

Seeds of Success Web Portal for Accessioning

2017 National Native Seed Conference February 16, 2017 Washington, DC

Mike O'Neal BG-BASE, Inc. <u>moneal@bg-base.com</u>



Why a web portal? Some history



• *Oldest* SOS accession: August 28, 2000, ID931-DEBOLT2240, *Philadelpus lewisii*



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• First *databased* accession: June 8, 2006, CO932-1, *Heterotheca villosa*

Data captured by filling out forms in the field and sending to D.C.



		Please complete	OCK CAPITALS to all the priority elevant descriptio	fields labeled i	in bold.		Serial N LANTS	
Date Collected	00.70	SYY):		Seed Colle	ection Refer	rence Num	ber:	
Collector(1):		- ²⁰ 19		20 84		2	- 25	Δ
Country:	USA	Ecoregion:		State:		Court	Ŋ:	
Location D	letails:			10				
		N	-		PS Used?:	Tes	No	West days and the state
Lat. (dg/mi	ŧ		-			1.10		If no, please see other side.
Long. (dg/mi	=	w	-		PS Datam	NAD83	N4D2	7 WGS84 Other:
Elevation			Landows	ner Details (Per	mission?):			
HABITAT I			- X I			2		
Hab Amoriated Sy	pecies:							
Modifying F	actors 7	Mowed Barned	d Graved Fi	looded Seede	d Tranpl	led Other:	8	
	Form				1	Slope*:		
1000	ad Use					Aspect:	NN	EESESSWWM
	sology:				_	index.	10 14	
	- F		Col		1 64	The second		
		Clay Silt Sand			100031	d Color:		
		TA - If plant	has been idea	attfied by a :	specialise,			· · · · · · · · · · · · · · · · · · ·
	amily:				-			Sampled:
	Genus:				No.	of Plants 1		
S	pecies:					Area	Sample	d (acres):
Subspecies/V	aciaty:	(C)						
Seed: Collect	ed From:	Plantz Grou	und Bath					
Plant Habit	Tree	Shrub Forb	Succedent Or	an Granble	_	P	last Hei	ight (feet):
Doe	a the pres	used specimen he	ave the same re	ference as the	seed collect	tion?: Te	a N	lo
If not, collector, re lodged, and		abere						
Notes to arrive of pressed	odor, pre	n (e.g.			80	7		
flower color, of clouely r								
flower color, of clouely r Common Na		fante:						1

	tion & Seed Dispersal Stage
Approximate area	of population x (feet, yarda, miles)
Approximate total	number of individual plants present and accessible: 0-50 50-509 500-5000 > 5990
Evidence of distur	basics or damage: Resoren Burnt Sprayed <u>No damage</u>
Readiness of popul Vegetative	lation for collecting: give percentages or circle the most frequently occurring: In flower Instatute seeds <u>Around natural dimensal</u> Post dispersal
Estimate the ment	er of individual plants at natural dispersal stage. <50 <u>>50</u>
Is the population: <u>A ringle popu</u>	lation A population with distinct sub-populations (Can you sample separately or from the most suitable?)
Assess Seed Q	uality & Availability
On a typical indivi	idual, where on the plant/busich/fruit is the seed at natural dispersal stage Recognized
	the seeds at this stage, give percentages or circle the most frequently occurring: Invect-damaged Empty Moldy Malformed/other damage
Estimate the manh	er of healthy seeds per fruit
Estimate the ment	or of fruits per individual plant:
Should Seed B	e Collected On This Trip?
	formation, if you only collect 20% of the healthy seeds available today, will this result in a collection of
Map Publisher Series Map Coordinates	Scale
Herbaruum vo	ucher specimens: ad Specimens: 2 3 4 or more
Number of Press Circle one: a. b.	All Herbarian duplicates will be sent to Kew to arrange labeling, verification and distribution (default) One duplicate will be sent to
Number of Frem Circle cas:	One deplicate will be and to
Number of Frem Circle one: A b c By default, beside	One deplicate will be and to
Number of Press Circle cos: A. b. c. By default, beside like to request that Regional Horberis	One deplicate will be and to
Number of Press Circle cos: A. b. c. By default, beside like to request that Regional Horberis	Ore deplicate will be sent to



"Quick, grab the decoder..."

Associated Species (Scientific Name):	SAVE-4, Salsola Kali, Descurainia sophia, Cleame Intea +
Ecological Site Description, Habitat Type and/or National Vegetation Classification :	Schri-olesert sound Busin Big Sugebrish- HECOLC +

Location Details:	st BLM road Se of Handes willo to right of Henry mins. access road. continue 1.2 miles Sid.





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- First *databased* accession: June 8, 2006, CO932-1, *Heterotheca villosa*
- 2009 Technology Improvement Project

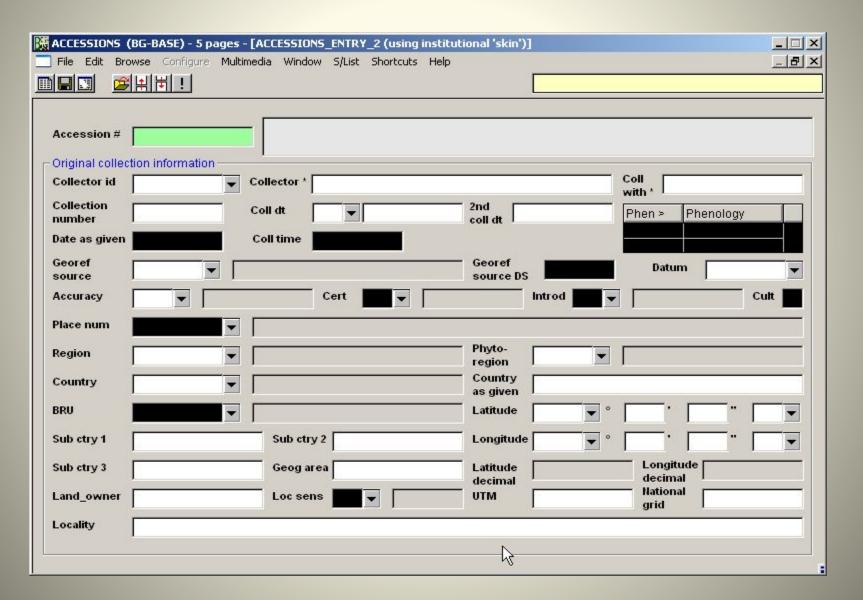


Technology Improvement Project (2009)



- Rugged laptops and GPS units provided
- Capture data electronically in the field
- Data emailed to Washington, DC office
- OF SUCCESS
- Electronically incorporated in national SOS database

BG-BASE configured to capture data pertinent to SOS collecting teams . (Fields in black were turned off.)



BG-BASE

Data captured by filling out forms in the in the field and sending to D.C.



ate Collected	Pi Pi	lesse circle relevi	I the priority fields ant descriptions sh		NRCS PLAT	
Collector(s):	10	- 20° - 150 -	100	84	2	19. 19
Country:	_	coregion:	5	State:	County:	
Lat. (dg/min	(sec): N			GPS Used?	Tes No	If no, please see other side.
Long. (dg/min	=		1	OPS Datien:	NAD83 N	4D27 WG584 Other:
Elevation	-		Landowner Dr	tails (Permission?):	-	
HABITAT					55	Ś.
Hab Amociated Sp	itat &					
Modifying Fe	ictors Mov	red Burned	Grand Flooded	l Seeded Trang	led Other:	
Land	Form:				Slope':	
Lan	d Use:				Aspect: 7	V NE E SE S SW W NW
Ge	ology:				200	
Seil Te	oture Clay	y Salt Sand O	ther:	So	el Color:	
COLLECTI	ON DATA	- If plant ba	s been identifie	ed by a specialist	, please see	other side.
F	unily:				No. of FL	ants Sampled:
G	lemma:			Na	of Plants For	and (approx.):
S	ecies:				Ares Sa	mpled (acres):
Subspecies/V	winty:		81			
Seed: Collect	d From: /	Plants Ground	Bath			
Plant Habit	Tree Sh	nub Forb Su	cadent Grand	manhike	Plan	t Height (feet):
Doe		S 10 00	74 1.5	ce as the seed collec	-	No
	enter details ference, whe	of				2
01000000000		45- C0		łu,	ን	
of pressed flower color, of closely re	and species					
of pressed flower color, a		b r.				

Assess Populari	on & Seed Dispersal Stage
Approximate area o	f population: x (feet, yarda, miles)
Approximate total n	amber of individual plants present and accessible 6-56 59-599 500-5600 > 5996
Evidence of disturb	ann or dannage: Resonen Barnt Sprayed <u>No dannage</u>
Vegetative	
	r of individual planta at natural dispersal stage: <50 <u>>50</u>
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Assess Seed Qu	ality & Availability
On a typical individ	hal, where on the plant/branch/fruit is the seed at natural dispersal stage Recognized
	he seeds at this stage, give percentages or circle the most frequently occurring; mect-damaged Empty Moldy Malformed/other damage
Estimate the number	r of hmilthy souds per fruit
Estimate the number	r of fruits per individual plant:
Should Seed Be	Collected On This Trip?
	ormation, if you only collect 20% of the healthy seeds available today, will this result in a collection of
Series Map Coordinates	Scale: Mag Date (DDMdr/6 YY):
	cher specimens:
Number of Pressed	a perment: 2 3 4 or more All Herbarium duplicates will be sent to Kew to arrange labeling, verification and distribution (default)
8. d c	40 risersarum approaches wat de sont so know to arrange tabeling, veryboaton and attribution (aquato) Des duplicates will be sont to in Know to arrange labeling and distribution. All Herbarium duplicates will be sont to arrange labeling, veryfication and distribution.
	any herberia mentioned above, one specimen will be sent to Kew and one to the Smitheonian. If you would
like to request that a Regional Herberium	additional speciments be sent to regional and/or local herbaris, please fill in the following information:
referen internet	
If collection has	been identified by a specialist, please complete sections below: In Field From Promed Spectrum on Day of Collection Date identified
Material Identified	In Field From Pressed Spectmen on Day of Collection Data iteration From Pressed Spectmen on Another Date From Photograph (DDMM/YY):

BUM Service on Structure Press, David Found (Realand 25 June 100)



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2009 Technology Improvement Project

2016 SOS web portal goes live





Facilitates entry of accession data directly into the SOS national database by the collectors of the material instead of having this data entry occur solely in the Washington D.C. office.





• Available to any SOS partner with a web connection and granted access





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 Interface customized specifically for the SOS program





OF SUCCESS

• Available to any SOS partner with a web connection and granted access

Interface customized specifically for the SOS program

• Data incorporated directly into the national database and then reviewed by SOS staff





• Far less training needed than desktop *BG-BASE*, training can be done on-line





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On-line reporting tool more intuitive





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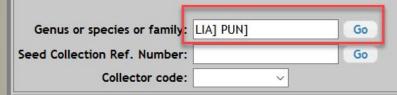
- On-line reporting tool more intuitive
- Web form can be accessed via tablets



Search criteria

Seeds of Success Field Data Form

Search (look up existing accession record)





Search results

Accessions (18 recs)					_
Current Page:	1/1 Rows/Pag	ge: 20 🕑 🖲			
Name	Acc#	Region	State	Year \$	
LIATRIS punctata	CBG-1625	Southern Rockies (Omernik)	Colorado	2010	Select
LIATRIS punctata	CBG-1887	Western High Plains (Omernik)	Colorado	2011	Select
LIATRIS punctata	CO932-197	Southern Rockies (Omernik)	Colorado	2009	Select
LIATRIS punctata	CO932-256	Western High Plains (Omernik)	Colorado	2010	Select
LIATRIS punctata	CO932-281	Southern Rockies (Omernik)	Colorado	2011	Select
LIATRIS punctata	CO932-52	Southern Rockies (Omernik)	Colorado	2003	Select
LIATRIS punctata	MT020-35	Northwestern Great Plains (Omernik)	Montana	2012	Select
LIATRIS punctata	MT050-5	Middle Rockies (Omernik)	Montana	2013	Select
LIATRIS punctata	MT923-17	Northwestern Great Plains (Omernik)	Montana	2012	Select
LIATRIS punctata	WY070-74	Northwestern Great Plains (Omernik)	Wyoming	2015	Select
LIATRIS punctata	WY930A-35	Western High Plains (Omernik)	Colorado	2010	Select
LIATRIS punctata	WY932A-154	Southern Rockies (Omernik)	Colorado	2013	Select

Export Data

Close



Search results

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🖲 🕚 Current Page:	1/1 Rows/Pag	ge: 20 🕑 🖲			
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LIATRIS punctata	WY930A-35	Western High Plains (Omernik)	Colorado	2	Select
LIATRIS punctata	WY932A-154	Southern Rockies (Omernik)	Colorado		Select

Export Data

Close

SEED COLLECTION REF. NUMBER:	MT050-5	Collector code:	MT050 ~ I	Dillon Field Office		
Date(s) Collected (MM/DD/YY):	09/11/2013	Collector(s):	Savage, K.			
		Collection Number:	5			
Date range (free text):	Alt.	Collection Number:				
Collection Data						
		LIATRIS punc	tata			
Genus or species or name code:	6297	Go				
Family:	ASTERACEAE	No. of Plan	nts Sampled (min. 50)	: Height: ~0.5'		
Genus: I	LIATRIS	No. of P	Plants Found (approx.)	: 2000		
Species: p	ounctata		Area Sampled (acres)	: 20		
Rank (var/for/ssp):			Seeds Collected From	e: Plants Ground	🔿 Both 🔿 Unk	
Plant Habit:			Plant Height (feet)	:		
Field Notes:	~400 plants sampled					
Common Name(s) of Plant: o	dotted gayfeather			NRCS plants code: LIPI		
Location Data						
Ecoregion (Omernik III): 17E M	Aiddle Rockies (Omerni	k)	V State: Mo	ntana ~	County: Madison	~
Subunit (BLM area, park, etc):			Area within	subunit:		
Land Owner: BLM and State			Non-BLM Pe	ermission Filed: OYes		
just after cross	ing McAfee bridge turn	left (south) and conti	nue about 2.5 miles to	Afee Bridge and continue a ward Ruby Creek Campgr Creek State Wildlife Mana	ound. Just past	
Source Used: GPS O Map O	None Accuracy:	Exact (GPS) ~	Datum:		WGS84 Other	
Lat. (dg/min/sec) 45°	3 26.29 N	~	Lon. (dg/mi	n/sec) 111° 4	40 10.38 W V	Мар
			Elevation:	5536 Elevation	n Unit: Feet 🗸	

Habitat Data

Associated Species	HESPEROSTIPA comata	ERIOGONUM microthecum	PSEUDOROEGNERIA spicata	ANTENNARIA sp.
(Scientific Name):	POA secunda			
Habitat:				
Modifying Factors:		azed 🗌 Flooded 🗌 Seeded 🗌 Ti	rampled Other	
Land Form:	River terrace		Slope(degrees): 2 degrees	•
Land Use:			Aspect: N N NE	
Geology:	Mixed alluvium			
Soil Texture:	Clay Silt Sand	ther	Soil Color:	
Number of press	· · · · · · · · · · · · · · · · · · ·	3		
Herbaria receiving	- the specimens:			
Specialist Id	fold	ς.		
	IN Field U From pressed sp	becimen on day of collection \bigcirc (From pressed specimen on anoth	er date 💛 From photograph
Date identified:				



Current Collection Summary

	Bureau of Land Management / PCA BLM / PCA Taxon count from the ACCESSIONS table Selection criterion: entire table 12 February 2017										
Cada	Majastavan	Families				Accessions	Plants	Decordo			
Code	Major taxon (undefined)	Families	Genera 2	Species 2	Taxa 2	ACCESSIONS 33	n/a	Records 33			
	(undelined)	1	2		2	33	n/a	33			
-	the state of the s	2	2	2	2	2	nla	0			
1000	fern	2	2	2	2	2	n/a				
G1	the state of the s	2 1 4	2 1 15	2 6 50	2 6 52	2 20 114	n/a n/a n/a	20			
G1 G2	fern gnetophyte	1	1	6 50	6 52	20 114	n/a	20 114			
G1 G2 D	fern gnetophyte conifer	1	1 15	6 50 3,612	6 52 4,283	20	n/a n/a	2 20 114 14,817 6,154			
F G1 G2 D M AN04	fern gnetophyte conifer dicot	1 4 133	1 15 915	6 50	6 52	20 114 14,817	n/a n/a n/a	20 114 14,817			

ca. 3000 of 21,141 accessions created using web portal

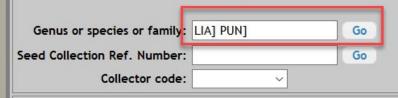


- Faster searches and more search options
- Enhance data entry efficiency (record copy, field copy)
- Additional mapping options
- Continued data integrity checks
- Greater coordination / synchronization with other cooperators (PLANTS, GRIN, ???)
- Utilization of other modules in BG-BASE?



Seeds of Success Field Data Form

Search (look up existing accession record)



Collection date / range Omernik region / state ???



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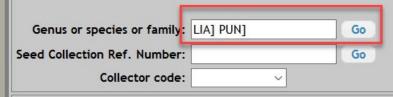


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		(omernik)				
LIATRIS punctata	WY930A-35	Western High Plains (Omernik)	Colorado	2010	Select	
LIATRIS punctata	WY932A-154	Southern Rockies (Omernik)	Colorado	2013	Select	
	1	lor i tra min	Ĭ	1		
		Map Ro	esults	Export Data	Close	



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- What else can *BG-BASE* do?

Habitat Data

Associated Species	HESPEROSTIPA comata	ERIOGONUM microthecum	PSEUDOROEGNERIA spicata	ANTENNARIA sp.
(Scientific Name):	POA secunda			
Habitat:				
Modifying Factors:		azed 🗌 Flooded 🗌 Seeded 🗌 Ti	rampled Other	
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Land Use:			Aspect: N NE	
Geology:	Mixed alluvium			
Soil Texture:	Clay Silt Sand	ther	Soil Color:	
Number of press	· · · · · · · · · · · · · · · · · · ·	3		
Herbaria receiving	- the specimens:			
Specialist Id	fold	ς.		
	IN Field U From pressed sp	becimen on day of collection \bigcirc (rom pressed specimen on anoth	er date 💛 From photograph
Date identified:				



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- What else can *BG-BASE* do?



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- What else can *BG-BASE* do?



Inventory Management

(Where is that Philadelphus seed collected in 2000?)

Location (first line is most recent) (when adding a new location, use Ctrl-N to create a blank line)

Code>	Location	Grid	X	Y	Z	C_t>	Change type	Q>	Plant date	#PIts	
62	Jamaica Plain, Map 62	SW	7569	293		M	moved	D	1 Apr 2009	1	-
EN	East Nursery, Dana Greent	28-08				M	moved	M	Sep 2008	1	
EN	East Nursery, Dana Greent	28-16				M	moved	M	Jun 2007	1	П
SH	Shade House, Dana Greer	18-09-01				M	moved	M	Jul 2006	1	
QLI	Shade House Dana Green	18-20-01				M	moved	M	lun 2004	1	1

Field checks /observations (first line is most recent) (when adding a new observation, use Ctrl-N to create a blank line)

Code>	Condition	Q>	Check dt	Rep >	Veg >	S>	C>	Check note	Check by >	
G	good	D	21 May 2015	0				Moderate insect damage (chewed leaves);	Port, K., Wood, J	~
E	excellent	D	23 Sep 2013					2-4" inches annual growth; vigorous; sinigle	Priest, M.	
G	good	D	19 Nov 2010		DA			Developing a new leader at about 1 m.	Port, K., Damery	
G	good	D	22 Sep 2008					1.6 M	Kadis, I.	
G	good	D	9 Aug 2007					1.1 M	Kadis, I.	V



Seed Bank Management

tel humidity Noisture Noisture SE Noisture echnique	ent %	Tempe	rature (°C		Dates Collect date	* * *	 1994 			Index Semin Index Semin IS num*	
Amounts Seed per gm	575						Amount		# total seed		# viable seed
Drig amount	16508	Unit	-		Qual	 Orig 	gm	Orig	0	Orig	0
					_	Left	am	Left	0	Left	0
		Unit	•	ļ		Leit	gm		10		10
amount Amount left	Amt_left	Unit	Qual	Change C	Amt_left_dt				10		10
amount Amount left (top line is	Amt_left 15058		Qual ca	Change C 200		Amt_left			10]0
Index sem amount Amount left (top line is most recent)	-			and the second se	16 Jan 2012	Amt_left seed re	t_misc	2			



Germination and Viability Testing Data

Pre treat* > (1	Pre tr	eatment f	ull	Q	Date	Time	Unit >	Unit full	Pre treatment misc
EX2	Excis	e seed fro	om fruit coating		15 Dec 2001				
								\;	
Storage condit	tions-								
Environment	-20	•	-20 deg C		Environ misc				
Light	D	•	dark		Light misc				
							- 100		
Temp regime	С	•	constant		Temp min (°C)		Ter	np max (°C)	
			constant st recent first) (use	Ctrl-N			Ter	np max (°C)	
/iability and g	ermina			-			Ter	np max (°C)	
	ermina	ibility (mo	st recent first) (use	Via	I to create a new li	ne)	Ter	np max (°C)	
/iability and go Viability % 95	ermina Viabil	ibility (mos	st recent first) (use Viability date 15 DEC 2001	Via all	I to create a new li bility misc seeds filled and n	ne) noist			
/iability and ge Viability % 95 Germin % (1)	ermina Viabil	ibility (mo	st recent first) (use Viability date 15 DEC 2001 Germin type full	Via all Med	I to create a new li bility misc seeds filled and n > Medium_full	ne) noist Germin	n date	Germin misc	
/iability and go Viability %	ermina Viabil	ibility (mos	st recent first) (use Viability date 15 DEC 2001	Via all Med SM1	I to create a new li bility misc seeds filled and n	ne) noist	n date		



Desiderata / Requests for Material

DESIDERATA -	[DESIDERATA_EN	TRY_1] - [DESIDERATA_ENTRY_1]				<u>v[25]</u>	
File Edit E	Browse Configur	e Multimedia Window S/List	Shortcuts He	elp			- & ×
	H H			New Line 1	of 2 / text leng	th: 1 (limit: 80)	
O'Neal, M., Arno	old Arboretum of H	larvard University, 125 Arborway, Bo	ston, MA 0213	0, United State	es		
Reg num	100000		- 0	Dates			
Beating			F	Req dt	D	7 Feb 2017	
Req type		internal	,	Need dt		2018	
Priority	1	high priority			Y	2018	
Int req by (STAFF)	VUO VU	O'Neal, M.	/	Attn of*	wws 🔻		
(0)(0))							
	12010000						
Justification an				_		1000	
		ustification onservation		Purpose > N	Purpose for restoration		
					restoration		
Req quantity	1000	it or Material type			Req	size Unit	
	(s	ee F1)	Mat type * SD	Material typ seed	e		
Proposed source *	1830	Smith Nursery, Charles City, IA	-				
Proposed source misc							
Index Sem yr			g acc num* e help (F1))			Qual	
Name	22889	Liatris aspera					
Country code*	US	United States					



Selected projects and collaborators

- Seeds of Success
- RBG Edinburgh Multisite Search
- BLM Recovery Plan Database

- Flora Conservanda
- RHS Plantfinder

 Seed Herbarium Image Project -Harvard (SHIP)



Seeds of Success Web Portal for Accessioning

2017 National Native Seed Conference February 16, 2017 Washington, DC

Mike O'Neal BG-BASE, Inc. <u>moneal@bg-base.com</u>



The preceding presentation was delivered at the

2017 National Native Seed Conference Washington, D.C. February 13-16, 2017

This and additional presentations available at http://nativeseed.info





