7-1-1902

Index Bulletin C - Indexing Bulletins 38-53

University of Wyoming Agricultural Experiment Station

Follow this and additional works at: http://repository.uwyo.edu/ag_exp_sta_bulletins

Part of the Agriculture Commons

Publication Information
UNIVERSITY OF WYOMING
Agricultural College Department

Wyoming Experiment Station
Laramie, Wyoming.

INDEX BULLETIN C
JULY, 1902

Indexing Bulletins Thirty-Eight to Fifty-Three
SEPTEMBER, 1898—JUNE, 1902

BY THE SECRETARY.

Bulletins will be sent free upon request.
Address: Director Experiment Station, Laramie, Wyoming.
Wyoming Agricultural Experiment Station

University of Wyoming.

BOARD OF TRUSTEES.
Hon. OTTO GRAMM, President, Laramie.......................... 1903
Hon. GRACE RAYMOND HEBARD, B. S., Ph. D., Secretary, Cheyenne... 1903
Hon. HENRY L. STEVENS, M. D., Laramie.................................. 1903
Hon. TIMOTHY F. BURKE, LL. B., Vice President, Cheyenne........ 1907
Hon. JOHN C. DAVIS, Treasurer, Rawlins............................. 1907
Hon. MORTIMER JESURUN, M. D., Douglas............................ 1907
Hon. ARTHUR C. JONES, Laramie......................................... 1903
Hon. JOHN A. BECKWITH, Evanston...................................... 1905
Hon. S. CONANT PARKS, Ph. D., Lander.............................. 1905
State Superintendent of Public Instruction T. T. TYNAN................. Ex-officio
President ELMER E. SMILEY, A. M., D. D.............................. Ex-officio

Agricultural Committee of the Board of Trustees.
H. L. STEVENS, Chairman................................................ Laramie
OTTO GRAMM .......................................................... Laramie
A. C. JONES .......................................................... Laramie

President of the University of Wyoming,
ELMER E. EMILEY, A. M., D. D.

STATION COUNCIL.
E. E. SMILEY, A. M., D. D........................................ Director*
F. E. EMERY, M. S.................................................. Vice Director, Agriculturist and Horticulturist
A. NELSON, M. S., A. M........................................ Botanist
E. E. SLOSSON, M. S............................................... Chemist
W. C. KNIGHT, A. M., Ph. D.................................. Geologist
C. B. RIDGWAY, A. M................................................ Physicist and Meterologist
G. R. HEBARD, A. M., Ph. D.................................. Secretary
BURTON P. FLEMING, B. S....................................... Irrigation Engineer
ELIAS E. NELSON, A. M........................................ Assistant Horticulturist
E. E. SIGMAN...................................................... Foreman Experiment Farm

*Prof. B. C. Buffum director after September 1st, 1903.
\[Resigned July 1st, 1902.\]
List of the Bulletins and Annual Reports by the Agricultural Experiment Station, Laramie, Wyoming, May 1, 1891, to June 30, 1902.

BULLETINS NOS. 1 TO 53
REPORTS NOS. 1 TO 12, INCLUSIVE

INDEXED BY GRACE RAYMOND HEBARD.

*Bulletin No. 4—December, 1891. Meteorology for 1891. B. C. Buffum, Meteorologist.
FIRST ANNUAL REPORT, 1892.
General Statements, with Bulletins Nos. 5 to 10. A. A. Johnson, Director.

SECOND ANNUAL REPORT, 1892.
General Statements, with Bulletins Nos. 5 to 10. A. A. Johnson, Director.
Wyoming Experiment Station.


THIRD ANNUAL REPORT, 1893.

Progress of Station Work, with Bulletins Nos. 11 to 16. A. A. Johnson, Director.


*Bulletin No. 18—June, 1894. I. Reclamation of Arid Lands. II. The Harvey Water Motor. A. A. Johnson, Director.

Bulletin No. 19—September, 1894. Squirrel-Tail Grass (Fox-Tail); One of the Stock Pests of Wyoming. Aven Nelson, Botanist.


FOURTH ANNUAL REPORT, 1894.

Reports from the Departments, and Bulletins Nos. 17 to 20. A. A. Johnson, Director.


INDEX BULLETIN C.

FIFTH ANNUAL REPORT, 1895.
Including Bulletins Nos. 22 to 26, inclusive; also, three Press Bulletins:

Bulletin No. 27—March, 1896. Meteorology for 1895, and Notes on Climate from 1891 to 1896. J. D. Conley, Meteorologist.


SIXTH ANNUAL REPORT, 1896.
Reports from Departments. Bulletins Nos. 27 to 31, inclusive.
Index Bulletin A of the First Twenty-six Bulletins, by Secretary.


SEVENTH ANNUAL REPORT, 1897.


EIGHTH ANNUAL REPORT, 1898.
General Outline of Work and Reports from Members of Station Staff, Including Bulletins Nos. 34 to 37, inclusive.


NINTH ANNUAL REPORT, 1899.
General Outline of the Work of the Agricultural College, with Departmental Statements. E. E. Smiley, President.
Report of the Director of the Experiment Station and of the Members of the Station Staff.
NINTH ANNUAL REPORT, 1899 (Continued).
Alkali Studies, III. B. C. Buffum, Agriculturist and Horticulturist.
Alkali Studies, IV. E. E. Slosson, Chemist.
Bulletins Nos. 38 to 40, inclusive, and Index Bulletin B of Bulletins Nos. 27 to 37, inclusive. G. R. Hebard, Secretary.
Bulletin No. 44—April, 1900. Alfalfa as a Fertilizer. B. C. Buffum, Agriculturist and Horticulturist.

TENTH ANNUAL REPORT, 1900.
General Outline of the Work of the Agricultural College, with Departmental Statements. E. E. Smiley, President.
Report of the Director of the Experiment Station and of the Members of the Station Staff.
Alkali Studies, V. B. C. Buffum, Agriculturist and Horticulturist, and E. E. Slosson, Chemist.
Distribution of Alkali in the Soil of the Experiment Farm. E. E. Slosson, Chemist.
Water Measurement. B. C. Buffum, Agriculturist and Horticulturist.
Germination of Wheat and Oats Treated for Smut.
Forage Plants. B. C. Buffum, Agriculturist and Horticulturist, and W. H. Fairfield, Superintendent of Experiment Farm.
Variety Tests of Wheat, Oats and Barley. B. C. Buffum, Agriculturist and Horticulturist, and W. H. Fairfield, Superintendent of Experiment Farm.
Bulletins Nos. 41 to 45, inclusive.
Bulletin No. 47—April, 1901. Lamb Feeding Experiment. Luther Foster, Agriculturist and Horticulturist.
Press Bulletin No. 2 (New Series)—May, 1901. Results of Lamb Feeding at the Wyoming Station. Luther Foster, Agriculturist and Horticulturist.


ELEVENTH ANNUAL REPORT, 1901.
Report of the Director of the Experiment Station and of the Members of the Station Staff.


Press Bulletin No. 5—1902. What is a Maintenance Ration for a Horse? F. E. Emery, Agriculturist and Horticulturist.

Press Bulletin No. 6—1902. The Effect of Different Amounts of Water Used in Irrigation upon the Yield of Potatoes. B. P. Fleming, Irrigation Engineer.


Bulletin No. 52—April, 1902. Experiment in Evaporation. C. B. Ridgaway, Physicist and Meteorologist.


TWELFTH ANNUAL REPORT, 1902.
Report of the Director of the Experiment Station, including Press Bulletins Nos. 1 to 11 (New Series), inclusive, and Reports of the Members of the Station Staff.

Annual Reports 1 to 5 are out of print, also all Press Bulletins.

*Out of print.
MONOGRAPHS
Issued From Time to Time by the Experiment Station.

Alkali in Soil at Experiment Farm, *A. R. 10.
Barley, A. R. 10.
Forage Plants, A. R. 10.
Germination of Wheats and Oats Treated for Smut, A. R. 10.
Oats, A. R. 10.
Index Bulletin A, indexing bulletins 1 to 26.
Index Bulletin B, indexing bulletins 27 to 37.
Index Bulletin C, indexing bulletins 38 to 53.
Press Bulletins 1 to 10.

PRESS BULLETINS
(All out of print.)

Alfalfa for Milch Cows, 9, A. R. 12.
Chickens, 8, A. R. 12.
Co-operative Sugar Beet Tests, 5.
Feeding Value of Wheat, 1, A. R. 12.
Horse Maintenance Ration, 5, 10, A. R. 12.
Irrigation of Potatoes, 6, A. R. 12.
Lamb Feeding, 2, A. R. 12.
Range Improvement, 7, A. R. 12.
Russian Thistle, **1, A. R. 5.
Sacaline, **3, A. R. 5.
Seed Distribution, **2, A. R. 5.
Sugar Beet Tests, **5, A. R. 7.
Turkeys, 4, A. R. 12.
Water Amounts Used in the Irrigation of Potatoes, 6, A. R. 12.
Wheat Bran for Milch Cows, 9, A. R. 12.
Wheat, Feeding Value of, 1, A. R. 12.

*Annual Report.

**Old Series.
Alphabetical List of Bulletins
Issued by the Wyoming Agricultural Experiment Station, Laramie, Wyoming.

Alfalfa, 43, 44.
Alkali, 29, 39, 49.
Analysis of Soils, 6.
Arid Lands, 18.
Artesian Wells, 20, 45.
Breeds for Wyoming, 5.
Brome-Grasses, 46.
Cattle, 13, 30.
Cereals, 22, 27.
Cereal Foods, 33.
Chemistry of Soils, 6.
Climate, 23.
Crops, 11, 17, 22.
Cultivated Shade and Forest Trees, 38.
Duty of Water, 8.
Evaporation, 52.
Feed and Management of Cattle, 13.
Flora of Wyoming, 28.
Forage Plants, 16, 22, 42.
Fox Tail, 19.
Fruits, 22, 34.
Garden Vegetables, 17.
Geology of Wyoming, 6, 14.
Gophers, 12.
Grasses and Forage Plants, 16, 22.
Ground Squirrels, 12.
Harvey Water Motor, 18.
Insecticides, 7.
Irrigation, 8, 53.
Lamb Feeding, 47, 51.
Measurement of Water for Irrigation, 53.
Meteorology, 4, 10, 17, 27.
Mineral Resources of Wyoming, 14.
Native Forage Plants for Alkali Soils, 42.
Native Vines in Wyoming Homes, 50.
Onions, 22.
Organization, 1.
Peas, 26.
Plant Lice, 2.
Potatoes, 22, 32.
Potato Scab, 21.
Reclamation of Arid Lands, 18.
Shade Trees, 38.
Sheep-Feeding, 30, 47, 51.
Shrubs, 15.
Smuts on Grain, 21.
Soils of Wyoming, 6.
Squirrel-Tail Grass, 19.
Stock Feeding, 13, 30, 47, 51.
Stooling of Grains, 37.
Subsoiling, 41.
Sugar Beet, 3, 9, 17, 36.
Trees, 15, 38, 40.
Turnips, 22.
Vegetables, 17.
Vines, 50.
Water Analysis, 24, 35.
Wheat, 17, 22, 25, 48.
Winter-Killing of Trees and Shrubs, 15.
INDEX.
BULLETINS 38 TO 53.

The titles of bulletins are printed in black capital letters. The bulletin numbers appear in black type, larger than the ordinary type in which page numbers are set.

Abies 40:84.
Acarina, 12th An. Rpt., 1902, 42.
    Negundo 38:18.
    saccharinum 38:18.
Alder 40:98.
    Paperleaf 40:98.
Alfalfa—
    amount of hay consumed by horses in feeding trials at Experiment Farm, 12th An. Rpt., 1902, 29.
Alfalfa (Continued)—
    amount of water lost in curing 43:60.
    as a fertilizer on the Laramie plains 44:98.
    as an improver of the physical condition of soils 44:97.
    at altitudes below 6,000 ft. 43:66.
    at Laramie Experiment Farm, 10th An. Rpt., 1900, Forage Plants, 5.
    bloating of cattle and sheep on, 43:61.
    culture of 43:50.
    amount of seed to sow 43:56.
    at altitudes above 7,000 ft. 43:48.
    at altitudes below 6,000 ft. 43:47.
    how to cure 43:59.
    kind of soil 43:51.
    preparation of the land 43:52.
    seeding on manured land 43:54.
    sowing with or without nurse-crop 43:57.
    when and how to sow the seed 43:54.
    when to cut 43:59.
    duty of water on 43:77, 80.
    enemies of 43:81.
    experience of Mr. Thos. Bird with 43:87.
    experience of Mr. C. W. Webber with 43:86.
Alfalfa (Continued)—
experience of ranchmen on the Laramie plains with 43:83.
experience with at the Laramie Experiment Farm 43:48.
irrigation of 43:76.
on alkali soils 43:74.
pasturing of 43:62.
planting of on land infested with weeds 44:97.
relation of to the nitrogen problem 44:96.
results with the Turkestan variety at Laramie 43:71.
rotations with 44:97.
tolerance of alkali 43:75.
Turkestan variety 43:70.
winter killing of 43:73.
yield of—
    at Lander 43:67.
    at Laramie 43:63.
    at Sheridan 43:67.
    at Wheatland 43:68.

ALFALFA AS A FERTILIZER 14.
ALFALFA AS A HAY CROP 43.

Alkali—
absorption of water from salt solutions by beans 39:43.
living and dead seeds 39:43.
seeds 39:41.
amount of water absorbed by wheat from salt solutions 39:42.

Alkali (Continued)—
beds of single salts 39:36.
cereals and alfalfa on alkali land 39:47.
character of Wyoming alkali 39:35.
distribution of in the soil of the Laramie Experiment Farm, 10th An. Rpt., 1900.
distribution of salts in the soil 39:45.
summary of the results of the experiments, 9th An. Rpt., 1899, Alkali Studies III, 40; IV, 28.
Alkali (Continued)—
effect of different salts on the germination of seeds (Continued)—
  wheat in 0.1 per cent. solutions, 9th An. Rpt., 1899, Alkali Studies III, 18.
  wheat in 0.4 per cent. solutions, 9th An. Rpt., 1899, Alkali Studies III, 19.
  wheat in 2.0 per cent. solutions, 9th An. Rept., 1899, Alkali Studies III, 22.
effect of salts on the evaporation of water from soils 39:55.
on corn and wood 18.
effect of small amounts of alkali salts on germination of seeds 39:53;

Alkali (Continued)—
evaporation of water from pots with alkali salts, 10th An. Rpt., 1900, Alkali Studies V, 14, 16.
excess of sulphates over chlorides in 39:39.
germinating experiments with salt solutions of the same osmotic pressures for the different salts, 10th An. Rpt., 1900, Alkali Studies V, 4.
outline of experiment with jars, 7.
outline of experiment with plates, cheese cloths and sand, 4.
tables of results 6, 10, 11.
germination of rye in salt solution 39:55.
Alkali (Continued)—
clover 8.
corn 16, 17.
rye 8.
various seeds 14.
wheat 8, 9, 10.
wood 16, 17.
in Green River wells 49:122.
lakes and deposits—chemical composition of deposits 49:105.
danger to stock from 49:107.
described 49:87.
genral discussion of 49:80.
history of 49:72.
ocurrence of 49:80.
origin of 49:83.
als of described 49:106.
Wyoming lakes and deposits—Bothwell 49:95, 114.
Dillon 49:115.
Gill 49:104, 120.
Independence group 49:98, 117.
Morgan 49:96, 115.
Rankin 49:94.
Rock Creek 49:92, 113.
Union Pacific 49:90, 111.
movement of salts in the soil 39:46.
ocurrence of 49:75.
in soils 49:75.
in sedimentary rocks 49:76.
in spring water 49:77.
origin of deposits of 39:36.
origin of the salts 49:86.
rtamic pressure in salt solutions 39:42.

Alkali (Continued)—
percentage of injurious to cereals and alfalfa 39:47.
percentage of withstood by alfalfa 43:75.
phases of the salts in natural alkali 39:37.
plants 42:28.
reactions and precipitation of salts in natural waters 39:38.
relative injuriousness of the common alkali salts 39:54.
rise of 39:45, 46; 49:75.
als described 49:78, 106.
source of 39:40; 49:76, 80.
treatment to prevent the accumulation of 39:46.
variations in the composition of the salts of alkali lakes 39:37.

ALKALI LAKES AND DEPOSITS 49.
Alkali meadow-grass 42:43.

ALKALI STUDIES II 39.
Alnus 40:98.
Alunogen 49:79.
Ambonychia 45:125.
Amelanchier 40:107.
Anisomyon 45:155.
Ants 38:28.
Apeibopsis 45:163.
Apple family 40:105.
Arbor day 40:64.
Arrhenatherum, 10th An. Rpt., 1900, Forage Plants, 8, 12, 31.
Artesian basins—
Big Horn 45:203.
Carbon 45:242.
Cheyenne 45:238.
Green River 45:225.
Gros Ventre 45:246.
Laramie 45:230.
over taxing of 45:189.
Shirley 45:234.
Shoshone 45:207.
Sweetwater 45:229.
Teton 45:248.
Uinta 45:245.

**ARTESIAN BASINS OF WYOMING—\nA PRELIMINARY REPORT ON 45.**

Artesian water (Continued)—\npurity of 45:179.
Arundinaria, 10th An. Rpt., 1900, Forage Plants, 13, 34.
Ash 40:103.
Green 38:19; 40:104.
Mountain 38:21.
White 38:20.
Aspen or Quaking Asp 38:15; 40:95.
canescens 42:35.
eremicola 42:33.
expansa 42:37.
nuttallii 42:37.
pabularis 42:33.
truncata 42:37.
volutans 42:38.
Attacus 38:31.
Avicula 45:153.
Avicu lopectin 45:129.
Baculites 45:151, 153, 155, 157, 159.
Balm of Gilead 38:15; 40:93.
Balsam Apple, wild, 50:13.
Barley, variety tests of, 10th An. Rpt., 1900.


Bear River stage 45:146.


Beech family 40:99.

Belemnite 45:135.

Belemmites 45:137.

Bellerophon 45:121.

Betulaceae 40:97.

Betula 38:21; 40:97, 98.

Birch 38:21; 40:97.

Paper 40:97.

Western 40:98.

Birch family 40:97.


Bischofite 49:79.

Bloating of cattle and sheep on alfalfa 43:61.

Bokhara clover on alkali ground 39:49.


Borer, Cottonwood, 38:32.


Bridger stage 45:170.


Downey 46:20.

Mountain 46:12.

Porter’s 46:14.

Quake 46:19.

Richardson's 46:16.

Short-awned 46:11.

Smooth 46:7.

Tweed’s Western 46:10.

Western 46:9.

Wood 46:17.

BROME-GRASES OF WYOMING 46.


Brontosaurus 45:140.


Buffalo grass hay, digestible nutrients in, 12th An. Rpt., 1902, 23.


Bulinus 45:165.

Bulrush 42:45.

Tuber 42:45.

Butternut 38:21.

Cacaecia 38:30.


Calamovilfa, 10th An. Rpt., 1900, Forage Plants, 16, 32.


Camptonectes 45:137.

Cardium 45:149.
Carex, 10th An. Rpt., 1900, Forage Plants, 16, 32.
Catalpa 38:19.
Caterpillar, Tent, 38:32.
Cause of the extinction of native forage plants 42:25.
Cedars 38:24; 40:85.
Cement Plaster Industry, the Laramie, 10th An. Rpt., 1900.
chemistry of cement plaster 4.
effect of sand on the crushing strength 9.
geology of the Laramie gysite deposit 3.
manufacture of cement plaster at Laramie 6.
retarders and accelerators 12.
water in the gypsum earth 7.
Ceratopurus 45:125.
Chaetochloa, 10th An. Rpt., 1900, Forage Plants, 16, 32.

Clisiocampa 38:32.


Clover—

Burr or California, 10th An. Rpt., 1900, Forage Plants, 6.
Crimson, 10th An. Rpt., 1900, Forage Plants, 5.

Como stage 45:138.

Cone-bearers 40:72.


Conularia 45:125.

Copper sulphate 48:68.


Corbula 45:153, 165.

Cordiocera 45:137.

Corn, feeding value of, as compared with wheat, 12th An. Rpt., 1902, 17.

Corrosive sublimate 48:68.


Cottonwood 38:11; 40:91, 92.

Black 38:15.

Broad-leaf 38:14.

Lance-leaf 40:92.

Narrow-leaf 38:15; 40:91.

Rydberg's 38:13.

Cottonwood (Continued)—

Smooth-bark 38:13.

Cow pea, 10th An. Rpt., 1900, Forage Plants, 34.


CRYPTOGAMS OF WYOMING, 10th An. Rpt., 1900.

Cytoceras 45:125.

Crytolites 45:125.


CULTIVATED SHADE AND FOREST TREES 38.

Cuscuta 43:81.


Cyclonema 45:125.

Cyrena 45:149.

Dakota stage 45:143.

Dalea, 10th An. Rpt., 1900, Forage Plants, 16, 32.

Dasylirion, 10th An. Rpt., 1900, Forage Plants, 16, 32.


Dentalium 45:155.


Desmodium, 10th An. Rpt., 1900, Forage Plants, 17, 34.

Deschampsia, 10th An. Rpt., 1900, Forage Plants, 17, 32.


Dipping—
  sheep for ticks and scab, 12th An. Rpt., 1902, 43.
Dips used for scab, 12th An. Rpt., 1902, 44.
Dodder 43:81.
Drupaceae 40:104.
Duty of water at the Wyoming Experiment Station, 1891-92, 10th An. Rpt., 1900, Water Measurements.
Eatonia, 10th An. Rpt., 1900, Forage Plants, 17, 32.
Effect of tillage on the condition of the soil 41:1.
Elaeagnaceae 40:108.
Eleusine, 10th An. Rpt., 1900, Forage Plants, 17, 32.
Elm, White, 38:20.
Elymus, 10th An. Rpt., 1900, Forage Plants, 17, 18, 30, 32.

Eocene 45:169.
Epsomite 49:79, 106.
Eragrostis, 10th An. Rpt., 1900, Forage Plants, 19, 32.
Eriocoma 42:39.
Erodium, 10th An. Rpt., 1900, Forage Plants, 19, 32.
Eucalyptus 45:163.
Eucalyptus, 10th An. Rpt., 1900, Forage Plants, 19, 32.
EVAPORATION, EXPERIMENTS IN, 52.
Evergreens 38:22.
EXPERIMENTS IN EVAPORATION 52.
Experiments in evaporation 52.
   conclusions drawn from the experiments 52:48.
objects of the experiments 52:45.
EXPERIMENTS IN WHEAT CULTURE 48.
EXPERIMENTS WITH SUBSOILING

41.
Fagaceae 40:99.
Fasciolaria 45:149, 159.
Feeding of—
chickens to secure more eggs, 12th An. Rpt., 1902, 39.

FEEDING VALUE OF WHEAT, Press
Fertilizers 44:94.
Festuca, 10th An. Rpt., 1900, Forage Plants, 19, 20, 21, 22, 30.
Ficus 45:163.
Fir, Alpine, 40:84.
Forage areas 42:25.
hill country 42:26.
mountain 42:25.
plains 42:27.
normal 42:27.
Forage conditions, change in, 43:50.
Forage needs of Wyoming 46:3.

FORAGE PLANTS, 10th An. Rpt., 1900.

FORAGE PLANTS FOR ALKALI SOILS 42.
Forest reservations 40:65.
Forests—
influence of upon climate 40:65.
protection of 40:67.
value of 38:4.
Formalin 48:69.
Fort Benton stage 45:146.
Fort Pierre stage 45:151.
Fox Hill stage 45:156.
Fraxinus 40:103, 104.
Americana 38:20.
lanceolata 38:19.
Fruit trees for ornament 38:21.

Gay-lussite 49:79.

Geological eras—
Azoic 45:113.
Cenozoic 45:166.
Eozone 45:115.
Mesozoic 45:132.
Paleozoic 45:117.
Proterozoic 45:115.

Geological periods—
Algonkian 45:115.
Archaean 45:113.
Cambrian 45:119.
Carboniferous 45:126.
Cretaceous 45:141.
Devonian 45:123.
Jurassic 45:134.
Ordivician 45:122.
Permian 45:130.
Pleistocene 45:174.
Silurian 45:122.
Tertiary 45:169.
Triassic 45:132.

GERMINATION OF WHEAT AND OATS TREATED FOR SMUT, 10th An. Rpt., 1900.
Glyceria, 10th An. Rpt., 1900, Forage Plants, 22, 32.
Glycine, 10th An. Rpt., 1900, Forage Plants, 22, 32, 34.
Glycyrrhiza, 10th An. Rpt., 1900, Forage Plants, 22, 32.
Goniatites 45:129.
Goniomya 45:159.
Goosefoot family 42:29.
Grape, River-bank, 50:11.
Grass, Tall Meadow Oat, 10th An. Rpt., 1900, Forage Plants, 8.

Grasses for alkali lands 42:39.

Green River stage 45:170.


Gryphaea 45:137.


Gyrodes 45:149.


Halite 49:79, 106.

Haw 40:106.

Black 40:106.


Heteroceras 45:155.

Hilaria, 10th An. Rpt., 1900, Forage Plants, 22, 23, 32.

Holopea 45:121.

Hops, Wild, 50:12.

Hosackia, 10th An. Rpt., 1900, Forage Plants, 23, 32.

Hordeum, 10th An. Rpt., 1900, Forage Plants, 23, 32.

Humulus 50:12.


Ichthyosaurs 45:132, 135.

Illustrations—

Alder, Paperleaf, Leaf, Male Flower Cluster and Fruiting Cluster 40:99.

Alfalfa—

Common Variety, Showing Height of Second Crop, 43:72.

Curing in the Cock 43:60.

Loading on Wagon, Laramie, 1899, Wyoming Experiment Station, 43:52.

Making Second Cutting, Laramie, 1899, Wyoming Experiment Station, 43:52.

On Strong Alkali Soil 43:76.

Plants Grown with and without Nurse Crop 43:57.

Stacking of, Wyoming Experiment Station at Laramie, 43:52.

Turkestan Variety 43:72.

Alkali Meadow Grass 42:42.

American Ivy—

Cheyenne Residence with 50:1.

Laramie 50:5.

Showing one of its Uses in the Union Pacific Park, Cheyenne, 50:4.

American Ivy and Low Poison Ivy, Leaves of, 50:8.
Illustrations (Continued)—
Apparatus Used in the Experiments in Evaporation 52: 44.
Ash, Green, Leaf and Fruit, 40: 104.
Ash, White, Tree, Wheatland, 1895, 38: 20.
Ash (White) and Elm, 6 Years' Growth at the Laramie Experiment Farm, 38: 10.
Aspen Grove 40: 94.
Aspen Leaf 40: 95.
Balm of Gilead Leaf 40: 93.
Balm of Gilead, Native Tree, Laramie, 38: 15.
Balsam Apple, Wild, A Beautiful Fence Cover, 50: 8.
Birch, Paper, Leaf and Fruit Cluster, 40: 98.
Box Elder Leaf 40: 102.
Brome-grass—
A Characteristic Species 46: 1.
Downey 46: 20.
Porter's 46: 15.
Quake 46: 19.
Richardson's 46: 16.
Short-awned 46: 11.
Smooth 46: 8.
Western 46: 10.
Brontosaurus Excelsus 45: 140.
Buffalo Berry, A Natural Hedge of well grown Shrubs, 40: 110.
Buffalo Berry, Twigs in Fruit, 40: 109.
Bulrush, Tuber, 42: 44.
Bulrush, Tuber, Head and a Single Seed, 42: 43.
Chess or Cheat 46: 18.
Clematis, Western—
An Ornamental Porch-screen, Lusk, 50: 5.

Illustrations (Continued)—
Clematis, Western (Continued)—
As it Grows at Sheridan 50: 8.
Leaf 50: 10.
Native Tangle of 50: 9.
Cottonwood Leaf 40: 92.
Lanceleaf, Leaf, 40: 92.
Narrowleaf, Leaf, 40: 91.
Twigs Showing Characteristic Winter Buds of the Different Species 40: 90.
Cottonwood (Broadleaf) and Willows, Five Years' Growth Without Shelter, Laramie Experiment Farm, 38: 12.
Cottonwoods in Laramie, Showing Effect of Plant Lice and Neglect, 38: 28.
Elm, Six Years' Growth, Laramie Experiment Farm, 38: 10.
Foote Measuring Device 53: 78.
Fossils—
Cambrian 45: 120.
Carboniferous 45: 128.
Fort Benton 45: 148.
Fort Pierre 45: 154.
Fox Hills 45: 158.
Jurassic, From Shirley Stage, 45: 136.
Laramie, Plants, 45: 144, 163.
Laramie, Typical Species, 45: 165.
Niobra 45: 152.
Ordovician 45: 124.
Grass, Alkaline Meadow, Head, 42: 43.
Haw, Black, Branches in Fruit, 40: 106.
Headgate for Small Ditch 53: 96.
Hops, Wild, Laramie Home Made Beautiful With, 50: 12.
Sheridan Residence with a Perfect Porch-screen of 50: 11.
Indian Millet 42: 41.
Illustrations (Continued)—
Indian Millet Head 42:41.
Juniper, Desert—
Tip of Branch Showing Berries 40:88.
Typical Specimens 40:89.
Juniper, Rocky Mountain, 40:87.
Tip of Branch Showing Berries 40:87.
Lambs—
At Beginning of Feeding Experiment, 1900-1901, 47:28.
At Beginning of Feeding Experiment, 1900-1902, 51:30.
At Close of Feeding Experiment, 1900-1901, 47:36.
At Close of Feeding Experiment, 1901-1902, 51:33.
Cuts from Dressed Carcasses of Alfalfa and Native Hay Fed Experiment, 1900-1901, 47:44.
Dressed Carcasses of Alfalfa and Native Hay Fed Experiment, 1900-1901, 47:40.
Maple, Large-toothed, 40:102.
Measuring Weir 53:70.
Moon-vine as it Appears on a New- castle Home 50:13.
Mountain Pasture Lands and Open Parks 46:5.
Mastodon Americanus 45:177.
Oak, Burr, Acorns and Cups, 40:100.
Oats and Potatoes on Alfalfa and Other Ground 44:98.
Oats and Wheat from Alfalfa Land and from Land Used in Rotation 44:93.
Pine, Limber, 40:76.
Limber, Cones, Twigs and Leaf- bundle, 40:77.
Illustrations (Continued)—
Pine (Continued)—
Lodgepole, A Characteristic For- est of this Species, 40:78.
Lodgepole, Cones, Twigs and Leaf- bundle, 40:79.
Rock, Characteristic Trees, 75 to 100 feet in height, 40:76.
Rock, Young and Old Cones and Leaf-bundle, 40:75.
Poison Ivy, Leaf Contrasted with that of the American Ivy, 50:8.
Poplar (Maple), Silver, Laramie, 38:18.
Potatoes on Alfalfa and Other Ground 44:98.
Range Lands Typical of Wyoming 46:5.
Rating Flume, A Typical, 53:85.
Salt-sage 42:34.
Nelson’s 42:34.
Nuttall’s 42:32.
Seeds and Leaves of Some Annual Species 42:37.
Seeds of Some Perennial Species 42:35.
Spreading 42:36.
Tumbling 42:38.
Section of Channel of Ditch as Usually Found 53:91.
Section of Trapezoidal-shaped Chan- nel 53:92.
Feeding Corn on the Range 51:22.
Representatives from Bunch Fed Corn and Oats on Ranges near Fort Steele, Season of 1901-2, Cosgriff Bros., 51:21.
Illustrations (Continued)—
Shelter Belt of Cottonwoods, Cattle Near a Natural, 38:5.
Silver Berry, Twigs, Leaves and Fruit, 40:108.
Soda, Block of, From Downey Deposit, 49:89.
Soil, Five Feet of, Laramie Farm, One Year After Subsoiling, 41:15.
Spruce—
Blue, Twigs and Cones, 40:83.
Douglas, Grove on University Campus, 38:23.
Douglas, Twigs and Mature Cones, 40:85.
Engelmann’s, Characteristic Trees, 40:81.
Leaves of the True Spruces 40:82.
Silver, On the Grounds of Edward Ivinson, Laramie, 38:3.
Twigs of the Spruces 40:80.
Subsoil Plow 41:22.
Titanotherium robustum 45:173.
Weir Board, Detail of, 53:71.
Weir in Small Stream 53:76.
Willow, Russian (White), Yard of Edward Ivinson, Laramie, 38:16.
Willows, Screen of Native, Yard of Edward Ivinson, Laramie, 38:17.
Winter Fat 42:40.
Winter Fat, Tips of Two Branches, 42:41.
Wheat from Alfalfa Land and from Land Used in Rotation 44:93.
Wheat-grass, Slender, Heads, 42:43.
Increasing the forage supply 42:30.
Indian Millet 42:39.
Inoceramus 45:149, 151, 153, 155, 157, 159.
Insecticides 38:29.
Insects injurious to trees 38:26.
Interest in nature 40:59.
Conditions in Wyoming 40:59.
Development of 40:63.
How developed 40:59.
Increasing interest elsewhere 40:61.
Inter-tillage versus field culture for wheat 48:58.
Ipomoea 50:14, 15.
Irrigation—
Amount of water necessary to produce a maximum crop, 10th An. Rpt., 1900, Water Measurements, 12.
Cippoletti measuring weir 53:63.
compliance with water laws in Wyoming 53:59.
conditions to be observed in use of weirs 53:72.
duty of water—at the Wyoming Experiment Station, 1891-92, 10th An. Rpt., 1900, Water Measurements, 4.
on alfalfa 43:76.
on mixed crops, grains, peas and flax, 10th An. Rpt., 1900, Water Measurements, 8.
Irrigation (Continued)—

duty of water (Continued)—
on subsolled land 41:13, 14.
on various crops, 10th An. Rpt., 1900, Water Measurements, 10.
gaging small ditches by means of floats 53:91.
gaging streams by means of floats 53:88.
headgates for small ditches 53:95.
measurement of flow of streams by direct determination of velocity and area 53:86.
placing of measuring weirs 53:75.
principles of water measurement 53:64.
rating flume 53:84.
unit used in measurement of water 53:68.
use of weir tables 53:79.
velocity of water and volume of flow explained 53:65, 66.
weir tables 53:80-84.
with artesian wells 45:190.

IRRIGATION, THE MEASUREMENT OF WATER FOR, 53.

Key to the genera of Wyoming trees 40:71.
Koeleria, 10th An. Rpt., 1900, Forage Plants, 23, 24, 32.


LAMB FEEDING EXPERIMENT 47.

LAMB FEEDING, SECOND TRIAL, 51.

Lambsquarters 42:29.
Glaucesousleaf 42:29.
Laramie stage 45:157.
Leaf rollers, Boxelder, 38:30.
Leptocoris 38:31.
Lice, Goat, 12th An. Rpt., 1902, 42.
Lamb feeding 47:23.
at the Wyoming Experiment Station, results of, 12th An. Rpt., 1902, 20.
breeds of lambs to feed 47:26.
Lamb feeding (Continued)—
good type of lambs for feeding 47:
27.
proper length of feeding period 47:
28.
regularity in feeding 47:35.
suitable rations for 47:29.
why lambs are fed in preference to
older sheep 47:23.
Lamb feeding experiment, 1900-1901,
47:31.
cost of gains 47:42.
division and weighing 47:37.
equipment for 47:31.
feeder’s monthly sheet 47:40.
feeding period 47:36.
feed used 47:34.
food for gains 47:43.
gains of sets 47:42.
grain ration used 47:34.
kind of lambs fed 47:33.
management of feeding 47:35.
native hay versus alfalfa 47:44, 45.
need of 47:31.
object of 47:31.
periodic weights and gains 47:39.
results of as a whole 47:41.
under local conditions 47:32.
water 47:36.
weights of feed 47:39.
Lamb feeding experiment, 1901-1902,
51:31.
conclusions from the experiment
51:40.
native hay and corn versus alfalfa
hay and corn 51:31.
Lice—
on cottonwoods 38:26.
on evergreens 38:28.
on sheep, 12th An. Rpt., 1902, 42.
take care of by ants 38:28.
Lichas 45:125.
Limnobium, 10th An. Rpt., 1900, The
Cryptogams of Wyoming, 16.
Lingala 45:125.
Lingalepis 45:121.
Linnarssonia 45:121.
Liopistha 45:159.
Locust 38:19.
Lolium, 10th An. Rpt., 1900, Forage
Plants, 24, 30.
Lucina 45:155.
Lunatia 45:153.
Lycoperdaceae, 10th An. Rpt., 1900,
The Cryptogams of Wyoming, 38.
Lycoperdales, 10th An. Rpt., 1900, The
Cryptogams of Wyoming, 38.
Lycoperdon, 10th An. Rpt., 1900, The
Cryptogams of Wyoming, 38.
Lycurus, 10th An. Rpt., 1900, Forage
Plants, 24, 33.
Lygeum 33.
Lygeum, 10th An. Rpt., 1900, Forage
Plants, 24.
Lyngbya, 10th An. Rpt., 1900, The
Cryptogams of Wyoming, 5.
MAINTENANCE RATION FOR A
HORSE, Press Bul. 5; 12th An.
Rpt., 1902.
MAINTENANCE RATION FOR DRIV-
ING HORSE, Press Bul. 10; 12th
MANAGEMENT AND IMPROVEMENT
OF THE RANGE, Press
Large-toothed 40:102.
Silver 38:18.
Maple family 40:101.
Marchantia, 10th An. Rpt., 1900, The
Cryptogams of Wyoming, 8.
Marchantiacae, 10th An. Rpt., 1900,
The Cryptogams of Wyoming, 8.
Marchantiales, 10th An. Rpt., 1900, The
Cryptogams of Wyoming, 8.
Mastodon 45:177.
Matheria 45:121.
MEASUREMENT OF WATER FOR
IRRIGATION 53.
Melophagus, 12th An. Rpt., 1902, 42.
METEOROLOGICAL REPORT FOR 1899, 10th An. Rpt., 1900.
  atmospheric pressure 15.
  per cent. of saturation of air and temperature of the dew point 10.
  precipitation and evaporation, Laramie, Wyo., 24.
  soil temperatures, weekly means, 14.
  summary of 2.
  temperatures 4.
  wind 18.
  atmospheric pressure 14.
  per cent. of saturation of the air and temperature of the dew point 9.
  precipitation and evaporation, Laramie, Wyo., 23.
  soil temperature, weekly means, 13.
  summary 3.
  temperature 5.
  wind 17.
Methods for the improvement of pastures 46:5.
Method of taking dip 45:194.
Micrampelis 50:13.
Millet, 10th An. Rpt., 1900, Forage Plants, 8, 34.
Mirabilite 49:78, 106.
Moisture contents of sod land, plowed and subsoiled land 41:17, 18.
Moon-vine 50:15.
Morning Glory 50:14.
Morus 38:19.
Mososaurus 45:142, 150.
Moth, Attacus, 38:31.
Mulberry 38:19.
Myalina 45:129.
Native vines 50:6.
NATIVE VINES IN WYOMING HOMES 50.
Natron 49:78, 106.
Nautilus 45:157, 159.
Neritina 45: 153.
Niobrara stage 45: 150.
Nitrogen 44: 95, 96.
fixation of by alfalfa 44: 96.
Neritina 45: 153.
Nitrogen 44: 95, 96.
fixation of by alfalfa 44: 96.

Oaks 40: 100.
Bur 40: 100.
Oats, variety tests of, 10th An. Rpt., 1900.
Oleaceae 40: 103.
Oleaster family 40: 108.
Olenellus 45: 121.
Olenus 45: 121.
Oligocene stage 45: 171.
Olive family 40: 103.
Ophileta 45: 121.
Origin of stratified rocks 45: 112.
Ornamental plants available for the decoration of the home grounds 50: 5.
Orthis 45: 121, 125, 129.
Ostrea 45: 137, 153, 155, 157, 165.

Paradoxides 45: 121.
Parasites, external, of sheep, 12th An. Rpt., 1902, 42.
Parthenocissus 50: 7.
Pasture grasses 46: 4.
introduced 46: 5.
native 46: 4.
Pemphigus 38: 27.
Pentacrinus 45: 137.
Peucedanum, 10th An. Rpt., 1900, Forage Plants, 26, 33.


Phalaris, 10th An. Rpt., 1900, Forage Plants, 26, 33.


Phleum, 10th An. Rpt., 1900, Forage Plants, 8.

Phosphoric acid 44:94.


Picea 40:50, 82, 83.

Engelmanni 40:82.


Pinaceae 40:72.

Pine 40:73.

Limber 40:77.

Lodgepole 40:79.

Rock 40:75.

Pine family 40:72.


Pinus 40:73, 75, 77, 79.


Placenticales 45:155.


Plant foods 44:93, 94.

Platanus 45:145.


Pliocene stage 45:174.

Plum 40:104.

Wild 40:105.

Plum family 40:104.

Poa, 10th An. Rpt., 1900, Forage Plants, 26, 27, 30, 33.


Poison Ivy, Low, 50:8.


Pomaceae 40:105.

Poplar 38:11.

Carolina 38:14.

Horticultural varieties of 38:16.

Populites 45:145.

Populus 38:11; 40:91, 92, 93, 95.

Acuminata 38:13.

Angustifolia 38:15.

Balsamifera 38:15.

Diltiloides 38:14.

Tremuloides 38:15.

Potash 44:94.

Potatoes—
with two or three irrigations on sub-soiled land 41:16.
yield of, with two and three irrigations, 10th An. Rpt., 1900, Water Measurements, 15.
Prionoxistus 38:32.
Productus 45:129.
Prunus 40:104, 105.
Besseyl 38:22.
Pseudomonotis 45:137.
Pseudotsuga taxifolia 38:23; 40:84.
Psoroptes, 12th An. Rpt., 1902, 42.
Pteria 45:159.
Pterosaurs 45:133, 138.
Puccinellia 42:43.
Pyrifusus 45:155.
Pyrus 38:21.
Quercus 40:100; 45:145, 163.

Rafinesquina 45:125.

Rape, Dwarf Essex, on alkali land 39:49.
Rape, English or Dwarf Essex, 10th An. Rpt., 1900, Forage Plants, 7.
Reclamation of alkali soils 39:51.
experiment at Sheridan 39:51.
Relation of plants to alkali 42:28.
Remedies for—
Attacus moth 38:31.
boxelder leaf roller 38:30.
cottonwood borer 38:32.
lice on evergreens 38:29.
plant lice 38:29.
tent caterpillar 38:32.

Rhus 50:8.
Robinia 38:19.
Root pressure, artificial, 38:24.
Rostellites 45:153.
Salicaceae 40:89.
Salix 38:16; 40:95, 96; 45:163.
amygdaloides 40:96.
Bebbiana 40:96.
lasiandra 40:96.
Salt-bush 42:31.
for alkali lands 39:48.
annual species 42:36.
Bushy 42:35.
Nelson's 42:33.
Nutall's 42:33.
Osterhout's 42:33.
perennial species 42:32, 33.
Spreading 42:37.
Tumbling 42:38.
Utah 42:37.
Sarcoptes, 12th An. Rpt., 1902, 42.
Sassafras 45:145.
Scab insects—
Common, 12th An. Rpt., 1902, 42.
Foot, 12th An. Rpt., 1902, 42.
Head, 12th An. Rpt., 1902, 42.
Scaphites 45:149, 155, 157.
Seminula 45:129.
Sequoa 45:163.
Serradilla, 10th An. Rpt., 1900, Forage Plants, 34.
Serviceberry 40:107.
Western 40:107.

**SHEEP FEEDING ON THE RANGE**

Sheep feeding on the range, a co-operative experiment in connection with Cosgriff Bros., St. Steele, Wyo., 51:19.
details of the experiment 51:20.
results of the experiment 51:24.
some points of interest about the sheep and range 51:27.

Sheep industry, importance of, 47:30.
Shirley stage 45:135.
Sketch of geological formations of Wyoming 45:111.
Smut, treatment for, 48:68.

**Soil**—
fertility of 44:93.
of the Laramie Experiment Farm, chemical analyses of, 52:49.


Spergula, 10th An. Rpt., 1900, Forage Plants, 34.
Subsoiling (Continued)—
effect of on the yield of wheat 41:7.
effect of on the yield of sugar beets 41:12.
effect of on moisture contents of soil 41:13.
effect of on relative increase of straw and grain 41:7.

Spirifera 45:129.
Spruce 40:80.
Engelmann's 38:23; 40:82.
Spurrey, 10th An. Rpt., 1900, Forage Plants, 34.
Stenothea 45:121.
Stock industry of the State 42:23.
change of methods in management 42:23.
Straw—
Subsoiling—
advantages claimed for 41:2.
advisability of 41:19.
cost of 41:19.
effect of on moisture contents of soil 41:13.
effect of on relative increase of straw and grain 41:7.

Sugar beets—
as stock food 39:50.
on alkali land 39:50.
Thalictrum 40:129.
Thermopsis 40:129.
Timothy, 10th An. Rpt., 1900, Forage Plants, 8.
Titanotherium 45:172, 173.
Tree defined 40:70.

**TREES, CULTIVATED SHADE AND FOREST, 38.**

**TREES OF WYOMING AND HOW TO KNOW THEM 40.**

Trees—
experiments with 38:10.
insect enemies of 38:26.
observations on growth of in Wyoming 38:10.
ocurrence of in Wyoming 38:3.
of Wyoming—
common names of 40:68.
Latin names of 40:69.
planting and care of 38:8.
planting of for ornament 38:7.
shelter for 38:11.
value of for shelter 38:5.
winter killing of 38:10.

Trichodectes, 12th An. Rpt., 1902, 42.
Trifolium, 10th An. Rpt., 1900, Forage Plants, 5, 6, 29, 33, 34.
Triplesia 45:121.
Trona 49:78.

**TURKEYS IN WYOMING, Press Bul. 4: 12th An. Rpt., 1902, 24.**


Ulmus 38:20.


Value of alkali plants as forage 42:29.

Vanikoropsis 45:159.

**VARIETY TESTS OF WHEAT, OATS AND BARLEY, 10th An. Rpt., 1900.**


Vicia, 10th An. Rpt., 1900, Forage Plants, 9, 29, 30.

Vines—
introduced—
Moon-vine 50:15.
Morning glory 50:14.
Wild balsam apple 50:13.
native—
American ivy 50:7.
River-bank grape 50:11.
Western clematis 50:9.
Wild hops 50:12.

**VINES, NATIVE, IN WYOMING HOMES 50.**
Virginia Creeper 50:7.  
Vitis 50:11.  
Viriparius 45:165.  
Volcella 45:159, 165.  
Walnut, Black, 38:21.  
Wasatch stage 45:169.  
Water-bearing zone 45:178.  
constitutional provisions 53:97.  
construction of headgates and measuring devices 53:114.  
partnership ditches 53:107.  
procedure relative to the appropriation of water 53:109.  
unlawful interference with headgates 53:116.  
Missions and division superintendents 53:99.  
MEASUREMENTS, 10th An. Rpt., 1900.  
Wheat—  
culture of, experiments in—after alfalfa 48:64.  
inter-tillage versus field culture 48:58, 59.  
quantity of seed per acre 48:62.  
subsoiling versus plowing 48:63.  
treatment for smut 48:68.  
variety tests at Laramie 48:53, 54, 56.  
variety tests at sub-stations 48:57.  
yields of varieties at Laramie 48:57.  
Wheat (Continued)—  
profit in growing 48:66.  
variety test of, 10th An. Rpt., 1900.  
Wheat crop of Wyoming, 1891 to 1900, 48:50.  
WHEAT CULTURE, EXPERIMENTS IN, 48.  
Wheat-grass, Slender, 42:42.  
WHEAT, OATS AND BARLEY, VARIETY TESTS OF, 10th An. Rpt., 1900.  
Willow 38:16; 40:95.  
Almondleaf 40:96.  
Bebb 40:96.  
Native 38:16.  
Osier 38:17.  
Russian 38:17.  
Western Black 40:96.  
Willow family 40:89.  
Wood chess 46:17.  
Yield of—  
oats on alfalfa land 44:104.  
potatoes on alfalfa land 44:105.  
wheat on alfalfa land 44:104.  
Zaphentis 45:129.  