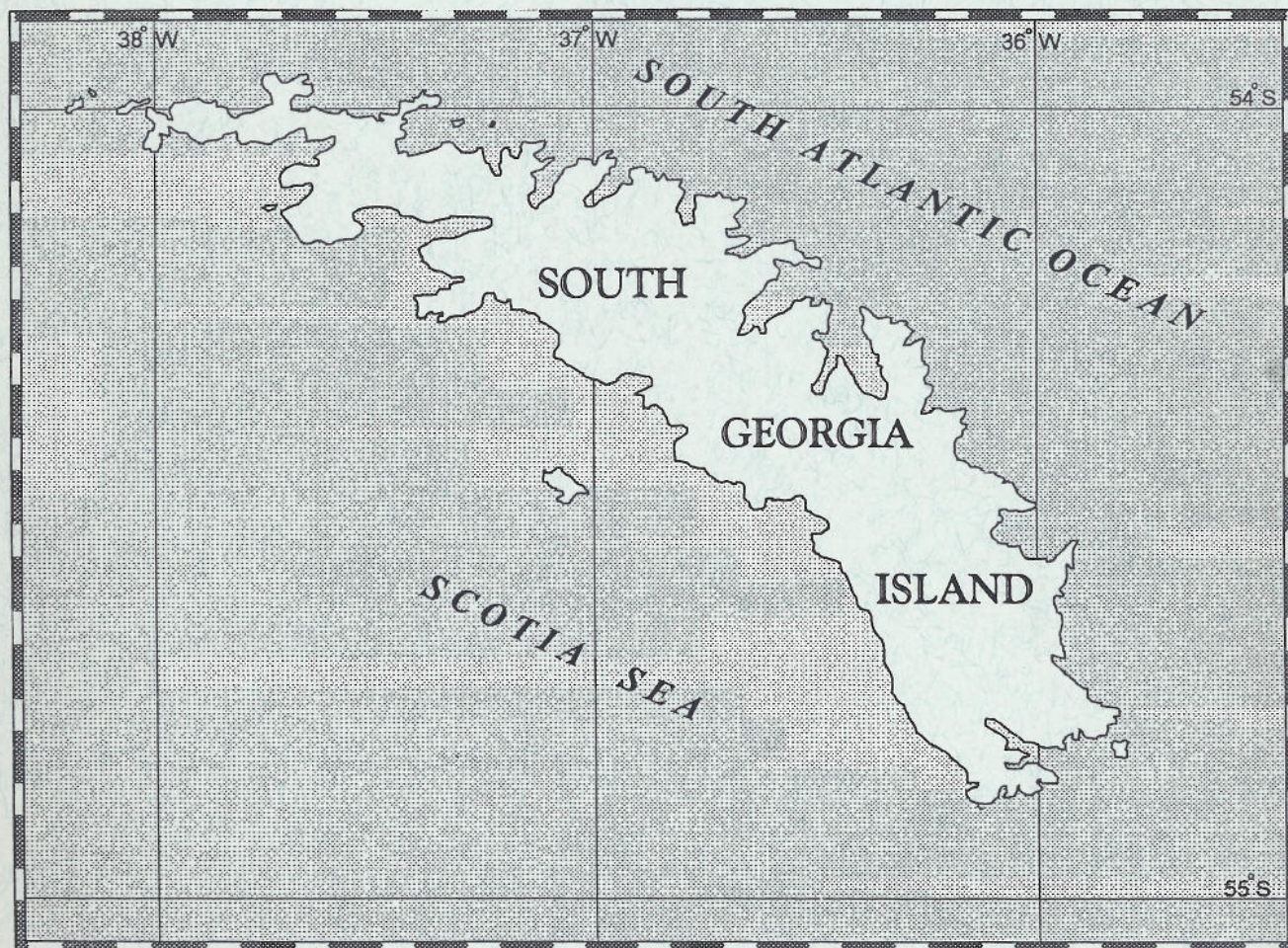


**SOUTH GEORGIA ISLAND/FALKLAND ISLANDS
GERMPLASM EXPLORATION PROJECT
2000**



MAY 2000

**South Georgia Island and Falkland Islands
Germplasm Exploration Project
January 2000
Final Report**

**Exploration Conducted
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**Project Funded By
U. S. Department of Agriculture
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**In Cooperation With
Government of South Georgia and
South Sandwich Islands
Stanley, Falkland Islands
And
Falkland Islands Government
Department of Agriculture
Stanley, Falkland Islands**

May 2000



Approaching South Georgia Island on board RFA Gold Rover,
December 1998.

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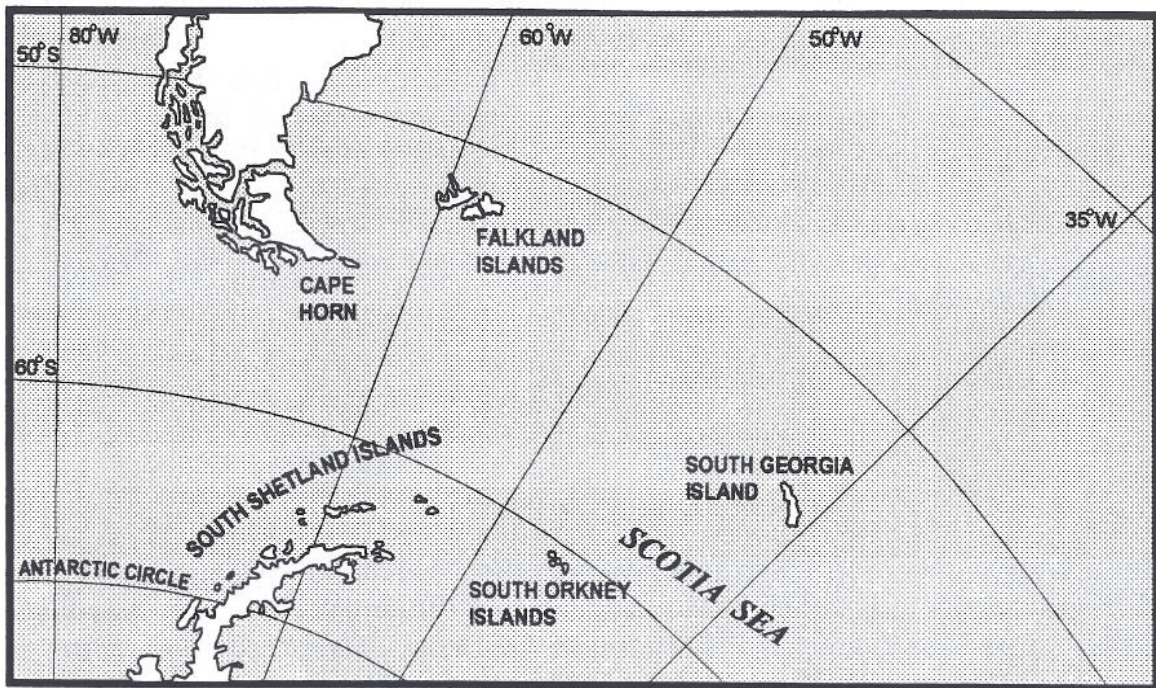


Figure 1. Falkland Islands and South Georgia Island.

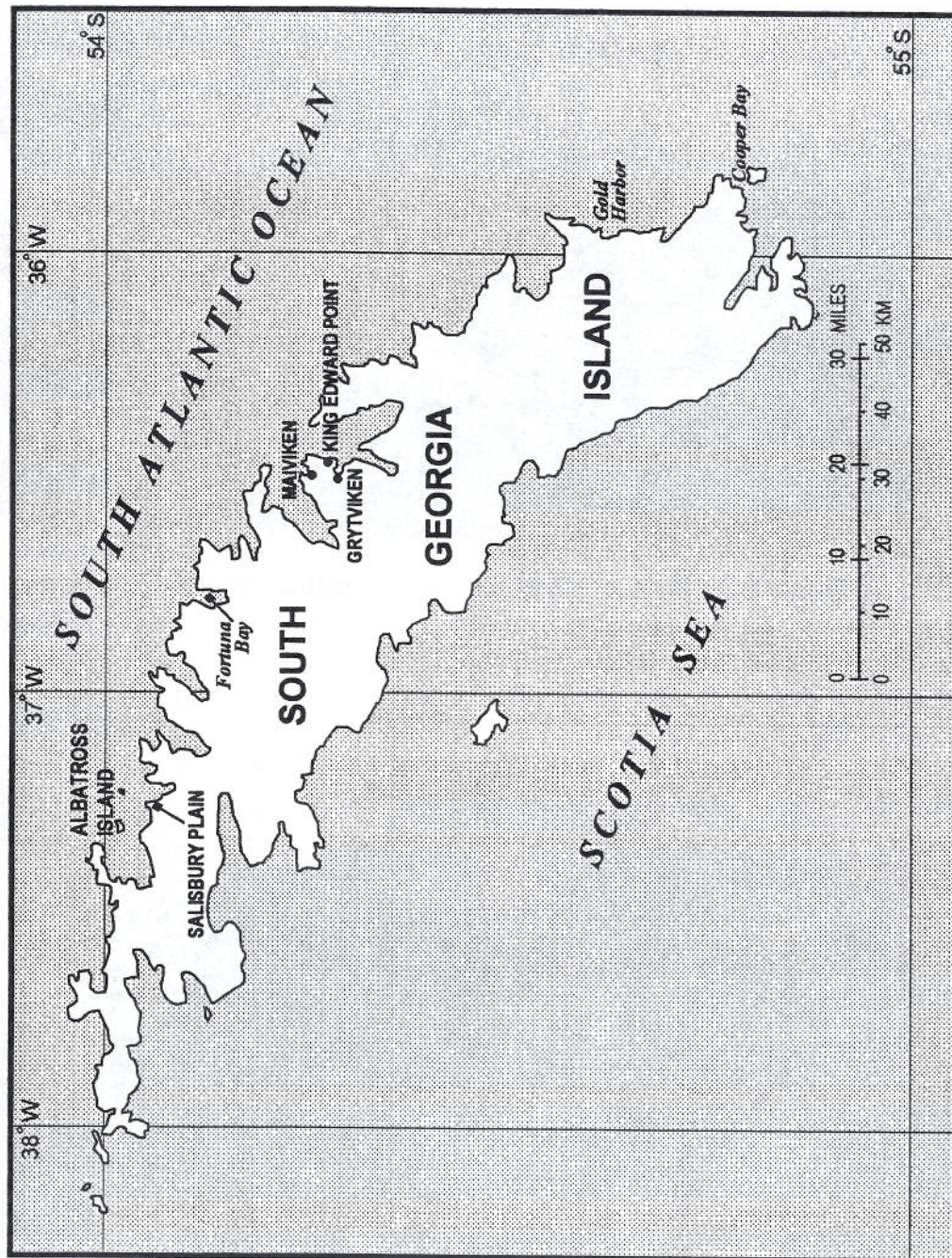
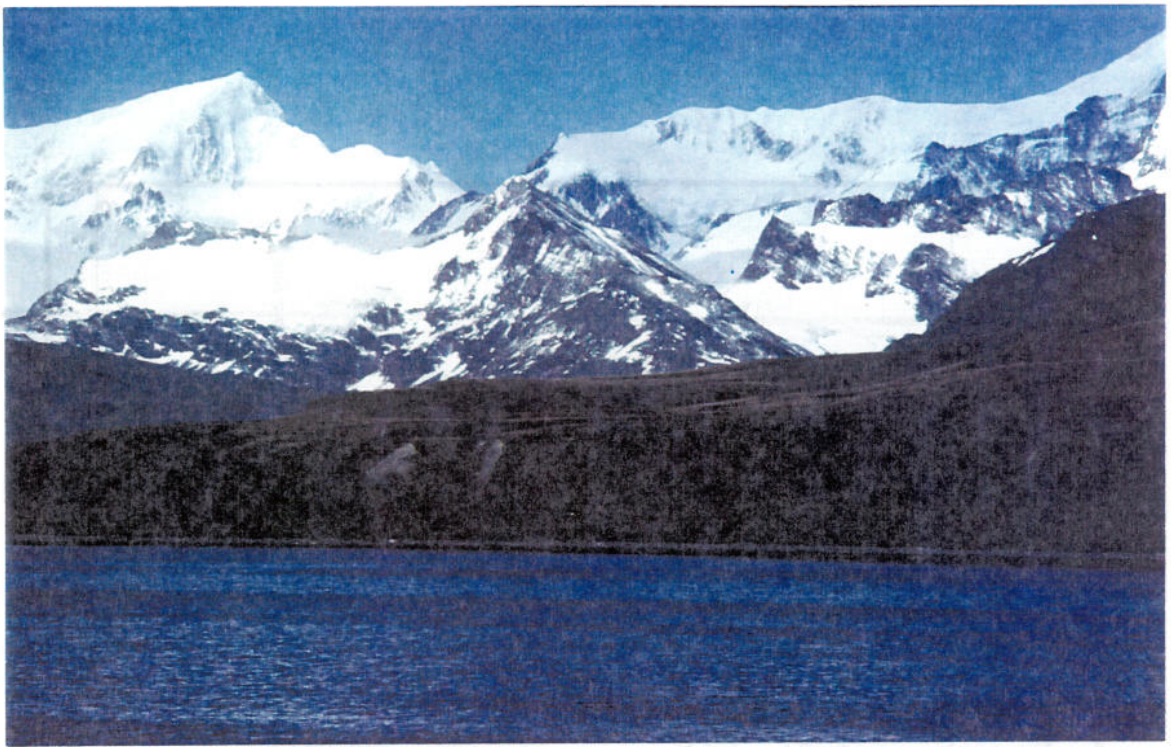


Figure 2. South Georgia Island noting collection sites.



Figures 3 and 4. South Georgia Island coastline.



SOUTH GEORGIA ISLAND

The Collection Areas:

South Georgia Island, officially known as South Georgia and the South Sandwich Islands, is a British dependent territory or colony. The seat of government resides in Stanley on the Falkland Islands. South Georgia Island lies between 53° 56'S and 54° 55'S latitudes and 34° 45' and 38° 15'W longitudes in the extreme south Atlantic. The island is 2,150 km (1,290 miles) southeast of the southern tip of South America or 1,450 km (870 miles) southeast of the Falkland Islands. Modern geographers state the island lies in the South Atlantic, Southern Ocean or Antarctic Ocean. The United States, as I understand, does not recognize the latter two ocean names. Regardless of semantic differences regarding bodies of water, South Georgia lies within the Antarctic Convergence. All parties agree on this. The island is classified as sub-Antarctic in climate. While 54° latitude may not seem extreme, similar climatic conditions are not found in the northern hemisphere until 74° north is encountered. This makes South Georgia climatically similar to Jan Mayen Island and Spitzbergen.

South Georgia rises over 6,000 meters (19,800 feet) from the ocean floor. It is an emerged portion of the Scotia Ridge, an arc of mostly submerged mountains running from the tip of South America to the Antarctic. The island is crescent shaped about 170 km (102 miles) long and ranges from 2 km to 30 km (1.2 to 18 miles) wide. Over half the surface area is covered by glacier and permanent ice fields. The landscape can only be described as severely mountainous. Mt. Paget is the highest peak at 2,934 meters (9,625 feet). Another twelve peaks exceed 2,000 meters (6,400 feet) in height. Nearly all the glaciers terminate at the ocean. This leaves many isolated pockets of vegetation in the few areas suitable for plant growth. While there are countless melt water streams and rivelets on South Georgia, only two water courses are classified as rivers; the Penguin River and the Hope River. Again, the unique nature of the science of geography and semantics come to play.

South Georgia's climate is described as cold, wet and windy. Both collection projects occurred during the height of South Georgia's summer. In both instances, some snowfall accumulated on the ground surface. The range of temperature recorded at King Edward Point ranges from -19° C (-3° F) to +24° C (75° F), however the annual mean monthly temperature range is 7° C. The mean annual temperature is 2° C (36° F). Extreme swings in weather conditions are common. Local geographically induced winds, both Föhn and Kanabatic can cause rapid and alarming changes in weather. Cloud cover is common and roughly 180 cm (70 inches) of precipitation falls in a year.

The island's position relative to Antarctica dominates the climate with gales and low-pressure systems moving in from the southwest. The average sea level barometric pressure on South Georgia is 996.5 millibars. Here too, rapid changes are common. A 15.9 millibar drop has been recorded over a three-hour period.

Weather dominated both collection trips. Seldom was it comfortable to wear less than one layer of polar fleece and a raincoat. When it was, they were near by.

Officially, South Georgia has no permanent population. However, from my perspective, South Georgia has a population of four permanent residents (two at Grytviken and two at King Edward Point). There is also a permanently manned (on rotation) British Antarctic Survey Research Station on Bird Island off the northwest coast of South Georgia Island. This population is unknown, variable and transient, although some stay as long as two years without a break. In addition to the civilian population, a small garrison of British military is present at King Edward Point. As a bit of clarification, King Edward Point and Grytviken are a short walk apart, perhaps three quarters of a mile. King Edward Point is the local administrative center and all visitors to South Georgia must clear customs there.

South Georgia was quite likely first discovered by Antoine de la Roché, a London merchant in 1775. Captain James Cook was the first to land on South Georgia. On 17 January 1775, he claimed South Georgia Island in the name of King George III and Great Britain. Over the years, South Georgia became an important center for the whaling industry and a strategic point to start exploration of Antarctica. A number of whaling stations were established on South Georgia. Between 1904 and 1966, a total of 175,250 whales were processed on South Georgia.

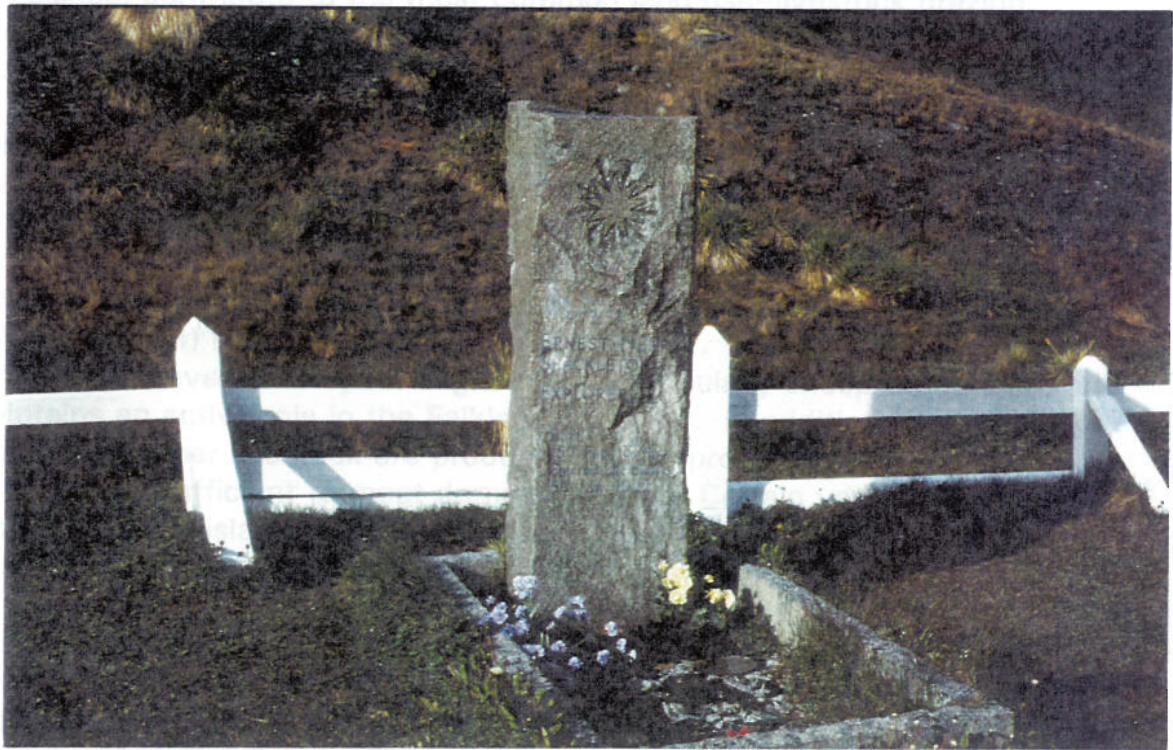
During the exploitation period (in addition to whales), fur seals, elephant seals and penguins were slaughtered in huge numbers for hides and oil. During the early 1900's the population of South Georgia rose to approximately 1,000 people, most were seasonal and employed in the whaling industry.

Earlier it was mentioned that South Georgia was an important point for Antarctic Exploration. Sir Ernest Shackleton and his remarkable Antarctic expedition of 1914-1916 used South Georgia. While Shackleton's name is the most familiar, many other explorers used South Georgia in their exploration activities.

Figure 5. Grytviken Whaling Station.



Figure 6. Shackleton's grave on South Georgia.



With the exception of the Argentine invasion in 1982 and subsequent military actions with the United Kingdom, South Georgia's recent history has been quiet. Issues related to commercial fishing and tourism are modern concerns for the government of South Georgia.

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FALKLAND ISLANDS

The Falkland Islands group is located off the southeast coast of South America near the region known as Tierra del Fuego (see Figure 1). The islands are a British colony in the south Atlantic and are technically classified as a dependent territory of the United Kingdom. The capital of the Falkland Islands is Stanley, a town of approximately 2,050 people.

The island group consists of two large islands, East and West Falkland, and about 200 small islands. These islands are located between 51° and 53° south latitude and 57° and 61° west longitude (Figure 7). The total land area is approximately 12,170 km² (11,961 square miles) or roughly the size of the state of Connecticut. The Falkland coastline is approximately 1,288 kilometers (773 miles).

The island's climate is usually described as cold maritime. Strong westerly winds are the dominant climatic force. Rain can be expected on half of the days of the year. Snow has fallen in every month except January and February. The snow, however, rarely accumulates.

The terrain of the Falkland Islands is hilly to mountainous with boggy and rocky soil. The highest point on the island group is Mt. Adam. The typical topography is described as undulating plain. These plains, predominantly grasslands, contribute to the most common land use--livestock grazing. Current land classification indicates that 99% of the land area of the Falkland Islands is presently pasture (rangeland).

Traditionally, the economy of the Falkland Islands was tied to agriculture. Sheep ranching employed most of the work force and high-grade wool was the export commodity (\$7.6 million in 1995) maintaining the Falkland economy. In 1987, the Falkland government started issuing commercial fishing licenses to foreign fleets. These license fees (approximately \$40 million per year) now drive the Falkland economy. A domestic commercial fishing fleet never developed. Agriculture, particularly sheep production, still maintains an active role in the Falkland economy. In addition to sheep production, other livestock are produced. Dairy production also occurs on a limited scale sufficient to meet domestic needs. Certain vegetables are also produced in the islands. Nearly all other raw materials and commercial goods must be imported.

The diversification of the Falkland economy with commercial fishing licenses now provides the government revenue to operate the island's education, health and social programs. The Falklands have become self-financing with the exception of defense. Further diversification is advancing.

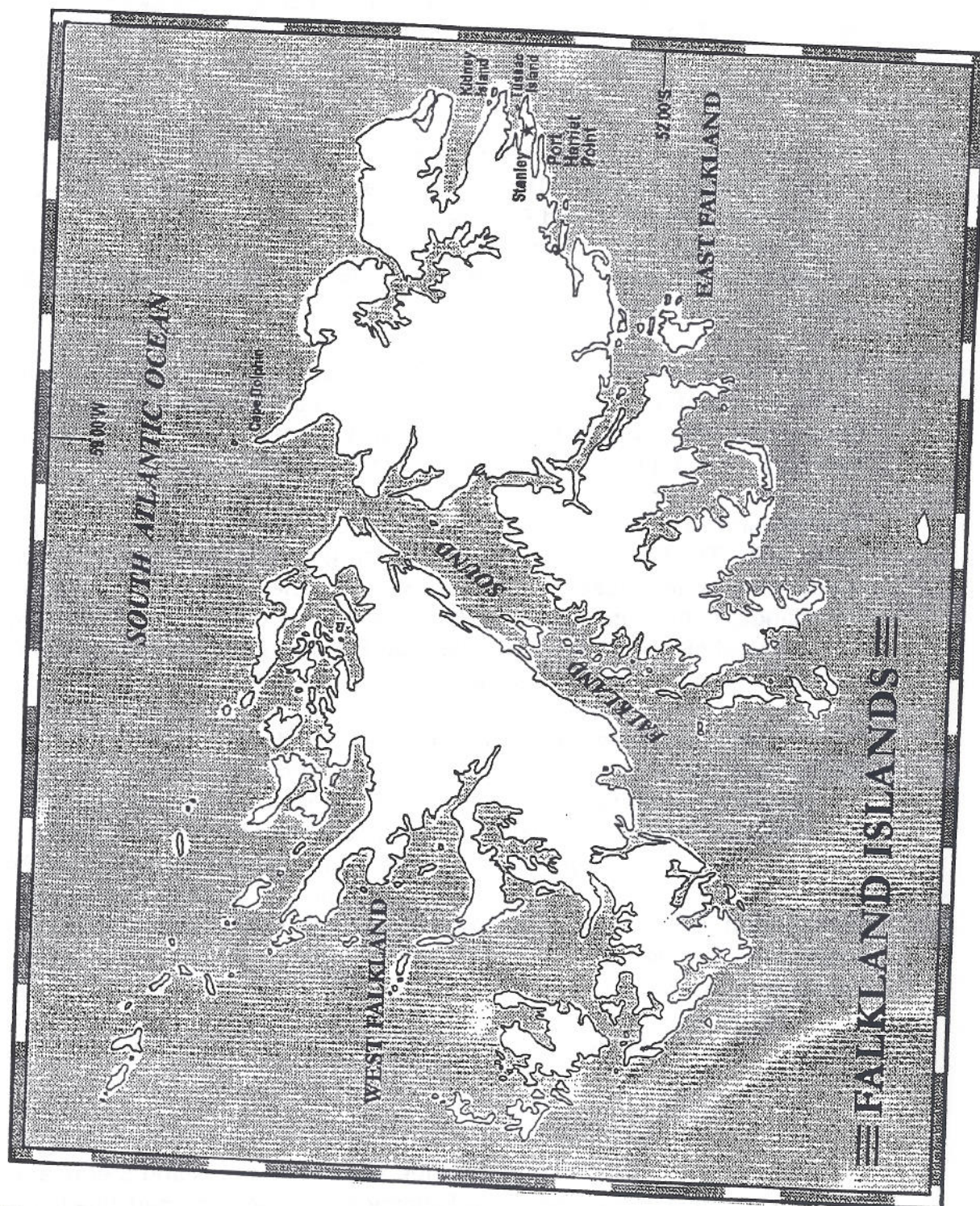


Figure 7.

The population of the Falkland Islands is just over 2,400. The majority of the population lives in Stanley, the capital. The remainder of the population is scattered on ranches or settlements throughout the island group. The Falklands are an English speaking country. Currency in use is either the British pound or the Falkland Island pound. The Falkland pound is on par with the British pound.

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- United States Central Intelligence Agency. 1994. The World Fact Book. [CD-Rom]. Nov. 1994, Su Doc No. C1.88:994/11/V.I-Z.
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COLLECTION SITES ON FALKLAND ISLAND AND SOUTH GEORGIA ISLAND

Falkland Islands

Site 1

Site 1 was on a spit of land south of Stanley; the area known as Port Harriet Point (Figure 7). Grazing has been limited and decent stands of tussac grass were available for collection (Figure 8). This site was also used in 1998.

Site 2

Collection site 2, Cape Dolphin, was located on the northernmost area of East Falkland Island (Figure 7). This site was not visited in the 1998 effort. The stand of tussac grass is protected from excessive grazing and is a very good example of what the islands looked like historically. Tussac grass was two plus meters tall (See Figure 9).

Site 3

Site 3 was located on Tussac Island (Figure 7). This small nature reserve is located northeast of Stanley. Tussac Island was accessed by boat. Tussac Island was quite unique in the fact that grazing animals did not have access to the island. Tussac grass dominated the vegetation. In some areas, the tussac grass exceeded two meters in height. Seeing tussac grass in an undisturbed setting is an impressive sight. Weather prevented a return to Kidney Island.

South Georgia Island

Sites 4 through 8

King Edward Point (see Figure 2) is a raised beach site located at the most populated (relative) area of South Georgia. The maximum elevation of the collection area was roughly three meters. Soil pH ranged from 4.4 to 4.8. The area was predominantly covered with tussac grass, with pockets of fescue and antarctic hairgrass (Figures 10,11,13).

Site 9

Site 9 was a higher elevation site overlooking Grytviken (see Figure 2). This area was outside the normal use area of fur seals and penguins. The soil pH ranged from 3.7 to 4.1. The tussac grass stand was isolated from other stands and surrounded by a large expanse of fescue (Figure 12).

Sites 10 through 13

These sites were located at King Edward Point. Again, the sites were raised beach. The tussac stands ranged from high to low for use by marine mammals.

Site 14

This site (Shackleton's Cross) represented a higher elevation area of King Edward Point. Use by marine mammals is very unlikely. The soil pH in this area ranged from 3.7 to 4.3.

Site 15

The Maiviken collection area (see Figure 2) was a few miles north of Grytviken. The site was a beach heavily used by fur seals (Figure 14).

Site 16

Cooper Bay is located on the south end of South Georgia Island (Figure 2). The areas were visited in 1999 and 2000. This beach area is extremely used by both fur seals and macaroni penguins (Figure 15). The soil pH of the collection area was 4.1.

Site 17

Gold Harbor (see Figure 2) was the best collection area visited in 1999. In 2000, the area proved productive as well. This area is heavily used by elephant seals, fur seals and king penguins (Figures 16, 17). The site is characterized as an open beach with tussac stands back from the active beach. Soil samples were not taken at Gold Harbor.

Site 18

Salisbury Plain (see Figure 2) as the name implies, was a broad open valley. The topography was open with a few scattered stands of tussac grass. The area is extremely used by king penguins (Figure 18). This area has vast stands of Antarctic hairgrass. Most was immature during the site visit. No soil samples were collected at Salisbury Plain.

Site 19

Albatross Island (see Figure 2) was the only offshore island collection site in 2000. The beach area is extensively used by fur seals (Figures 21, 22). This area showed more signs of fur seal impact than any other site visited in 2000. Soil pH was 3.9.

Site 20

Fortuna Bay (see Figure 2) was unique in the aspect that reindeer were present. These animals were imported to South Georgia in the early 1900s (Figure 20). Both fur seals and king penguins were present but not in the concentrations as encountered at other areas. Much like Salisbury Plain, Fortuna Bay was an open valley with a large expanse of relatively low ground. Soil pH at this site was 4.6.



Figure 8. Port Harriet collection site (site 1). Note tussock grass growth form.



Figure 9. Cape Dolphin collection area (Site 2). Photo taken standing on top of 6-foot tall tussock. Only tops of tussock grass are visible in photo.



Figure 10. Guardian of the tussock grass, one of the 1.8 million fur seals that visit South Georgia Island. This is collection site 6.



Figure 11. Elephant seal waking up in the tussock grass at collection site 4.

Figure 12. Grytviken Whaling Station from collection site 9.



Figure 13. King Edward Point in the distance.



Figure 14. Maiviken Bay.

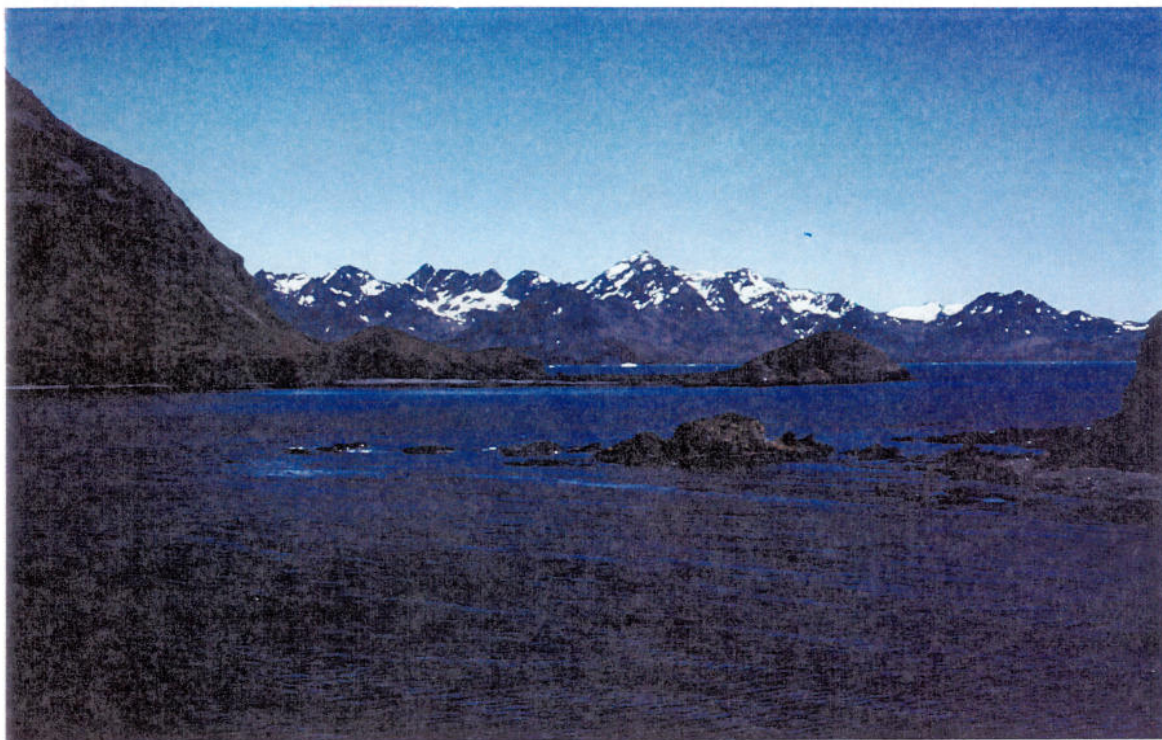


Figure 15. Cooper Bay collection site. There are approximately 20 fur seals in this photo among the tussacs.



Figure 16. A single King Penguin standing in tussac grass at Gold Harbor.



Figure 17. A single tussac grass plant standing in a field of King Penguins at Gold Harbor.



Figure 18. Tussac stand behind a few King Penguins. What looks like mud in the foreground is not mud. Its a byproduct of the penguins. The stand of tussac was collection site 18 at Salisbury Plain.



Figure 19. Greeting party of elephant seals at Fortuna Bay.



Figure 20. Part of a reindeer herd at Fortuna Bay.



Figure 21. Albatross Island collection area also serving as a fur seal flop house.



ACKNOWLEDGEMENTS

A single germplasm collection effort requires a thank you to all involved. When its done a second time, especially when the second trip is the result of an agency's incompetence, saying thank you is given with profound sincerity and a degree of embarrassment. With regard to South Georgia Island itself, I doubt many germplasm collectors have the opportunity to personally meet all the residents of a "country". The support given these projects has been truly outstanding and very international. The following individuals warrant a special note of thanks.

USDA

Karen Williams, Plant Exchange Office, ARS – for supporting these projects and help in getting around the political problems of an unexpected detour through Argentina in 1999.

Maryann Loftus, Plant Exchange Office, ARS – for her diligence (and ruthless efforts) in attempting to find the lost seed.

Department of Agriculture, Falkland Islands

Dr. Robert Reid, Director, Department of Agriculture – for his support and assistance in making things possible.

Aidan Kerr, Senior Agronomist – for his diligent efforts in making the contacts and arrangements on the Falkland Islands.

South Georgia Island Government

Gordon Liddle, South Georgia Operation Officer – for working out arrangements with British military, Fisheries Department and securing the necessary permits to visit and collect seed on South Georgia.

Russ Jarvis, First Secretary, Government of South Georgia – for his support and approval of the projects.

South Georgia Residents

Pat Lurcock, Marine Officer, King Edward Point – for his assistance in making arrangements on South Georgia and his hospitality.

Sarah Lurcock – for her gracious assistance in gathering seed and gleaning seed from the tailings box after the collection was lost in 1999. Also, for her assistance and hospitality in 2000.

Tim and Pauline Carr, Curators of the South Georgia Whaling Museum – for their hospitality and willingness to share information about South Georgia.

Paul Brickle, Fisheries Officer (1998-1999) – for his onsite support and expert instruction on how to act properly in a British social environment. I now feel I can travel anywhere in the British sphere of influence and not make a fool of myself.

The British Armed Forces on South Georgia – for an unforgettable Christmas Eve and New Year's Eve (along with Christmas Day morning and New Year's Day morning I would rather forget), in 1998/1999. I still don't buy their version of history; that George III and the red coats allowed the colonial rabble to win the incident in 1776 in order to sever ties with an illiterate population that did not know how to spell colour, harbour and centre (to note a few words) or pronounce "schedule" properly.

Ken Back, Tussac Planter Extraordinaire – for his help and support in getting things done in a timely manner.

Scientific Support

Dr. Jim McAdam, Department of Agriculture, Northern Ireland – for his encouragement and scientific support of the project.

Dr. David H. W. Walton, British Antarctic Survey – for his political and scientific support of the collection projects. Without his support it is doubtful either effort would have happened.

Logistic Support

Thanks go to the officers and crew of the RFA Gold Rover (1998) and M/V Dorada (2000) for transport to South Georgia Island.

Dennis Collaton and Stewart Campbell with Adventure Associates, Sydney, Australia deserve a thank you for their efforts supporting scientific activities in the Antarctic by securing space on the R/V Vavilov for me in both 1999 and 2000. Adventure Associates was the only operator in the Antarctic to respond to the request for assistance.

Finally, but not least, I wish to thank Rosy Thomas, a visitor on South Georgia; Tim Bonner and Marie Summers; Falkland Island Department of Agriculture; and Ann Brown, Falkland Island Conservation Trust, for their assistance on collection efforts.

Figure 22. M/V Dorada provided transport to South Georgia in 2000.



Figure 23. R/V Vavilov provided transport off of South Georgia in both 1999 and 2000.



PASSPORT DATA



Figure 24. Fur seal equivalent of a prime mattress, not much for inner springs, but better than floating in the water or laying on the rocks.

PASSPORT DATA

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH01
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m) 120	Latitude S 51° 43. 1'	Longitude	W 57° 50. 9'
Exposure	Total	Aspect	N
Coll Size (g)	0.10	Germination %	93
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH02
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m) 120	Latitude S 51° 43. 4'	Longitude	W 57° 50. 4'
Exposure	Total	Aspect	N
Coll Size (g)	0.96	Germination %	81
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH03
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m) 120	Latitude S 51° 43. 9'	Longitude	W 57° 50.0'
Exposure	Total	Aspect	N
Coll Size (g)	0.43	Germination %	70
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH04
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m) 120	Latitude S 51° 43. 6'	Longitude	W 57° 51. 2'
Exposure	Total	Aspect	N
Coll Size (g)	0.98	Germination %	78
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH05
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m) 120	Latitude S 51° 43. 2'	Longitude	W 57° 51. 1'
Exposure	Total	Aspect	N
Coll Size (g)	0.46	Germination %	91
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH06
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m) 120	Latitude S 51° 43. 1'	Longitude	W 57° 51. 2'
Exposure	Total	Aspect	N
Coll Size (g)	0.64	Germination %	91
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH07
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m)	120	Latitude	S 51° 44. 4'
		Longitude	W 57° 51. 7'
Exposure	Total	Aspect	N
Coll Size (g)	1.34	Germination %	92
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH08
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m)	120	Latitude	S 51° 44. 6'
		Longitude	W 57° 51. 6'
Exposure	Total	Aspect	N
Coll Size (g)	0.74	Germination %	79
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH09
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m)	120	Latitude	S 51° 44. 6'
		Longitude	W 57° 51. 8'
Exposure	Total	Aspect	N
Coll Size (g)	0.19	Germination %	79
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/5/00
Site Number	1	Collection No	PH10
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Port Harriet	Directions From	South of Stanley
Altitude (m) 120	Latitude S 51° 44. 7'	Longitude	W 57° 53. 3'
Exposure	Total	Aspect	N
Coll Size (g)	1.15	Germination %	89
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, T. Bonner		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD12
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 1'	Longitude	W 58° 57. 8'
Exposure	Total	Aspect	N
Coll Size (g)	7.84	Germination %	74
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD13
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 2'	Longitude	W 58° 57. 8'
Exposure	Total	Aspect	N
Coll Size (g)	9.41	Germination %	57
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD17
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 3'	Longitude	W 58° 57. 8'
Exposure	Total	Aspect	N
Coll Size (g)	8.32	Germination %	63
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD18
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 1'	Longitude	W 58° 57. 9'
Exposure	Total	Aspect	N
Coll Size (g)	20.39	Germination %	52
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD19
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 3'	Longitude	W 58° 58. 0'
Exposure	Total	Aspect	N
Coll Size (g)	22.72	Germination %	70
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD20
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 3'	Longitude	W 58° 57. 9'
Exposure	Total	Aspect	N
Coll Size (g)	4.36	Germination %	78
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD21
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 2'	Longitude	W 58° 58. 1'
Exposure	Total	Aspect	N
Coll Size (g)	28.00	Germination %	62
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD22
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 3'	Longitude	W 58° 58. 0'
Exposure	Total	Aspect	N
Coll Size (g)	14.40	Germination %	83
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

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Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD23
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 0'	Longitude	W 58° 58. 2'
Exposure	Total	Aspect	N
Coll Size (g)	6.73	Germination %	73
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD24
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 2'	Longitude	W 58° 58. 0'
Exposure	Total	Aspect	N
Coll Size (g)	11.83	Germination %	73
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD25
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 9'	Longitude	W 58° 57. 7'
Exposure	Total	Aspect	N
Coll Size (g)	4.23	Germination %	79
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

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Species Name	Poa flabellata	Date	1/6/00
Site Number	2	Collection No	CD26
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Cape Dolphin	Directions From	North of Stanley
Altitude (m) 30	Latitude S 51° 14. 9'	Longitude	W 58° 57. 8'
Exposure	Total	Aspect	N
Coll Size (g)	5.11	Germination %	85
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr		

Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI01
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 2'	Longitude	W 57° 45. 2'
Exposure	Total	Aspect	Total
Coll Size (g)	2.50	Germination %	40
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI02
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 2'	Longitude	W 57° 45. 4'
Exposure	Total	Aspect	Total
Coll Size (g)	2.81	Germination %	85
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI03
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 3'	Longitude	W 57° 45. 2'
Exposure	Total	Aspect	Total
Coll Size (g)	0.28	Germination %	76
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI04
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 3'	Longitude	W 57° 45. 3'
Exposure	Total	Aspect	Total
Coll Size (g)	3.71	Germination %	68
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI05
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 2'	Longitude	W 57° 45. 2'
Exposure	Total	Aspect	Total
Coll Size (g)	0.45	Germination %	70
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

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Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI06
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 4'	Longitude	W 57° 45. 2'
Exposure	Total	Aspect	Total
Coll Size (g)	0.21	Germination %	84
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI07
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 2'	Longitude	W 57° 45. 2'
Exposure	Total	Aspect	Total
Coll Size (g)	0.57	Germination %	75
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

Species Name	Poa flabellata	Date	1/9/00
Site Number	3	Collection No	TI08
Country	Falkland Islands	Province/Subdivision	East Falkland
Village/Town	Tussac Island	Directions From	East of Stanley
Altitude (m) 10	Latitude S 51° 40. 3'	Longitude	W 57° 45. 3'
Exposure	Total	Aspect	Total
Coll Size (g)	0.37	Germination %	77
Plants Sampled	few	Local Name	Tussac grass
Collectors	S. Wright, A. Kerr, M. Summers, A. Brown		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/16/00
Site Number	4	Collection No	SG01
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 3'	Longitude	W 36° 29. 5
Exposure	Total	Aspect	Total
Coll Size (g)	4.02	Germination %	92
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	4	Collection No	SG02
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 3'	Longitude	W 36° 29. 4'
Exposure	Total	Aspect	Total
Coll Size (g)	11.89	Germination %	88
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	4	Collection No	SG03
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 2'	Longitude	W 36° 29. 5'
Exposure	Total	Aspect	Total
Coll Size (g)	15.51	Germination %	92
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

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Species Name	Poa flabellata	Date	1/16/00
Site Number	4	Collection No	SG04
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 2'	Longitude	W 36° 29. 6'
Exposure	Total	Aspect	Total
Coll Size (g)	9.01	Germination %	72
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	4	Collection No	SG05
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 1'	Longitude	W 36° 29. 6'
Exposure	Total	Aspect	Total
Coll Size (g)	10.30	Germination %	90
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	5	Collection No	SG06
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 9'	Longitude	W 36° 29. 6'
Exposure	Total	Aspect	Total
Coll Size (g)	7.63	Germination %	75
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

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Species Name	Poa flabellata	Date	1/16/00
Site Number	5	Collection No	SG07
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 9'	Longitude	W 36° 29. 6'
Exposure	Total	Aspect	Total
Coll Size (g)	10.49	Germination %	93
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	5	Collection No	SG08
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 92'	Longitude	W 36° 29. 67'
Exposure	Total	Aspect	Total
Coll Size (g)	10.49	Germination %	86
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	5	Collection No	SG09
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 88'	Longitude	W 36° 29. 66'
Exposure	Total	Aspect	Total
Coll Size (g)	6.83	Germination %	74
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

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Species Name	Poa flabellata	Date	1/16/00
Site Number	5	Collection No	SG10
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 89'	Longitude	W 36° 29. 67'
Exposure	Total	Aspect	Total
Coll Size (g)	20.54	Germination %	74
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	5	Collection No	SG11
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 89'	Longitude	W 36° 29. 69'
Exposure	Total	Aspect	Total
Coll Size (g)	14.69	Germination %	65
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	5	Collection No	SG12
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 88'	Longitude	W 36° 29. 67'
Exposure	Total	Aspect	Total
Coll Size (g)	16.88	Germination %	64
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

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Species Name	Poa flabellata	Date	1/16/00
Site Number	6	Collection No	SG13
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 83'	Longitude	W 36° 29. 71'
Exposure	Total	Aspect	Total
Coll Size (g)	7.16	Germination %	70
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	6	Collection No	SG14
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 83'	Longitude	W 36° 29. 70'
Exposure	Total	Aspect	Total
Coll Size (g)	4.02	Germination %	87
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	7	Collection No	SG15
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 03'	Longitude	W 36° 29. 73'
Exposure	Total	Aspect	Total
Coll Size (g)	4.69	Germination %	89
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/16/00
Site Number	7	Collection No	SG16
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 04'	Longitude	W 36° 29.73'
Exposure	Total	Aspect	Total
Coll Size (g)	4.69	Germination %	79
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	8	Collection No	SG17
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 03'	Longitude	W 36° 29. 69'
Exposure	Total	Aspect	Total
Coll Size (g)	26.75	Germination %	55
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	8	Collection No	SG18
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 04'	Longitude	W 36° 29. 69'
Exposure	Total	Aspect	Total
Coll Size (g)	13.00	Germination %	73
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

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Species Name	Poa flabellata	Date	1/16/00
Site Number	8	Collection No	SG19
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 02'	Longitude	W 36° 29. 68'
Exposure	Total	Aspect	Total
Coll Size (g)	8.67	Germination %	91
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	8	Collection No	SG20
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 02'	Longitude	W 36° 29. 66'
Exposure	Total	Aspect	Total
Coll Size (g)	28.39	Germination %	39
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/16/00
Site Number	8	Collection No	SG21
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 02'	Longitude	W 36° 29. 66'
Exposure	Total	Aspect	Total
Coll Size (g)	17.80	Germination %	43
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

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Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG22
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 16. 9'	Longitude	W 35° 30. 62'
Exposure	Open	Aspect	West
Coll Size (g)	2.23	Germination %	90
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG23
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 17. 0'	Longitude	W 35° 30. 59'
Exposure	Open	Aspect	West
Coll Size (g)	5.03	Germination %	84
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG24
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 16. 93'	Longitude	W 35° 30. 60'
Exposure	Open	Aspect	West
Coll Size (g)	10.40	Germination %	91
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG22
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 16. 9'	Longitude	W 35° 30. 62'
Exposure	Open	Aspect	West
Coll Size (g)	2.23	Germination %	90
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG23
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 17. 0'	Longitude	W 35° 30. 59'
Exposure	Open	Aspect	West
Coll Size (g)	5.03	Germination %	84
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG24
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 16. 93'	Longitude	W 35° 30. 60'
Exposure	Open	Aspect	West
Coll Size (g)	10.40	Germination %	91
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG25
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 16. 99'	Longitude	W 35° 30. 61'
Exposure	Open	Aspect	West
Coll Size (g)	20.68	Germination %	50
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	9	Collection No	SG26
Country	South Georgia Island	Province/Subdivision	
Village/Town	Grytviken	Directions From	
Altitude (m) 25	Latitude S 54° 16. 99'	Longitude	W 35° 30. 62'
Exposure	Open	Aspect	West
Coll Size (g)	6.95	Germination %	51
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	10	Collection No	SG27
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 03'	Longitude	W 36° 29. 65'
Exposure	Open	Aspect	West
Coll Size (g)	13.35	Germination %	84
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/17/00
Site Number	10	Collection No	SG28
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 03'	Longitude	W 36° 29. 65'
Exposure	Open	Aspect	Total
Coll Size (g)	8.18	Germination %	27
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	11	Collection No	SG31
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 97'	Longitude	W 36° 29. 51'
Exposure	Open	Aspect	Total
Coll Size (g)	20.55	Germination %	71
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	12	Collection No	SG33
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 07'	Longitude	W 36° 29. 61'
Exposure	Open	Aspect	Total
Coll Size (g)	14.44	Germination %	72
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/17/00
Site Number	12	Collection No	SG34
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 08'	Longitude	W 36° 29. 62'
Exposure	Open	Aspect	Total
Coll Size (g)	12.98	Germination %	73
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	13	Collection No	SG35
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 99'	Longitude	W 36° 29. 75'
Exposure	Open	Aspect	Total
Coll Size (g)	23.26	Germination %	95
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	13	Collection No	SG36
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 99'	Longitude	W 36° 29. 73'
Exposure	Open	Aspect	Total
Coll Size (g)	16.57	Germination %	85
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/17/00
Site Number	13	Collection No	SG37
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 00'	Longitude	W 36° 29. 72'
Exposure	Open	Aspect	Total
Coll Size (g)	14.53	Germination %	85
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	13	Collection No	SG38
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 16. 99'	Longitude	W 36° 29. 74'
Exposure	Open	Aspect	Total
Coll Size (g)	22.69	Germination %	80
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	14	Collection No	SG39
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 3	Latitude S 54° 17. 03'	Longitude	W 36° 29. 28'
Exposure	Open	Aspect	Total
Coll Size (g)	13.42	Germination %	73
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/17/00
Site Number	14	Collection No	SG40
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 30	Latitude S 54° 17. 03'	Longitude	W 36° 29. 27'
Exposure	Open	Aspect	Total
Coll Size (g)	4.93	Germination %	73
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/17/00
Site Number	15	Collection No	MK1
Country	South Georgia Island	Province/Subdivision	
Village/Town	Maiviken	Directions From	North of Grytviken
Altitude (m) 5	Latitude S 54° 14. 75'	Longitude	W 36° 29. 56'
Exposure	Open	Aspect	N
Coll Size (g)	20.99	Germination %	80
Plants Sampled 1		Local Name	Tussac grass
Collectors	R. Thomas		

Species Name	Poa flabellata	Date	1/17/00
Site Number	15	Collection No	MK2
Country	South Georgia Island	Province/Subdivision	
Village/Town	Maiviken	Directions From	North of Grytviken
Altitude (m) 5	Latitude S 54° 14. 70'	Longitude	W 36° 29. 56'
Exposure	Open	Aspect	N
Coll Size (g)	20.55	Germination %	73
Plants Sampled 1		Local Name	Tussac grass
Collectors	R. Thomas		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/17/00
Site Number	15	Collection No	MK3
Country	South Georgia Island	Province/Subdivision	
Village/Town	Maiviken	Directions From	North of Grytviken
Altitude (m) 5	Latitude S 54° 14. 74'	Longitude	W 36° 29. 56'
Exposure	Open	Aspect	N
Coll Size (g)	9.35	Germination %	77
Plants Sampled 1		Local Name	Tussac grass
Collectors	R. Thomas		

Species Name	Poa flabellata	Date	1/17/00
Site Number	16	Collection No	CB01
Country	South Georgia Island	Province/Subdivision	
Village/Town	Cooper Bay	Directions From	South end of Island
Altitude (m) 3	Latitude S 54° 47. 24'	Longitude	W 35° 49. 26'
Exposure	Open	Aspect	N
Coll Size (g)	2.69	Germination %	89
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/19/00
Site Number	17	Collection No	GH01
Country	South Georgia Island	Province/Subdivision	
Village/Town	Gold Harbor	Directions From	Southeast of Grytviken
Altitude (m) 5	Latitude S 54° 37. 11'	Longitude	W 36° 56. 51'
Exposure	Open	Aspect	N
Coll Size (g)	5.93	Germination %	91
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/19/00
Site Number	17	Collection No	GH02
Country	South Georgia Island	Province/Subdivision	
Village/Town	Gold Harbor	Directions From	Southeast of Grytviken
Altitude (m) 5	Latitude S 54° 37. 14'	Longitude	W 36° 56. 50'
Exposure	Open	Aspect	N
Coll Size (g)	2.22	Germination %	71
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/20/00
Site Number	18	Collection No	SP01
Country	South Georgia Island	Province/Subdivision	
Village/Town	Salisbury Plain	Directions From	Northwest of Grytviken
Altitude (m) 5	Latitude S 54° 03. 63'	Longitude	W 37° 19. 61'
Exposure	Open	Aspect	N
Coll Size (g)	1.06	Germination %	79
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/20/00
Site Number	18	Collection No	SP02
Country	South Georgia Island	Province/Subdivision	
Village/Town	Salisbury Plain	Directions From	Northwest of Grytviken
Altitude (m) 5	Latitude S 54° 03. 64'	Longitude	W 37° 19. 61'
Exposure	Open	Aspect	Total
Coll Size (g)	0.75	Germination %	72
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/10/00
Site Number	18	Collection No	SP03
Country	South Georgia Island	Province/Subdivision	
Village/Town	Salisbury Plain	Directions From	Northwest of Grytviken
Altitude (m) 5	Latitude S 54° 03. 63'	Longitude	W 37° 19. 60'
Exposure	Open	Aspect	Total
Coll Size (g)	4.39	Germination %	77
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/20/00
Site Number	19	Collection No	AL01
Country	South Georgia Island	Province/Subdivision	Offshore Island
Village/Town	Albatross Island	Directions From	Northwest of Grytviken
Altitude (m) 5	Latitude S 54° 01. 79'	Longitude	W 37° 19. 95'
Exposure	Open	Aspect	Total
Coll Size (g)	2.89	Germination %	89
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Poa flabellata	Date	1/21/00
Site Number	20	Collection No	FB01
Country	South Georgia Island	Province/Subdivision	
Village/Town	Fortuna Bay	Directions From	Northwest of Grytviken
Altitude (m) 5	Latitude S 54° 09. 27'	Longitude	W 36° 48. 92'
Exposure	Open	Aspect	Total
Coll Size (g)	9.38	Germination %	89
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Poa flabellata	Date	1/21/00
Site Number	20	Collection No	FB02
Country	South Georgia Island	Province/Subdivision	
Village/Town	Fortuna Bay	Directions From	Northwest of Grytviken
Altitude (m) 5	Latitude S 54° 09. 30'	Longitude	W 36° 48. 90'
Exposure	Open	Aspect	Total
Coll Size (g)	7.62	Germination %	98
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Deschampsia antarctica	Date	1/16/00
Site Number	5	Collection No	SG32
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 5	Latitude S 54° 17. 01'	Longitude	W 36° 29. 72'
Exposure	Open	Aspect	Total
Coll Size (g)	0.56	Germination %	1
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Deschampsia antarctica	Date	1/1600
Site Number	5	Collection No	SG41
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 5	Latitude S 54° 17. 01'	Longitude	W 36° 29. 73'
Exposure	Open	Aspect	Total
Coll Size (g)	0.69	Germination %	1
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

PASSPORT DATA

Species Name	Festuca erecta	Date	1/16/00
Site Number	5	Collection No	SG29
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 15	Latitude S 54° 16. 98'	Longitude	W 36° 29. 49'
Exposure	Open	Aspect	N
Coll Size (g)	0.00	Germination %	0
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

Species Name	Festuca erecta	Date	1/16/00
Site Number	5	Collection No	SG30
Country	South Georgia Island	Province/Subdivision	
Village/Town	King Edward Point	Directions From	
Altitude (m) 15	Latitude S 54° 16. 97'	Longitude	W 36° 29. 49'
Exposure	Open	Aspect	N
Coll Size (g)	0.00	Germination %	0
Plants Sampled 1		Local Name	Tussac grass
Collectors	S. Wright		

APPENDIX



A South Georgia Brown Skua about to steal a seed collection. It failed but not for the lack of trying.

INITIAL TRIP REPORT FOR SOUTH GEORGIA ISLAND GERMPLASM EXPLORATION AND COLLECTION PROJECT DECEMBER 2, 1998 - JANUARY 19, 1999

South Georgia Island is a British colony located in the South Atlantic Ocean. The island lies within the Antarctic convergence and is technically classified as a sub-Antarctic island. The island is heavily glaciated with over half of the land surface covered by ice and glaciers. The predominate grass species on vegetated coastal areas is Tussac grass, *Parodiochloe flabellata* (*Poa flabellata*).

Tussac grass was the primary target species in the 1998 Falkland Islands Germplasm Exploration Project. Continued interest in the species lead to the South Georgia effort. Once again, Tussac grass was the primary target species on this project.

Travel Schedule:

Dec. 2, 1998, 1100 hrs	- Leave Anchorage
1900 hrs	- Arrive Los Angeles
Dec. 3, 1998, 1300 hrs	- Leave Los Angeles
Dec. 4, 1998, 0700 hrs	- Arrive Santiago, Chile
1100 hrs	- Leave Santiago, Chile
1530 hrs	- Arrive Punta Arenas, Chile
Dec. 5, 1998, 1400 hrs	- Leave Punta Arenas, Chile
1630 hrs	- Arrive Mt. Pleasant, Falkland Islands
1730 hrs	- Arrive Stanley, Falkland Islands
Dec. 6, 1998	- Visit Gypsy Cove Tussac grass stand & Goose Green Settlement
Dec. 7, 1998	- Meet with Department of Agriculture officials
Dec. 8, 1998, 1300 hrs	- Leave Stanley
1430 hrs	- Arrive Mt. Pleasant
1630 hrs	- Leave Falkland Islands on board <u>Gold Rover</u> Royal Fleet Auxiliary ship
Dec 11, 1998, 0930 hrs	- Arrive King Edward Point/Grytviken, South Georgia
Dec 11, 1998 to	- Collected 359 accessions Tussac grass, 6 accessions
Jan. 4, 1999	<i>Acaena magellanica</i> , 5 accessions <i>Phleum alpinum</i> , 2 accessions <i>Festuca erecta</i>
Jan. 5, 1999, 1130 hrs	- Leave Grytviken, South Georgia
1330 hrs	- Arrive Fortuna Bay, South Georgia
1730 hrs	- Leave Fortuna Bay
	1 Collection <i>Deschampsia antarctica</i> DEAN, 10 collections Tussac grass
Jan. 6, 1999, 0830 hrs	- Arrive Prion Island
1230 hrs	- Leave Prion Island
	7 collections Tussac grass

Jan. 7, 1999, 0830 hrs - Arrive Leith
 1030 hrs - Leave Leith
 2 collections Tussac grass
 1230 hrs - Arrive Stromness
 1630 hrs - Leave Stromness
 1 collection Tussac grass, 2 collections *Festuca erecta*, 3
 collections *Poa annua*, 2 collections *Deschampsia*
antarctica
 Jan. 8, 1999, 0930 hrs - Arrive Gold Harbour
 1330 hrs - Leave Gold Harbour
 17 collections Tussac grass
 1530 hrs - Arrive Cooper Bay
 1930 hrs - Leave Cooper Bay
 14 collections Tussac grass
 2300 hrs - Leave South Georgia
 Jan. 9-17, 1999 - In transit to Ushuaia, Argentina
 Jan 17, 1999, 0700 hrs - Arrive Ushuaia, Argentina
 0800 hrs - Clear Argentine customs
 0805 hrs - On the road to Punta Arenas
 1200 hrs - Leave Argentina
 1230 hrs - Arrive Customs, San Sebastian, Chile
 1300 hrs - Clear Chilean customs
 2030 hrs - Arrive Punta Arenas, Chile
 Jan 18, 1999, 1600 hrs - Leave Punta Arenas, Chile
 2300 hrs - Leave Santiago, Chile
 Jan 19, 1999, 0700 hrs - Arrive LAX, turn seed collections over to APHIS
 0930 hrs - Leave LAX
 1645 hrs - Arrive Anchorage, Alaska
 Jan 29, 1999 - Informed by APHIS that seed cannot be located
 Feb 22, 1999 - APHIS declares seed lost. What a waste of time and
 money!



United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Plant Protection
and Quarantine

USDA APHIS PPQ
9610 S. La Cienega Blvd.
Building D North
Inglewood, CA. 90301

Subject: Plant Shipment

Date: April 12, 1999

To: Mr. Stoney Wright, Manager
Alaska Plant Materials Center
HC04
Box 7440
Palmer, AK 99645

Mr. Wright:

This letter is in response to the unfortunate incident you encountered regarding two boxes of plant material which were inspected in Los Angeles.

In January, your associate delivered two boxes of plant material to our inspectors at Los Angeles International Airport. The boxes were immediately forwarded to the Plant Inspection Station where it was inspected. The inspector sealed and labeled the boxes for shipment by Fedex to Beltsville, MD, as instructed.

Unfortunately, the boxes never arrived at its destination. Over the next four weeks, we attempted to locate the boxes by tracking the sequence of events leading up to the disappearance. The Plant Inspection Station inspector remembered completing the Fedex shipping invoice and affixing it to each box. The boxes were placed in the Fedex pickup section for the afternoon pickup. He noticed that the boxes were gone when he left the office and assumed Fedex had made their daily pickup. For some reason, Fedex did not leave our copy of the shipping invoice in the pickup tray which is customary. Fedex claimed they never made a pickup on the day in question. However, we are confident the pickup was made since this has been the normal Fedex pickup procedure for many years. Unfortunately, this is the first incident we can recall which involved a missing shipment without a Fedex tracking invoice. We proceeded to contact the Fedex manager in Los Angeles and our counterparts in Memphis, TN which receives and processes all undelivered parcels in the U.S. Both, Los Angeles and Memphis were extremely cooperative in their repeated attempts to locate the boxes. We also investigated the possibility the U.S Post Office may have inadvertently picked up the boxes. We also tried to backtrack the shipments from Fedex accounts originating in Beltsville and Palmer. We were in constant communication with Beltsville, Washington State and yourself in Palmer throughout our entire effort. Every single lead was followed until all possible avenues were exhausted. Regrettably, we were unsuccessful in every attempt to locate the boxes.

We've communicated extensively over the telephone during this ordeal and I've expressed my personal regrets over this matter. At this time, I also wish to express my sincere formal apology for this unfortunate series of events. Understandably, this apology cannot replace the amount of effort you and your colleagues placed into securing the specimens, only to be lost in the U.S. However, you have my assurance that procedural changes have been



APHIS - Protecting American Agriculture

made to ensure that future shipments will not encounter a situation like the one you recently experienced.

If you should have any questions or concerns, please feel free to contact me at (310) 215-2598 or fax (310) 215-2054.

Sincerely,

A handwritten signature in black ink, appearing to read "Tony", with a long, sweeping horizontal line extending to the right.

Tony Nakamura
Director of Operations

INITIAL TRIP REPORT
FALKLAND ISLANDS AND SOUTH GEORGIA
PLANT EXPLORATION EFFORT 2000

The following report is intended to relay general information on the plant germplasm collection effort conducted in January 2000. This project was a repeat of the 1998-1999 South Georgia effort. That collection project ended in failure as the seed was lost between APHIS LAX and USDA, ARS Beltsville. The 400 odd collections never reappeared after they were turned over to APHIS.

This year's collection project was shorter in duration; six days on South Georgia versus the 32 days in 1998-1999. Poor ship schedules and lack of support facility on South Georgia prevented a longer stay this year. The following narrative describes the 1999-2000 effort on the Falkland Islands and South Georgia Island. A full report with all passport data will follow.

29 Dec 1999	Leave Anchorage, Alaska 12:43 p.m., arrive Los Angeles (LAX) 9:18 p.m.
30 Dec 1999	Leave LAX 1:15 p.m., return LAX 1:30 p.m., bomb threat against flight forced return to LAX. Enter the FBI and LAPD. What an experience. Reboard same plane and depart LAX again 6:30 p.m.
31 Dec 1999	Arrive Santiago, Chile 11:30 a.m., leave Santiago 1:15 p.m., arrive Punta Arenas, Chile 5:15 p.m.
1 Jan 2000	Leave Punta Arenas 1:30 p.m., arrive Mt. Pleasant, Falkland Islands 3:15 p.m., arrive Stanley, Falkland Islands 4:30 p.m.
2 Jan 2000 to 4 Jan 2000	Sort equipment and plan effort on Falklands. Informed scheduled departure for South Georgia (Jan 7) delayed to January 12.
5 Jan 2000	Collect seed at Port Harriet, 10 collections Tussac grass, <i>Poa flabellata</i> , 1 collection Barnett, <i>Acaena magellanica</i> .
6 Jan 2000	Collect seed at Cape Dolphin, 10 collections (very large volumes) Tussac grass
7-8 Jan 2000	Dry and clean seed.
9 Jan 2000	Collect seed on Tussac Island in Stanley Harbor. Dislocated knee and limped for 4 weeks (on Feb. 8, I was told the knee cap was fractured), 8 collections Tussac grass.
10 Jan 2000	Clean seed and prepare materials for South Georgia.
11 Jan 2000	Transfer to East Cove, Falkland Islands.
12 Jan 2000	Leave East Cove Dock 10:30 a.m.

12-16 Jan 2000 At sea on board M/V Dorada, Falkland Islands Fisheries Patrol Boat. Fees waived. The Dorada was delayed 2 days due to severe storm and massive ice fields. The latter attributed to the gigantic iceberg B10A.

16 Jan 2000 6:30 a.m. Arrive Grytviken/King Edward Point. Start collection process. 37 collections Tussac grass, 2 collections Antarctic hairgrass, *Deschampsia antarctica*, 2 collections Mountain fescue, *Festuca erecta*. All collections of Tussac grass were very large volumes and apparently high quality seed. Most hairgrass and fescue immature. Marked sites for later collection by others as they arrive.

18 Jan 2000 Leave Grytviken via R/V Vavilov. Arrive 7:30 p.m. St. Andrews Bay Landing cancelled due to snowstorm and heavy fog.

19 Jan 2000 Arrive Cooper Bay 6:00 a.m. 1 very large collection Tussac grass. Fur seals prevented other collections.

20 Jan 2000 Arrive Gold Harbor. 2 large collections Tussac grass. Arrive Salsberry Plain 6:00 a.m. 3 large collections Tussac grass. Arrive Albatross Island 1:30 p.m. 1 collection Tussac grass. Very intense fur seal infestation.

21 Jan 2000 Fortuna Bay 5:30 a.m. 2 large collections Tussac grass. Leave South Georgia 4:30 p.m.

22-24 Jan 2000 At sea. Clean and dry seed.

24 Jan 2000 7:30 a.m. Arrive Stanley, Falkland Islands, clear Falkland customs 11:00 a.m.

25 Jan 2000 Continue cleaning seed.

26 Jan 2000 Schedule trip to Kidney Island.

27 Jan 2000 Weather forced cancellation of Kidney Island trip.

28 Jan 2000 Pack seed for shipment and obtain export permit and phytosanitary certificate.

29 Jan 2000 Leave Stanley 1:30 p.m. Arrive Mt. Pleasant Airport 2:30 p.m. Leave Mt. Pleasant 5:00 p.m. Arrive Punta Arenas 6:30 p.m. Clear customs 7:30 p.m.

30 Jan 2000 Meet with Nilo Covacevich, Ph.D., Director INIA (Chilean Agriculture Department, Southern Region).

31 Jan 2000 Leave Punta Arenas 4:00 p.m., arrive Santiago 8:00 p.m., leave Santiago 11:15 p.m.

1 Feb 2000 Arrive LAX 7:35 a.m., clear customs and APHIS 8:00 a.m. (a three-minute process), leave LAX 12:30 p.m., arrive Anchorage 7:30 p.m.

All in all, the collection effort went very well considering the short period of time allowed on South Georgia.

A total of 103 collections were made on South Georgia and the Falkland Islands with more coming from independent collectors.

I seriously considered cancelling this trip when ship schedules started collapsing in early December. By mid-December all the efforts seemed doomed. The amount of work put into the effort by my office, the Falkland Island Government and the South Georgia Government could not be wasted. I determined that the needed activities could be accomplished in the given time. The unforeseen storm at sea and the impenetrable ice field encountered on the way to South Georgia nearly used up half the allocated time planned for the King Edward Point and Grytviken area. Remote areas require flexibility and this project tested my flexibility to the maximum.