANT MATERIALS – EVALUATION OF HERBACEOUS PLANTINGS

COOPERATOR _____ PLANTING NO. _____

CULTIVAR/ACC.NO. 1. _____ 2. _____ 3. _____

4. _____ 5. _____ 6. _____

FIELD OFFICE _____ PURPOSE _____

EVALUATION DATE _____ EVALUATOR _____

AVE. ANNUAL PPT _____ (CIRCLE) FAVORABLE AVERAGE UNFAVORABLE

INSTRUCTIONS;

EACH COLUMN REPRESENTS A DIFFERENT SPECIES

WRITE IN THE APPROPRIATE DATA - NUMBER FROM BELOW OR ANSWER

1 - EXCELLENT 3 - GOOD 5 - FAIR 7 - POOR 9 - VERY POOR 0 - NONE

		1	2	3	4	5	6
WRITE IN SPECIES AT TOP OF COLUMNS:		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
STAND	SUCCESS	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANTS/FT2	NUMBER	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
SURVIVAL	PERCENT	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
VIGOR		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ABILITY TO SPREAD		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
EROSION CONTROL		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
FORAGE PRODUCTION		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PRODUCT PRODUCED	HAY						
	SILAGE						
	PASTURE (AUMs)						
PLANT HEIGHT	INCHES	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
YIELD	TONs / ACRE	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
	AUMs/ACRE	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
UTILIZATION: none, light, moderate, severe		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANT INJURY: none, light, moderate, severe		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
KIND OF INJURY: disease, insect, rodent, hail, drought, grazing, flood, winter, fire, machine							
WEED INFESTATION: none, light, moderate, severe		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WILDLIFE USE v. high, high, moderate, low, none		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
SEED PRODUCED	YES / NO	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____

PLANT MATERIALS – EVALUATION OF HERBACEOUS PLANTINGS

DROUGHT TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
FLOOD TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
SALT TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ACID TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WATER TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
STAND MANAGEMENT		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
IRRIGATION KIND		_____			FULL SEASON	_____	
		_____			LIMITED SEASON	_____	
FERTILIZER, NITROGEN		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, PHOSPHORUS		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, POTASSIUM		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, OTHER		LBS/ACRE	_____			DATE APPLIED	_____
COOPERATOR'S EVAL.	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ADAPTED TO SITE	YES / NO	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____

COMMENTS:



PLANT MATERIALS – EVALUATION OF WOODY PLANTINGS

COOPERATOR _____ PLANTING NO. _____

CULTIVAR/ACC.NO. 1. _____ 2. _____ 3. _____
 4. _____ 5. _____ 6. _____

FIELD OFFICE _____ PURPOSE _____

EVALUATION DATE _____ EVALUATOR _____

AVE. ANNUAL PPT _____ (CIRCLE) FAVORABLE AVERAGE UNFAVORABLE

INSTRUCTIONS: EACH COLUMN REPRESENTS A DIFFERENT SPECIES

WRITE IN THE APPROPRIATE DATA - NUMBER FROM BELOW OR ANSWER

1 - EXCELLENT 3 - GOOD 5 - FAIR 7 - POOR 9 - VERY POOR 0 - NONE

WRITE IN SPECIES AT TOP OF COLUMNS:

SURVIVAL	PERCENT	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
	NO. Alive / Planted	1 _____ / _____	2 _____ / _____	3 _____ / _____	4 _____ / _____	5 _____ / _____	6 _____ / _____
VIGOR		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ABILITY TO SPREAD		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANT HEIGHT	INCHES	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
CROWN WIDTH	FEET	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
Diameter @ Breast Height	DBH - INCHES	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANT UNIFORMITY		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
BRANCHING PATTERN	DENSITY		Sparse <40%		Moderate 40-60%		Dense > 60%
FRUIT PRODUCTION		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
FRUIT MATURE	DATE	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANT INJURY: none, light, moderate, severe							
KIND OF INJURY: disease, insect, rodent, hail, drought, grazing, flood, winter, fire, machine		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WEED INFESTATION: none, light, moderate, severe		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WILDLIFE USE v. high, high, moderate, low, none		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
EROSION CONTROL		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
DROUGHT TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____

PLANT MATERIALS – EVALUATION OF WOODY PLANTINGS

FLOOD TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
SALT TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ACID TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WATER TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
IRRIGATION KIND	_____	FULL SEASON			LIMITED SEASON		
FERTILIZER, NITROGEN		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, PHOSPHORUS		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, POTASSIUM		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, OTHER	_____	LBS/ACRE	_____			DATE APPLIED	_____
PESTICIDE, KIND	_____	LBS/ACRE	_____			DATE APPLIED	_____
COOPERATOR'S EVAL.	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ADAPTED TO SITE	YES / NO	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____

COMMENTS:

PLANT MATERIALS – EVALUATION OF DEMONSTRATION/PLOT PLANTINGS

COOPERATOR _____ PLANTING NO. _____

CULTIVAR/ACC.NO. 1. _____ 2. _____ 3. _____

4. _____ 5. _____ 6. _____

FIELD OFFICE _____ PURPOSE _____

EVALUATION DATE _____ EVALUATOR _____

AVE. ANNUAL PPT _____ (CIRCLE) FAVORABLE AVERAGE UNFAVORABLE

INSTRUCTIONS; EACH COLUMN REPRESENTS A DIFFERENT SPECIES
 WRITE IN THE APPROPRIATE DATA - NUMBER FROM BELOW OR ANSWER

1 - EXCELLENT 3 - GOOD 5 - FAIR 7 - POOR 9 - VERY POOR 0 - NONE

WRITE IN SPECIES AT TOP OF COLUMNS:

STAND	SUCCESS	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANTS/FT2	NUMBER	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
SURVIVAL	PERCENT	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
VIGOR		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ABILITY TO SPREAD		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
EROSION CONTROL		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
FORAGE PRODUCTION		1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANT HEIGHT	INCHES	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
YIELD	TONS / ACRE	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
	AUMs / ACRE	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
UTILIZATION:	none, light, moderate, severe	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
PLANT INJURY:	none, light, moderate, severe						
KIND OF INJURY:	disease, insect, rodent, hail, drought, grazing, flood, winter, fire, machine	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WEED INFESTATION:	none, light, moderate, severe	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WILDLIFE USE	v. high, high, moderate, low, none	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
SEED PRODUCED	YES / NO	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
DROUGHT TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____

PLANT MATERIALS – EVALUATION OF DEMONSTRATION/PLOT PLANTINGS

FLOOD TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
SALT TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ACID TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
WATER TOLERANCE	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
IRRIGATION KIND		_____			FULL SEASON	_____	
		_____				LIMITED SEASON	_____
FERTILIZER, NITROGEN		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, PHOSPHORUS		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, POTASSIUM		LBS/ACRE	_____			DATE APPLIED	_____
FERTILIZER, OTHER		LBS/ACRE	_____			DATE APPLIED	_____
COOPERATOR'S EVAL.	N/A	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
ADAPTED TO SITE	YES / NO	1 _____	2 _____	3 _____	4 _____	5 _____	6 _____
COMMENTS:							

PLANT MATERIALS – EVALUATION OF SEED INCREASE PLANTINGS

COOPERATOR _____ PLANTING NO. _____
 RELEASE NAME 1. _____ SPECIES NAME _____
 FIELD OFFICE _____ PURPOSE SEED INCREASE
 EVALUATION DATE _____ EVALUATOR _____
 AVE. ANNUAL PPT _____ (CIRCLE) FAVORABLE AVERAGE UNFAVORABLE

INSTRUCTIONS; WRITE IN THE APPROPRIATE DATA - NUMBER FROM BELOW OR ANSWER

1 - EXCELLENT 3 - GOOD 5 - FAIR 7 - POOR 9 - VERY POOR 0 - NONE

STAND SUCCESS 1 _____
 VIGOR 1 _____
 SEED PRODUCED 1 _____
 SEED PRODUCTION POUNDS / ACRE BULK _____ CLEAN _____
 PLANT HEIGHT INCHES 1 _____
 FORAGE PRODUCTION YIELD - TON / AC. 1 _____
 PLANT INJURY: none, light, moderate, severe 1 _____
 KIND OF INJURY: disease, insect, rodent,
 hail, drought, grazing,
 flood, winter, fire, machine 1 _____
 WEED INFESTATION: none, light, moderate,
 severe 1 _____
 STAND MANAGEMENT: 1 _____
 IRRIGATION KIND _____ FULL SEASON _____ LIMITED SEASON _____
 HERBICIDE KIND _____ HERBICIDE RATE _____
 FERTILIZER, NITROGEN LBS/ACRE _____ DATE APPLIED _____
 FERTILIZER, PHOSPHORUS LBS/ACRE _____ DATE APPLIED _____
 FERTILIZER, POTASSIUM LBS/ACRE _____ DATE APPLIED _____
 FERTILIZER, OTHER _____ LBS/ACRE _____ DATE APPLIED _____
 COOPERATOR'S EVAL. 1 _____

COMMENTS: