Irrigated Forage Nurseries

With the increasing importance of irrigated pastures in Central Oregon, it is vital that the most adaptable grass be known. These preliminary trials were set up in order that knowledge might be gained in that direction.

Three of the nurseries were placed under more or less typical irrigated conditions; the fourth trial, on the Willows Ranch, would more nearly approach the mountain meadow environment, however, much less severe.

The trials varying slightly in varieties and number were laid out in randomized block design, replicated three times. Each plot was 6 x 20 feet and was seeded broadcast. To insure an even stand, the seed was mixed with 3/4 of a one pound coffee can of dampened Zonolite (vermiculite). A small amount of clover seed was added to each of the grass plots and grass was added to any legume plots. Each trial was seeded into a pasture being established by the farmer. The nurseries are not fenced and consequently receive the same grazing as the farm pasture.

From these preliminary trials, information will be taken on survival and general vigor of the varieties. No attempt is being made to evaluate yield.

Alfalfa Forage Nursery

The varieties are shown in Table No. 52. The nursery had been seeded in 1949, however, because of unfavorable weather conditions none of the varieties became established. It was reseeded April, 1950, and a good stand was obtained. The soil is probably a loamy sand and soil analysis shows it to be somewhat acid and very low in nitrogen and a little low in phosphate.

During the 1951 season, the trial was grazed quite close and it was impossible to judge the productivity of the varieties. They appeared to be well established and at the time showing no tendency toward thinning or dying out.

Table No. 52

Irrigated Forage Nursery
Livingston Ranch - Alfalfa, Oregon
Seeded April, 1950

Common Name	Botanical Name	Variety or Pedigree
Tall fescue	Festuca elatior var. arundinaceae	
Chewings fescue	Festuca rubra var. commutata	
Alta fescue	Festuca elatior var. arundinaceae	Alta
Tall fescue	" " "	Goar
Tall fescue	" " "	K-31
Ranier red fescue	Festuca rubra	Rainier
Smooth brome	Bromus inermus	Achenback
Smooth brome	" "	Manchar
Smooth brome	" "	Kuhl
Timothy	Phleum pratense	comm.
Timothy	" "	Lorain
Timothy	" "	Cornell
Meadow foxtail	Alopecurus pratensis	P-3
Meadow foxtail	" "	Ore. 12
Tualitin tall oatgrass	Arrhenatherum elatius	
Nomad alfalfa		
Rhizome alfalfa		
Orchard grass	Dactylis glomerata	Sel. 233
Highland bent	Agrostis tenuis	
Perrenial ryegrass	Lolium perenne	Oregon

Powell Butte Irrigated Forage Nursery

The nursery was established September 5, 1951 consequently no observations are available. Varieties shown in Table No. 53.

The trial was established in a soil typical of the Powell Butte-Redmond area. A shallow sandy loam underlain with basaltic lava.

Culver Irrigated Forage Nursery

The trial was established April, 1950. The stand is fairly uniform, however not too heavy and apparently irrigation water washed some of the farmer's pasture seed into the trial because there is some mixture. The portion of the field in which the nursery was planted volunteered heavy to sweet clover. The sweet clover grew much more rapidly than did the grasses and legumes in the nursery and it was necessary to clip the trial early in the summer. Later in the summer sheep were brought in and the entire pasture was heavily grazed. The pasture was heavily grazed during the 1951 season so it was impossible to observe very much in the way of differences in productivity. The varieties are shown in Table No. 54.

The nursery was established in a Lamonta loam. A soil not typical of Jefferson county but one which might be improved with pasture. The soil is considerably heavier than those in which the other nurseries were established and a little heavier than most of the soils in Jefferson county which are principally sandy loam.

Sisters Irrigated Forage Nursery

The nursery was seeded in an area being developed for in improved pasture. Previously it was a meadow receiving its moisture from flooding and high water table created by a creek which flows through the meadow. The soil is sandy but has a higher organic matter content than the surrounding area and is on the acid side.

The trial was seeded May 10, 1950, Table No. 55, and a good stand was obtained. Three quarters of a pound each of alsike and ladino clover were

Table No. 53

Irrigated Grass Nursery
Roy Snable Farm - Powell Butte
Seeded September,5, 1951

Common Name	Botanical Name	Variety or Pedigree
Smooth brome	Bromus inermis	Nebr. 36
Smooth brome	" "	Nebr. 44
Smooth brome	" "	Sandberg
Smooth brome	" "	Manchar
Smooth brome	" "	Lincoln
Smooth brome	" "	Achenback
Smooth brome	" "	Fischer
Smooth brome	" "	Utah 12
Smooth brome	" "	Kuhl-Oreg.
Alta fescue	Festuca elatior var. arundinaceae	
Tualatin tall oatgrass	Arrhenatherum elatius	
Ree wheatgrass	Agropyron intermedium	
Intermediate wheatgrass	Agropyron intermedium	Neb. 50
Rainier red fescue	Festuca rubra	
Orchard grass	Dactylis glomerata	
Chewings fescue	Festuca rubra var. commutata	
Timothy	Phleum pratense	Cornell 50
Orchard grass	Dactylis glomerata	S 143
Meadow foxtail	Alopecurus pratensis	Creeping
Meadow foxtail	Alopecurus pratensis	Comm.
Tall fescue	Festuca elatior var. arundinaceae	
Creeping alfalfa		Klamath Sta.
Western wheatgrass	Agropyron smithii	Utah 52-2
Burnet	Sanguisorba minor	

Table No. 54

Irrigated Forage Nursery
Al Cook - Culver, Oregon
Seeded April 1950

Common Name	Botanical Name	Variety or Pedigree
Tall fescue	Festuca elatior var. arundinaceae	
Chewings fescue	Festuca rubra var. commutata	
Alta fescue	Festuca elatior var. arundinaceae	
Tall fescue	" " "	Goar
Tall fescue	" " "	K-31
Red fescue	Festuca rubra	Ranier
Smooth brome	Bromus inermus	Achenback
Smooth brome	" "	Manchar
Smooth brome	" "	Kuhl
Timothy	Phleum pratense	common
Timothy	" "	Lorain
Timothy	" "	Cornell
Meadow foxtail	Alopecurus pratensis	P-3
Meadow foxtail	" "	Ore. 12
Tualatin tall oatgrass	Arrhen atherum elatius	
Creeping alfalfa		Nomad
Creeping alfalfa		Rhizoma
Orchard grass	Dactylis glomerata	Sel. 233
Highland bent	Agrostis tenuis	
Perrenial ryegrass	Lolium perenne	Oregon
Orchard grass	Dactylis glomerata	P.I. 100072

Table No. 55

Irrigated Forage Nursery
Willows Ranch - Sisters, Oregon
Seeded May 10, 1950

Common Name	Botanical Name	Variety or Pedigree
Smooth brome	Bromus inermus	Fischer
Smooth brome	" "	Nebr. 36
Smooth brome	" "	Nebr. 44
Smooth brome	Bromus inermus	Lincoln
Smooth brome	" "	Sandberg
Smooth brome	" "	Achenback
Smooth brome	" "	Manchar
Smooth brome	" "	Utah - 12
Smooth brome	" "	Kuhl - Oregon
Orchard grass	Dactylis glomerata	233.
Orchard grass	" "	S-143
Reed canary grass	Phalaris arundinacea	
Tualatin tall oatgrass	Arrhenatherum elatius	
Meadow foxtail	Alopecurus pratensis	Comm.
Meadow foxtail	" "	Creeping
Burnet	Sanguisorba minor	
Creeping alfalfa		
Timothy	Phleum pratense	Cornell
Western wheatgrass	Agropyron smithii	Utah 52-2
Canada wild rye	Elymus canadensis	
Tall fescue	Festuca elatior var. arundinacea	
Rainier red fescue	Festuca rubra	
Chewings fescue	Festuca rubra var. commutata	
Alta fescue	Festuca elatior var. arundinacea	
Ree wheatgrass	Agropyron intermedium	
Intermediate wheatgrass	" "	Nebr. 50
Burning brush	Kochia scoparia	

...e exception of the creeping alfalfa plot, of broadcast on the trial seed grew. The first year a very heavy stand which, it is believed, however in 1951, the clover was predominately of each clover was alsike.

It has been difficult to observe this trial because the farmer has had trouble irrigating the irrigation water and practically every time it has been visited the entire area is under water or very wet. This condition has favored the alsike clover over ladino, and such grasses as Reed's canary grass and Meadow foxtail, however during 1951 none of the grasses had died out. Burning brush (Kochia scopania) grew during the seedling year but apparently failed to make seed as it was not observed during the 1951 season.

Summary

Five irrigated forage grass nurseries have been seeded. The one nursery established in 1949 failed to grow and was reseeded in 1950. At this time, none of the varieties, with the exception of Burning brush, have died out. Because of heavy grazing, it has been difficult to evaluate the grasses. It is thought that perhaps in a preliminary trial of this sort more information could be gained by keeping the nursery area fenced and keeping the grasses under control by clipping rather than grazing.