

ABSTRACTS OF RESEARCH IN GRASS AND LEGUME INVESTIGATIONS - 1955

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HAY YIELD FROM GRASS PLOTS

Standard crested wheat grass and Nordan crested wheat grass have shown the highest hay production at the Dickinson Experiment Station on the basis of the four year average yields from the straight grass hay plots. Intermediate wheat grass, green stipagrass, and pubescent wheat grass have also produced very well. Over the four years of the trial the hay yields from Lincoln brome grass and northern brome grass have averaged substantially less than the yields from the wheat grass.

BROMEGRASS TRIALS

In a hay yield trial with 14 varieties of brome grass at the Dickinson Experiment Station the southern type bromes have in general outyielded the northern type bromes for the past two years. However, the difference between the two types were not as great this season as they were last season.

INTERMEDIATE WHEAT GRASS TRIALS

Intermediate wheat grass varieties have shown excellent hay yields in trials at the Dickinson Experiment Station. In each of two trials, one of which has been continued for two years and one of which has just one season's results, Ree wheat grass has given the best yields of any of the intermediate wheat grass varieties. The average production of intermediate wheat grass varieties from plots seeded in 1953 was 1844 lbs. per acre (dry weight) this season.

GRASS-ALFALFA MIXTURES FOR HAY

Grass-alfalfa mixtures cut for hay at the Dickinson Experiment Station produced 2301 lbs. of dry hay or grass mixtures without legumes produced only 1577 lbs. of hay per acre. The grass-alfalfa mixtures thus produced 45.9 percent more hay than the straight grass or grass mixtures plots. The average yield advantage on dryland for grass-alfalfa combinations over grass without legumes has been 32.3 percent for the four-year period, 1952-1955.

SWEETCLOVER HAY YIELDS

All sweetclover varieties in the yield trial at the Dickinson Experiment Station produced excellent yields this year. A-46, a low-coumarin yellow sweetclover, produced the highest forage yield - 1.82 tons per acre (dry weight). Evergreen was second with 1.78 tons per acre, and common yellow was third at 1.77 tons per acre. On the basis of the two year average yields A-46 and S-65, both low coumarin strains, have been the top producers.

DRYLAND ALFALFA YIELDS

Over a three year period Narragansett, Du Puits, and Ladak alfalfa have been the top hay producers in the alfalfa trials at the Dickinson Experiment Station. Narragansett has produced an average of 1.55 tons per acre, Du Puits 1.43 tons, and Ladak 1.41 tons. Cossack has been fifth in production at 1.39 tons per acre, Grimm eighth at 1.32 tons per acre, and Ranger ninth at 1.27 tons.

NITROGEN FERTILIZER ON OLD CRESTED WHEAT GRASS STANDS

Nitrogen fertilizer applications on an old crested wheat grass stand at the Dickinson Experiment Station made over a five year period have resulted in an average increase in production of 1201 pounds of hay per acre for the first 50 pounds of nitrogen applied. The second 50 lb. increment of nitrogen has produced an additional 768 lbs of hay, and the third 50 lb. increment has produced only 472 lbs. of additional hay. Considering costs of the nitrogen and yields of additional hay; it seems that at the present time applications of more than 50 lbs. of nitrogen in any one season is not justified in this area.

NATIVE GRASS PRODUCTION

Native grass yields on the dryland types in the pasture at the Dickinson Experiment Station averaged about the same as last year. The average production of all types was just slightly less this year than last year. On the basis of the 10-year average yields of the types in the pasture, grass production was near average this year. The dryland types produced about 897 lbs. per acre (dry weight) this year in contrast to 837 lbs. per acre last year, and the 10-year average of 1018 lbs. per acre.

SPRING GRAZING TRIAL

Crested wheat grass-alfalfa pastures at the Dickinson Experiment Station grazed by yearling Hereford steers for a 51 day period from May 4 to June 23 produced 48.5 percent more forage than straight crested wheat grass

pastures grazed at the same rate for the same period. This additional forage production plus the higher quality of the forage in the crested-alfalfa pastures resulted in daily gains per head of 2.06 lbs., in contrast to daily gains per head of 1.44 lbs. in the crested wheat grass pastures. The crested-alfalfa pastures produced 43.4 percent more beef than did the crested wheat grass pastures.

[Back to 1955 Research Reports Table of Contents](#)

[Back to Research Reports](#)

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