without manure; (2) winter rye; (3) spring barley and oats with manure. Harvested season of 1898. Should be tried in Alaska and the very coldest regions of the United States. Amount obtained, ⅔ bushel.

Reprinted from Inventory No. 4. See Carleton, Bull. 23, Div. Bot.: 21.

2964. BROMUS INERMIS. **Smooth brome grass.**

From France, 1899.

This grass is also known as Austrian brome, Hungarian brome, and awnless brome. Last year the Department of Agriculture imported from Russia and distributed in the Northwest 12 tons of seed. Many favorable reports have been received, indicating that the cultivation of this species is likely to prove one of the most important agricultural resources of the subarid regions of the West. It is extremely resistant alike to cold and to drought, and is a vigorous grower, furnishing both hay and pasturage in abundance, and of a superior quality. Some correspondents have reported that they did not obtain a stand the first season, and have applied for more seed. Attention is accordingly called to the fact that in unfavorable seasons this grass may make very little progress the first summer, but if allowed to remain through the winter such plots not infrequently put forth a vigorous growth the next season.

The South Dakota station has had perhaps the most extended and successful experience with *Bromus inermis*, with the result that Professor Chilcott has been able to prepare the following practical directions for planting and subsequent care:

Seed bed.—Prepare the seed bed by plowing to a good depth, using land as free as possible from weeds. Harrow and fine thoroughly.

Sowing.—Sow the seed broadcast early in the spring at the rate of from 15 to 20 pounds per acre, and cover with the harrow. In case the ground is liable to blow, sow a thin nurse crop of about one-half bushel of barley or oats.

After care.—In case the weeds grow vigorously or a nurse crop is used, mow once or twice in order to prevent smothering the tender plants and robbing them of moisture. If, however, no dry spell is present the nurse crop can be cut for hay, but if a drought does come, mow without delay, and leave the crop to mulch the ground unless it be so heavy that it will smother the young grass. These precautions are given to insure a stand. You must remember you are not trying to raise the nurse crop but to get a stand of this new and valuable grass, which will last you many years. Where the danger of blowing is not great, sow without a nurse crop. It is best not to pasture the first year. If the stand looks thin the first fall, do not plow it up, but leave it a second year.

It will usually furnish a crop of seed and a crop of hay the second year. There is a ready sale for the seed at good prices, but it will be more valuable to you for seeding more ground.

The success of this grass in the Dakota region has been demonstrated, but the extent of its utility remains to be discovered by experiments in other parts of the country. For this purpose packages of 2 pounds of seed, enough to plant an eighth of an acre, are sufficient. Commercial quantities should be secured from the seed dealers, who will probably have an adequate supply available next year.

2965. EUCHLÆNA LUXURIANS. **Teosinte.**

From Florida. Received March, 1899.

"This plant needs a long season of hot weather, a rich soil, and abundant moisture in order to succeed well, and it is useless to plant it where all these conditions can not be had. It is a remarkably vigorous grower, reaching 10 or 12 feet in height, with an unusually abundant supply of leaves and slender stems, which continue to grow until killed by frosts. If cut when it reaches 4 or 5 feet in height it makes excellent fodder, and will produce a second crop fully as large as the first. If left to grow until September or October it furnishes excellent material for the silo, in greater amount per acre than either corn or sorghum, and we have found no other plant which is its equal for soiling purposes. Its leaves are similar to those of sorghum, but much longer. The stalks contain 8 to 10 per cent of sugar. The plants stool freely, sometimes as many as 50 stalks growing from a single seed. It has done fairly well at the Georgia and Mississippi experiment stations and very fairly in North Carolina, but has made a heavier crop than any other plant which has ever been grown at the Florida and Louisiana stations. In Mississippi the heaviest yield has been 22 tons per acre, while the Louisiana station reports the enormous yield of over 50 tons of green forage per acre. Its value for feeding is apparent from the fact that the entire crop grown at the Louisiana station was sold to local dairymen at the rate of $2 per