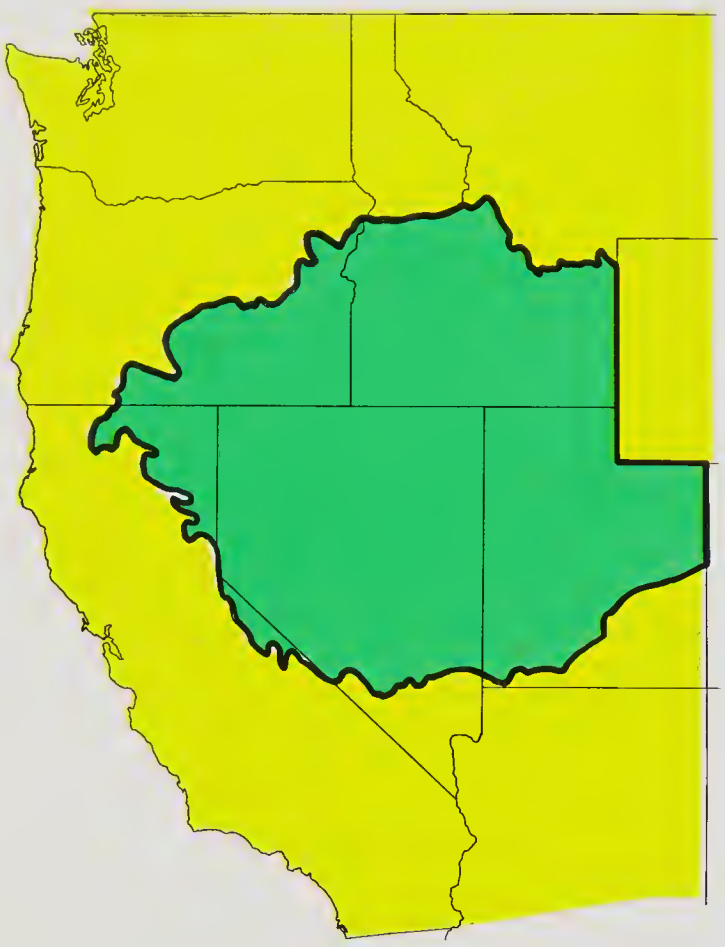
United States
Department of
Agriculture

**Soil
Conservation
Service**

Boise,
Idaho

Aberdeen
Plant Materials Center



The Plant Materials Center at Aberdeen, Idaho, is part of a national plant materials program operated by the United States Department of Agriculture, Soil Conservation Service. The purpose of the PMC is to assemble, evaluate and release new plant materials for conservation use.

From its location in southeastern Idaho, the PMC serves portions of five states: Idaho, Nevada, Utah, California and Oregon. This area covers about 130 million acres and a wide range of climatic and soil conditions.

History

The Aberdeen PMC was established by SCS in 1939 to supply technical data and guidance to the grassland program of the Western States, concentrating on producing conservation grasses for irrigated land.

In 1954, the objective of quantity production of seeds and plants changed to emphasize collection, evaluation, and field testing of plants for use on nonirrigated land and rangeland, as well as irrigated land.

The South Bingham Soil Conservation District at Aberdeen purchased a 40-acre farm for lease to SCS as a permanent home for the PMC in 1955. An additional 67 acres are leased from the Idaho Department of Fish and Game.

PMC Facilities

The PMC Manager and staff are headquartered at the University of Idaho Experiment Station located northeast of Aberdeen, Idaho, on State Highway 39. The PMC Farm is a short distance further north along the Highway.

The farm is operated as a showplace for farming and conservation technology that SCS recommends to farmers and ranchers within the service area. Landscaping and a display nursery provide visitors with examples of plants for conservation use.

The farm's irrigation systems, cropping system, windbreaks, and wildlife plantings combine to provide a hands-on training center for personnel from many agencies, industry, farmers and ranchers, and others.

Day-to-day operations of the PMC are supervised by the Center Manager, who is responsible for all operations from budgeting to planting and harvesting. Other permanent staff include a soil conservationist (assistant manager), secretary, farm manager and crew. A plant materials specialist is headquartered at the SCS Office in Boise.

A Plant Materials Center State Advisory Committee reviews and directs PMC operations. The Advisory Committee is made up of SCS state conservationists from Idaho, Nevada, Utah, and Oregon.

Conservation Problems and Priorities

A long range program has been developed to guide PMC activities in achieving solutions to high priority problems and needs as recognized by SCS, soil conservation districts, and cooperating agencies in the five-state area. High priority problems include:

- Sheet and rill erosion of cropland
- Wind erosion on cropland
- Riparian degradation, including stream and gully erosion
- Rangeland infested with cheatgrass or other winter annuals
- Poor rangeland conditions outside the cheatgrass problem zone.

Front cover: Appar lewis flax blooms profusely for about six weeks beginning in mid-May.

The Primary Purpose

The primary purose of the Aberdeen Plant Materials Center — evaluating new plants — is accomplished in six steps.

In the Initial Evaluation, plants with potential for meeting a conservation need are brought to the Center. They are grouped by test project and planted on the PMC grounds. For several years, observations are recorded on the plants' performance. They are compared with commonly used and similar plants. They are rated for seedling vigor, seed production, forage, and resistance to disease, insects, cold, drought, and other factors.

Promising plants from the initial evaluation are then put into the Initial Seed Increase. Seeds of selected plants are grown in small blocks on the PMC grounds, usually one-tenth acre or less in size. During this period, seed is harvested to provide material for continued observation and evaluation.

With enough seed grown and collected, Advanced Testing begins. Plants are tried in small plantings off the PMC gounds under selected soil and climatic conditions. Exposing plants to extremes of soil and weather identifies the versatile, hardy performers. Time and time again, the staff finds there is one seed source that has a stronger seedling, grows faster on different sites, has drought and cold tolerances, and good prospects as a commercially attractive plant. The superior plants of each species are selected for breeder stock.

Supplemental Evaluations and tests continue to determine how the selected plants compare with commonly used plants in culture, management, and seed production techniques. One or two-acre fields are planted, and seed is produced on the PMC grounds.

When enough seed has been gathered, the off-Center Field Plantings start. Plantings by soil conservation district cooperators in Idaho, Nevada, Utah, California and Oregon test the performance of these new strains and varieties under actual use conditions.

Plants showing superior performance during these steps are given a variety name and released for commercial seed production in cooperation with state agricultural experiment stations and other agencies.

After a new plant variety is released, the PMC continues to produce breeder and foundation seed as long as the variety is in demand.

The Center also works with commercial seed growers. Growers can obtain foundation seed for strains of new plants through crop improvement associations, universities, and soil conservation districts in the five states.

Field plantings by soil conservation district cooperators test the performance of new plant materials under actual use conditions.

Released Plants

Plants tested at the Aberdeen PMC and released for commercial production include:

P27 Siberian wheatgrass, an extremely drought tolerant bunchgrass for rangeland. Released in 1953.

Sodar streambank wheatgrass, a long lived sod-forming grass for erosion control in grass waterways and roadsides. Released in 1954.

Topar pubescent wheatgrass, a long lived sod former; tolerates alkali and low soil fertility; used for pasture, rangeland and erosion control. Released in 1957.

Regar meadow bromegrass has strong seedling vigor, rapid regrowth, drought tolerance, and is winter hardy; used for irrigated hay or pastures. Released in 1966.

Tegmar dwarf intermediate wheatgrass, a long lived late maturing sod former for erosion control. Released in 1968.

Nezpar Indian ricegrass, a bunchgrass for winter forage for livestock and wildlife. Released in 1978.

Magnar basin wildrye, a bunchgrass for stabilizing gullies, wind erosion protection, rangeland, wildlife food and cover. Released in 1979.

Appar lewis flax, a perennial forb for seeding range, minespoils, highway rights-of-way; can also be used as an ornamental in parks, highway rest stops, etc. Released in 1980.

Delar small burnet, an evergreen forb for range restoration and disturbed area seedings. Released in 1981.

Ephraim crested wheatgrass, a persistent sod forming grass for arid range conditions; used for stabilization of disturbed sites, critical areas and erosion control. Released in 1983.

Paiute orchardgrass, a long lived high producing grass that is both drought and shade tolerant; used for dryland pasture and range seedings; has excellent palatability. Released in 1983.

Magnar basin wildrye is well adapted to southern Idaho, Northern Utah and Nevada. It has good tolerance to salt and alkali.

Regar meadow bromegrass is a good erosion control plant that also provides food and cover for wildlife.

Conservation Districts are Important

Soil conservation districts play an important part in the plant materials program.

Districts are subdivisions of state government with legal responsibility to plan and implement a broad program of soil and water conservation. They receive technical assistance and other help from a variety of sources, but primarily from the Soil Conservation Service.

Districts define conservation problems experienced in the communities they serve. Their recommendations form the basis for establishing priorities for plant testing at the Aberdeen PMC.

Field testing away from the PMC is done on the land of individuals or groups cooperating with conservation districts.

Finally, district leaders help demonstrate and promote the use of new plants proven beneficial to conservation programs.

Technology Transfer

Without commercial large-scale production by private growers, the selection of superior plants by the PMC would be in vain. The PMC staff often works with growers to help them establish quality fields.

The PMC's credibility is on the line as they release their test data and knowledge of the plant and define how and where to successfully use it. As a result, it takes time to test and gain confidence about a plant's performance. The entire evaluation process generally takes from 10 to 15 years. The plant's credibility is the PMC's credibility. The plants emerging from the plant materials program will survive our generation. They will help our families in the future by retaining or improving the quality of our region. Generations of wildlife and livestock will use the plants resulting from this program.

The Aberdeen PMC maintains a data base, accessible by computer, on plants that are or have been tested. Technical and specific project reports are issued periodically. The PMC staff is willing to discuss their data and show you around the Plant Materials Center at any time. Visitors are always welcome.

This windbreak on the PMC farm demonstrates the use of five different shrubs and trees that also provide food and cover for wildlife.

Cooperating Agencies

U.S. Department of Agriculture
- Agricultural Research Service
- Forest Service

U.S. Department of the Interior
- Bureau of Land Management
- Bureau of Reclamation

Idaho Department of Fish and Game
Utah Department of Wildlife Resources
University of Idaho
University of Nevada
Utah State University
Soil Conservation Districts in
- Idaho
- Nevada
- Utah
- California
- Oregon

Arrowleaf balsamroot is in the initial evaluation stage of testing at the PMC. It has potential for providing diversity in rangeland and critical area seedings and is palatable to wildlife.

For more information:
Contact your local Soil Conservation Service Office or the Aberdeen Plant Materials Center, P.O. Box AA, Aberdeen, Idaho 83210, phone 208-397-4181.

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