Iowa Crop Variety Yield Testing Publications Bibliography

By Lorraine J. Pellack, Iowa State University Library

Scope: This list contains Iowa State University Agricultural Experiment Station crop test reports, unpublished technical reports, theses, dissertations, and manuscripts that are known to have been published, along with a selective number of magazine and journal articles that are not readily found using traditional indexes. Most, but not all, are available online OR within the Iowa State University Library collections in Ames, Iowa. This is not a complete list but it is as exhaustive as possible given available collections.

Direct links to individual sections:

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Clover  20  Forage crops  24  Sorghum  28  Wheat

Multi-Crop Reports

Multi-crop reports are mainly results of early field crop experiments in Iowa that were published annually and the list of included crops changed each year; however, also included are other publications that cover more than two crops.

The article describes experiments with corn breeding, reducing oat smut (along with a recommended cure – formalin), a variety test with fall wheat, cow pea varieties, and forage experiments including sorghum (3 varieties), millet (5 standard varieties) and grasses (48 varieties of native and foreign). For the most part, the information provided was very general, however, it included more detailed information about the cow peas (and lists 8 varieties) being tested to determine what varieties are best adapted to feed and which are of the greatest value as fertilizing agents.

Atkinson, J. 1900. Field experiments: with oat, barley, wheat, brome grass, rape, sorghum, soy beans, cow peas, and sugar beets. Bull. Iowa Agric. Exp. Stn. (45):216-229. Discusses varieties planted and growing conditions but notes that, even though they were planted in the spring of 1898, results may not be ready for publication for several years.

Atkinson, J. 1901. Field experiments: Corn, test of varieties, methods of cultivation, selection, shrinkage; oat, barley, spring wheat, speltz, sorghum, rape, kohl rabi, soy beans and sugar beets. Bull. Iowa Agric. Exp. Stn. (55):362-384. This summarizes experiments from the last 2-3 seasons of Experiment Station crops.

Burnett, L.C. 1931-1941. Small grains – Information from experiments in progress. Leaflet F.C. Iowa Agric. Exp. Stn., Farm Crops Section (1-2, 4, 6-10, 12, 14). These leaflets summarize Iowa Agricultural Experiment Station experiments for varieties of winter wheat, spring wheat, oat, barley, and flax. Includes yield results – some include 5-year summaries. Crops grown mostly in Ames but a few elsewhere in the state, e.g., barley was grown in Ames and Mason City.


Leaflet F.C. 15 = Oats and Wheat Trials, 1939-1940-1941.


Includes winter wheat, oat, and corn. Information varies for each crop but can include number of acres planted, planting and harvesting dates, yields, and varieties.


Includes winter wheat, corn, potatoes, alfalfa, and oat. Info varies for each crop but can include number of acres planted, planting and harvesting dates, yields, and varieties.

This massive tome is divided into 2 parts – each with different pagination. It has sections on experimental methods used at the Iowa Agricultural Experiment Station (Part I, p. 89-90), for small grain breeding (Part I, p. 89-120), corn tests (Part I, p.120-131, 146-147), corn breeding (Part I, p. 131-144), small grain cultural tests (Part I, p.144-145), soil experiments (Part I, p.147-156), Iowa methods compared to other stations (Part I, p. 156-162); and, a detailed field record of the Farm Crops and Soils tests at the Experiment Station Ames Iowa (Part I, p. 256-312). Part II contains a history of the Agricultural Experiment Association and includes a detailed listing of experiments conducted from 1912-1920. Large sections of Part II are devoted to experiments as follows: oat, Part II, p.22-55; winter wheat, Part II, p.56-62; spring wheat, Part II, p.62-65; barley, Part II, p.65-76; corn, Part II, p.76-116, including information on a series of corn adaptation experiments and Part II, p.176-181 and p.192-197, with soybeans; red and sweet clover, Part II, p.117-127, 137-142; alfalfa, Part II, p.123-145; sudan grass, Part II, p.145-154, 157-160; millet, Part II, p.149-154; sorghum, Part II, p.154-160; soybean, Part II, p.160-197.


This does not contain any varietal yield data; however, it provides an excellent summary of varieties of red clover, alfalfa, and sweet clover in Iowa from 1880-1930.

Information is provided on all agricultural experiments at the Iowa Agricultural College farm in 1882 and 1883. It includes “Report on Grasses” (p. 5-19), alfalfa (p. 12-13), clover (p. 13-15), forage crop varieties and their nutritive compositions and value (p. 18), ensilage, potatoes (includes 64 varieties and yield per acre for each variety in 1882 and 1883, p.40-42), oat (includes 15 varieties and weight per bushel harvested for each variety, p. 42-43), wheat (40 varieties were tested in 1883 but hit by hail, p. 43), and sorghum sugar (results of 4 experiments with obtaining syrup, p. 49-51).

Johnson, I.J. and J.L. Robinson. 1949-1971. Crop varieties recommended for Iowa. Iowa Farm Science. This was a regular series of annual publications in the January or February issue of *Iowa Farm Science* each year from 1949 through 1971. The title varies each year as does the authors, although I.J. Johnson is usually the first author. It does not give specific variety yields, only lists varieties of each crop that are recommended. They are careful to say that variety name alone does not guarantee good yields, farmers also need to use good quality certified seed.


Knapp, H. 1886. Report of experiments conducted on the college farm. Bull. Iowa Agric. Coll., Experiments, Dept. Agric. Cedar Rapids, IA: Daily Republican Printing & Binding Establishment. [http://catalog.hathitrust.org/api/volumes/oclc/63621767.html](http://catalog.hathitrust.org/api/volumes/oclc/63621767.html) This provides information on all crop experiments at the Iowa Agricultural College in 1885 and 1886. It includes sections on experimental grasses and forages, sorghum (p. 16-17), clover,
alfalfa (p. 18-19), oat (11 varieties on pp. 29-34), and potatoes (88 varieties and yields in data chart on pp. 48-58 and attempts to cross potato varieties on pages 62-63).


Provides a history of cooperative tests in Ontario, Canada, Iowa and many U.S. states, along with details of early experiments of the Iowa Agricultural Experiment Association. Also provides comparative data for U.S. and world grain and hay production from 1911-1920. Variety tests for 1913-1921 for oat, sorghum, soy beans, hubam clover, corn, winter and spring wheat, barley, alfalfa, and sudan grass.


Provides yields and prices for flax, barley, spring wheat, and oat for 1925-1934.


This report includes information on 3 acres devoted to crop experiments. These were hardiness tests for specific varieties. Crops included spring and winter wheat, rye, winter oats, potatoes, and barley. It provides information on specific varieties planted and yields for each variety.

Provides yields and varieties for oat, wheat, barley, corn, sorghum, soybeans, sudan grass, hubam clover, and dalea from 1910-1929.

Thurman, F. 1940. Field Crop Tests on Iowa Farms. M.S. thesis. Iowa State College, Ames. Thurman covers Iowa Agricultural Experiment Station variety tests for 1916-1938. He chose not to include 1910-1915 due to lack of complete data. Thurman devotes large sections of his thesis to variety tests for: oat, winter wheat, spring wheat, barley, corn, hybrid corn, lojap popcorn, soybean, sorghums, sudan grass, and alfalfa. He also includes hubam clover, dalea, and early Korean lespedeza.

Wilsie, C.P. 1925-1971. C.P. Wilsie Papers, RS 9/9/56, Special Collections Department, Iowa State University Library. This collection contains raw data and notes from experiments on: alfalfa, 1945-1955; brome grass, 1940-1950; clover and soybean, 1936-1939; hemp, 1943; yields for red clover, biennial white sweet clover, and hubam, 1923-1938; effect of green manure crops on yields of oat grains, 1923-1936; data on dalea; impact of rotations of legumes with corn and oat; research on sorghum, sudan, and millet, 1935-36; Soybean Hay Test, 1935-36; sudan grass, lepezeda, 1935-36; sweet clover, 1937-39. The Soybean-Hay Test folder includes information on vegetable soybean experiments, including canning and includes yields for 12 varieties. The folder also includes manuscripts for the Soybean Variety Tests for 1937.

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Carlson, I.T. 1973-1979. Iowa alfalfa yield test report, [years]. AG-84. Iowa State Univ. Ext., Ames. [Title varies – some have year listed at the front of title and other years at the end of title.]


Croft tested 7 varieties (in a 3-year experiment) with alfalfa planted on the Iowa Agricultural Experiment Station farm in 1926: Grimm, Baltic, Cossack, Ontario Variegated, South Dakota Turkestan, and common. Croft provides 3-year average yields for common alfalfa varieties and strains. The common strains of Wyoming, Montana, and South Dakota appeared to be the best yielding strains (p. 49). Cossack regularly out-yielded other varieties in this study (p.56). Cossack, Canadian Variegated, Baltic, and Grimm varieties did the best in the three-year yield test (p.57).


“The Farm Crops section began a series of tests in 1910 to secure some information regarding the relative value of alfalfa seed from various sources and produced under different conditions; also regarding different varieties.” The article provides yield of hay and per cent of winter killing secured from different sources (other U.S. states and also imported). It also shows results of Iowa experiments and provides comparative yielding power and hardiness of Grimm and Baltic alfalfa, and imported and common types. Recommends Grimm for Iowa farmers.

This does not contain any varietal yield data; however, it provides an excellent summary of varieties of red clover, alfalfa, and sweet clover in Iowa from 1880-1930.

Potter, C.P., et al. 1990-1994. [Year] Iowa alfalfa yield test report. AG-84. Iowa State Univ. Ext., Ames. [Title varies: some years do not have the word Iowa in the title.] Reports for 1993-1994 were done on newsprint in a folded page with larger page size and included as an insert in Iowa Beef Today.


Among many other crop experiments, this collection contains raw data and notes from experiments on alfalfa, 1945-1955.

Aimed at Iowa farmers, this article discusses alfalfa varieties resistant to wilt. On page 16, Wilsie includes a table showing 8 varieties – “Comparative Yield and Stand Survival of Alfalfa Varieties at Ames, Iowa, 1941-1944, Seeded in 1940.”


Provides descriptions/info for varieties in production in Iowa at the time. Also gives information on 2 trials for 4 crop years, but does not say which YEARS the trials took place. Presumably, the previous 4 years before the publication date.


Describes 5 varieties: Ranger, Buffalo, Atlantic, Ladak and Grimm. Also compares Vernal to Ranger. Chart shows average yields for each variety for the 1st and 2nd years and also the 3rd and 4th years.


Aimed at Iowa farmers, this article describes the new Vernal alfalfa variety and it’s benefits. A table on page 18 includes forage yields for Vernal and several standard varieties for 1950-1955 and a chart with yields of alfalfa varieties for 2 years when harvested for hay and cut frequently.


The article is aimed at farmers, and mainly covers efforts at finding winter-hardy, wilt resistant varieties. Page 16 includes a table with “Summary of Hay Yields of Domestic Alfalfa Strains 1927-1940.” This provides average yields for each variety across the U.S. and Canada.
Barley


Summary of variety test of ten varieties from 1913-1917.

Harlan, H.V. 1936. Problems and results in barley breeding. USDA Yearbook 1936:303-346. Iowa research in barley is mentioned on pp. 338-339, 343, 345. It mentions the researchers working in this area are L.C. Burnett and J.B. Wentz. Also has a nice section on methods used in breeding and testing improved varieties on p. 313-315.


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Bromegrass & Clover – see Forage Crops

Corn


Duvick, D.N. 1984. Genetic contributions to yield gains of U.S. hybrid maize, 1930 to 1980, p. 15-47. In Fehr, W.R. (Ed.) Genetic contributions to yield grains of five major crop plants. CSSA Spec. Publ. 7. Crop Science Society of America, Madison, WI. Experiment results from 47 corn hybrids that were "commercially important in central Iowa at successive intervals from 1934-1978" (p.17).

Summarizes Pioneer Hi-bred corn variety experiments in Iowa and includes yields for each variety. See the chapter bibliography for other similar articles by Duvick related to Pioneer Hi-bred corn experiments.


Includes a short history of the Iowa Corn Yield Contest (also called the Corn Yield Contest of Iowa), which detailed analysis of corn varieties and yields from the 1920 and 1921 corn yield contest, the first 2 years of the contest. It also provides many details of the planting and harvesting techniques, results of different rates of planting, and correlation of yield to specific kernel characteristics.


Provides three year average yields and cutting percentages for Iogreen 16, Iogreen 56, Iogreen 91, Illinois 14 x 13, Illinois 14 x 11, logent 11, logent 27, Silvercross C.G., and Illinois 8 x 6. Does not say which years the crops were harvested.


Reports on results of a study from corn grown under uniform conditions from 1916-1918. The results of this study were particularly striking in that they definitively proved that corn-show winnings were in no way related to yielding capacity.


This publication summarized the results of the first eight years of corn yield tests and, according to Martin Mosher, provided many details that were not previously available.


The website does not readily show historical reports – at first glance it looks like only most recent 2 years: however, if you look under either corn or soybeans, in the section on “Reports” it will show reports for 2006-present.


The Demonstration Farm Reports included: Farmers’ Variety Tests, Introduced Variety Tests, Thickness of Planting Tests, and Single Ear Tests. Other tests that were included in later years were: Depth of Planting Tests; Butt, Middle, and Tip Kernel Tests; and, Individual Ear
Germination Tests. These demonstrations took place on farms in about a third of Iowa’s 99 counties and were almost exclusively corn variety tests.


Box 17 has raw data from corn yield studies for 1950-1963 including varieties and yields, variations in growing conditions, soil types, fertilizers, etc.

Jenkins, M.T. 1936. Corn improvement. USDA Yearbook 1936:455-522. Written by a USDA agronomist who previously worked on corn projects for the Iowa Agricultural Experiment Station. It has a detailed history of hybrid corn and much of the article talks about Iowa experiments and varieties. On p. 500 Iowa Agricultural Experiment Station projects and varieties; p. 507-508 hybrid variety performance results for Iowa.


These are available for a smattering of years including 1932-1944, 1946-1947, and 1969-1971. They contain a wealth of raw data and information on the corn variety yield tests conducted in Iowa.

Mosher, M.L. 1915. Method of finding for distribution and further development a good type of corn for Clinton County, Iowa, conditions.” M.S. thesis. Iowa Agricultural College, DeWitt, Iowa. Includes field test results for 1915. Results find that Reid’s Yellow Dent Corn is “generally best.”

Mosher, M.L. 1962. Supplement to the book “Early Iowa corn yield tests and later related programs.” Unpublished manuscripts. Special Collections and Univ. Archives Dept., Iowa State Univ. Library, Ames. Contains 4 manuscripts for bulletins that were never published – all were dated August 1912.

“Comparative Value of Seed Corn Planted by Different Men.” Summary of 71 experiments in 32 Iowa counties from 1904-1922. Mosher was looking at different classes of seeds and their yields, not specific varieties.

“Imported and Seed House Seed Corn Compared with Home Grown Seed.” Results of 56 experiments in 29 Iowa counties from 1905-1911. Mosher was looking at different classes of seeds and their yields, not specific varieties.

“A Study of Single Ears of Seed Corn.” Results of 144 tests in 32 Iowa counties from 1906-1911. Moser was looking at techniques to improve yields by selecting the best ears for seed.

“Thickness of Planting Corn.” “Summary of 127 experiments in 32 Iowa counties during 7 years.” No mention of which specific 7 years the tests were conducted. (It would be fair to assume he meant 1905-
1911, based on other unpublished manuscripts with the August 1912 date.) The purpose was “to learn and demonstrate the effect which the planting of different numbers of kernels per hill has on the yield and quality of the corn produced.”

The volume also contains “Detailed Tables of Data Used in the Book.”


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Flax


Burnett, L.C. and C.S. Reddy. 1948. Farming with flax. Iowa Farm Sci. 2(9):3-4. Provides a table showing average yields and increases in yield obtained with New Improved Ceresan with six flax varieties at Ames, Kanawha and Howard County. Article also talks about best practices for higher flax yields in general.

Burnett, L.C. and I.J. Johnson. 1944. History of Flax in Iowa, p. IV.a.1. In Flax facts: “Encyclopedia of information” on flaxseed production, commerce and trade, recommended varieties, and diseases of flax in the United States. 2nd ed., entirely rev. E. J. Mitchell, Minneapolis, MN. This is a one page summary and does not provide specific variety information; however, it provides a nice overview of this crop in Iowa before 1944. It was primarily a commercial crop only in northwestern Iowa at the time.

Comstock, V.E. and J.H. Ford. 1960. Comparison of flax varieties grown in uniform nursery experiments in 1959. [Preliminary progress report.] Beltsville, MD: USDA Agricultural Research Service. This includes agronomic data for 17-21 varieties grown at 36 nurseries in 27 locations in the U.S. and Canada. Covers agronomic, disease, and seed quality data, together with averages for yield of seed, oil content, iodine value, and disease data for longer periods wherever available. Iowa-specific data is provided on page: 6, 22, 28, 30, 38 and 40. Iowa flax nurseries were located in Ames and Sutherland, Iowa.

Culbertson, J.O. 1952. Comparison of flax varieties grown in uniform nursery experiments in 1951. Beltsville, MD: USDA Agricultural Research Administration. This includes agronomic data for 25 varieties grown at 19 large nursery stations in the U.S. and Canada. It also includes data from 10 varieties grown at 16 small nursery stations. Covers agronomic, disease, and seed quality data, together with averages for yield of seed, oil content, iodine value, and disease data for longer periods wherever available. Iowa-specific data is provided on page: 7, 9, 22-23, 42, 52, 54 and 56. Iowa flax nurseries were located in Ames, Kanawa, and Primghar, Iowa.

Dillman, A.C. and A.H. Moseman. 1945. Comparison of flax varieties grown in cooperative nursery experiments in 1944. 24-CC. Beltsville, MD: USDA Plant Industry Station. [Not intended for publication – limited distribution.] This includes agronomic data for 25 varieties grown at 14 large nursery stations in the U.S. and Canada. It also includes data from 12 varieties grown at 15 small nursery stations. Iowa Agricultural Experiment Station is included in the list of cooperating stations, but there is not any Iowa-specific data provided in this edition. On page 4 is a note that, because of a late spring, nurseries were not planted at Kanawa, Iowa and 3 other locations.

Reddy, C.S. and L.C. Burnett. 1936. Flax as an Iowa crop. Bull. Iowa Agric. Exp. Stn. 344. Flax acreage peaked in 1902 and 1930 in the U.S. Flax was at its maximum acreage in Iowa in 1885, but decreased over time to 1922. It was “well suited for a first crop on new [ground] breaking.” It is “exceeded in value by corn, wheat, oat, and barley, and approximately the same value as rye, rice and sorghums.” Talks about why Iowa stopped growing flax for a while and then encouraged farmers to grow it again due to new developments in wild-resistant varieties. Provides yields and prices for flax, barley, spring wheat, and oat for 1925-1934. Also yields for individual varieties of flax in 1930-32.

Even though this volume appeared to be published in 1944, this section covers Iowa Agricultural Experiment Station test results for 1945-1947 on flax variety yields from Ceresan-treated seed in Ames and Kanawa.


Provides yield information for 5 varieties of flax from two sites in Iowa in 2005.


Report of 2004 experiments on 3 flax varieties – Bethune, Hanley, and Norlin at Sutherland, Iowa.


Forage Crops

Variety trial for forage grass species for northern Iowa, was initiated in 2010 with a few examples of alternative forage grasses. Tested two intermediate wheatgrass varieties (Rush and Reliant) and two meadow bromegrass varieties (Fleet and Cache).


Author abstract: In response to questions about the longevity of the forage legume red clover (Trifolium pretense) in northwest Iowa, a variety trial was initiated in 2010. Red clover breeders have been selecting for improved plant resistance to the root/crown vascular wilt diseases, as well as northern and southern anthracnose. Several new red clover varieties are being marketed as 3- and 4-year production varieties. [Provides individual and 3-year yields for Common medium red clover, Redland III, Marathon, and FSG9601 from 2011-2013.]

Continuation of variety trial for forage grass species for northern Iowa. Tested two intermediate wheatgrass varieties (Rush and Reliant) and two meadow bromegrass varieties (Fleet and Cache).


The literature review and bibliography provides information on red clover variety trials in the U.S. and abroad prior to 1930. Reports on results of red clover experiments in Iowa from 1922-1929, compares varieties for yield, winterkill rates, mildew, weeds, disease, and source of seed samples.


Aimed at farmers. The article encourages farmers to consider it as an “emergency crop” to supplement a shortage of feed. Most of the article compares it to other forage crops, provides positives and negatives for growing it, and gives specific planting and harvesting advice for best results in Iowa fields. “Tests conducted by the Iowa Agricultural Experiment Station during the past three years and the experience of individual farmers show that Sudan grass is a promising forage plant for Iowa.”

This does not contain any varietal yield data; however, it provides an excellent summary of varieties of red clover, alfalfa, and sweet clover in Iowa from 1880-1930.


Aimed at Iowa farmers, this article provides a brief history and description of sudangrass as well as tips on varieties and management. Page 10 has a take showing performance of 7 varieties at Ames, Iowa. Presumably, these are results from 1956 or 1957 crops.


Aimed at Iowa farmers, this article provides background, uses, and management of orchardgrass. Page 8 has a table comparing orchardgrass and bromegrass grown with alfalfa at three Iowa locations from 1952-1957. It does not provide yield information for specific varieties of orchardgrass but it does list known varieties.


According to this article, “selection studies at the Iowa Experiment Station were begun with the progeny from a packet of seed received by the station from an Iowa farmer in 1918.” Provides considerable detail on experiments in Iowa. It includes yields of reed canary and six common hay grasses from 1925-1928 (brome, timothy, tall meadow oat, red top, meadow fescue and orchard grass). Seed from the highest yielding strain was distributed to Iowa farmers as Iowa Phalaris in 1930. Information is also provided on Kentucky bluegrass and mixed clovers.

Field experiments with bromegrass in Iowa began in 1937 and this is one of the few places information can be found on yields and the experiments being conducted. Wilsie provides forage yields for 1939-1942 for bromegrass, timothy, and orchardgrass seeded with alfalfa. Also gives a comparison of yields from bromegrass grown alone and with alfalfa in 1944 and 1945 as well as in mixtures with legumes in 1947 and 1948. He also includes information on differences made using two cutting systems and different plot sizes.


Describes 7 varieties that have been improved through crop breeding. Includes a table on page 186 with red clover strains, the number of trials for each, and their yields from 1938-1950, in trials conducted at the Iowa Agricultural Experiment Station in Ames. Also provides cropping hints.


Forage yields are covered on pages 642-646. Includes yields of mammoth red clover and medium red clover.


Includes yields of bromegrass varieties at Ames, Iowa, 1942-1944.
Oat

Anonymous. 1960. Iowa oat variety trials 1960. Iowa Certified Seed News 14(11):4. Includes a table for “Performance of 16 Oat Varieties Tested 2 or More Years in Iowa During 1956-60, Inclusive.” For each variety it includes number of years tested, groat percentage, test weight, and yield for each of 4 regions in Iowa and the average yield across all regions. Article mentions that full story and comparison of varieties is available in Agronomy mimeograph bulletin no. 507.

Anonymous. 1961. Performance of 15 oat varieties tested 2 or more years in Iowa during 1957-61, inclusive. Iowa Certified Seed News 15(11):4. There is no accompanying article, just the table. For each variety it includes number of years tested, groat percentage, test weight, and yield for each of 4 regions in Iowa and the average yield across all regions.

Anonymous. 1962. Garland – A new oat variety. Iowa Certified Seed News 16(12):4. Includes a table comparing Garland with Bonham, Bonkee, Goodfield, Newton, and Garland in 5 Iowa locations in 1962. For each variety, it includes date of heading, weight, lodging score, height, yield in each location and average across all regions.

Includes a table of 20 oat varieties and their performance at 5 locations in Iowa during 1961 and 1962. For each variety, it includes height, lodging score, rust reaction, test weight, and yield for each of 4 regions in Iowa and the average yield across all regions.

Article summarizes the 1963 growing season conditions and includes a table for 2-year comparisons of 21 varieties at 5 locations in Iowa.

Provides a short summary of the 1964 tests and includes a table with the performance of 21 oat varieties tested at 5 locations in Iowa during 1963-64.

Provides a summary of 24 oat varieties tested at 4 locations in Iowa during 1964-65.

Provides information on the performance of 16 oat varieties grown at 11 locations in Iowa, for 1-year, 3-year, and 5-year periods. Four pages are devoted to providing short summaries of oat varieties – both those recommended for Iowa and other locations in the U.S.

Provides information on the performance of 12 oat varieties grown in 24 tests in Iowa from 1950-1953 and 16 oat varieties grown at 9 locations in Iowa in 1953. Five pages are devoted to providing short summaries of other oat varieties – both those recommended for Iowa and other locations in the U.S.


Great summary and data from Variety Tests during 1898-1907 on 70 varieties.


Aimed at farmers, this includes performance of 12 oat varieties from 4 different “eras” from pre-1945 to 1961.


Continuation of information found in Bulletin no.96 with four additional years of data. Shows performance of 48 commercial varieties of oat and then compares results of 7 varieties commonly grown in Iowa from 1904-1910.

Oat variety yields for 1907-1919 in some cases and 1911-1916 for other varieties. Includes more detail on 10 varieties commonly grown in Iowa from 1907-1916.

Burnett, L.C. 1928. Iogold oat. Bull. Iowa Agric. Exp. Stn. (247):185-198. Contains a description and history of Iogold variety and a comparison with other varieties. Provides data on 4 varieties: Kherson, Iowa No. 103, Iowa No. 105, and Iowar as these were planted on the largest numbers of acres in Iowa at the time. It includes data on ripening dates, plant height, straw stiffness, relative yield, bushel weight, seeding rates and method, effect of fertilizer and stem rust resistance.


Leaflet F.C. 15 = Oats and Wheat Trials, 1939-1940-1941.


Provides additional varietal information, mainly for varieties were either not included in outlying trials in 1957 or were only tested for 1 year. Varieties included: Ransom, Putnam, and Fayette.

Also includes some yield comparisons with Minhafer, Clintland, and Bonham.


Provides a table showing 1942-1946 oat varieties and selection comparisons with percentage lodging, test weight, and yield for each variety.

Frey, K.J., et al. 1961-1983. Iowa oat variety trial summary – [years]. AG-10. Iowa State Univ. Ext., Ames. [Title varies slightly in some years: Iowa Oat Test Results, Oat Variety Performance – Frey is not first author on all of them – but he was the project leader and is either 1st or 2nd author on all these.]


Aimed at Iowa farmers, this article describes a series of experiments with seed oats of varying test weights in 1954 and 1955. Varieties tested included Cherokee, Branch, Clinton, and Mo. 0-205. Includes two tables comparing results for each variety including yields and seedling stands.


Aimed at Iowa farmers, this article describes a new method the Experiment Station will be using in the coming year for oat recommendations - - making specific recommendations for each of four areas of the state. A map is included showing the areas. Page 4 also contains two tables.
with variety yields from 1952-1956 for the 4 areas of the state along with plant height, lodging, test weight, stem rust and crown rust indicators.


Frey, K.J., J.A. Browning and R.L. Grindeland. 1970. New multiline oats. Iowa Farm Sci. 24(8):3-6. Aimed at farmers, this is an extensive article about oats designed to “break the chain of the crown rust disease. It discusses many resistant varieties and Iowa State University research on oats in the 1960’s. It compares performance of Multiline E with Bonkee, Clintford and Jaycee in Iowa from 1967-69. Also details several other multiline varieties performance with other oat varieties.

Frey, K.J., J.A. Browning, J.G. Wheat, R.E. Atkins and E.S. Dyas. 1956. Iowa oat variety trials summary, 1952-1956. Agron. 385. Iowa State Coll., Agric. Ext. Serv., Ames. Provides a summary of the 1956 growing season, planting locations for nine oat variety tests, and a chart showing performance of varieties tested 2 or more years during 1952-56. Data provided for each variety include number of years tested, height, lodging, test weight, yield in each location, and average yield across all locations. Details on 7 varieties recommended for Iowa in 1957. Also has a chart of agronomic characters and disease reaction of 22 oat varieties.
Iowa State Univ. Ext., Ames.

The report summarizes oat production and variety development in Iowa pre-1945, includes considerable details for each oat variety in Iowa. Pages 44-47 provide an extensive list of “Publications on Oats from the Iowa Agricultural Experiment Station” which includes IAES published bulletins, USDA publications, and journal articles from 1889-1945. The report was also reprinted in the 1945 Iowa Year Book of Agriculture (p.613-628); however, the Year Book version did not contain the list of publications included in the original Report.

Iowa State Coll. Press, Ames, IA.
Even though it does not contain data on the variety yields, this book chapter gives an excellent history of the oat variety testing in Iowa, starting with work done by L.C. Burnett in 1906.

Compares results of varieties developed by Iowa Agricultural Experiment Station with commercial varieties grown in Iowa. Shows variety yields from 1913-1924.
These are available for 1941-1951. They contain a wealth of raw data and information on the oat, barley and winter wheat variety yield tests conducted in Iowa. Individual years contain “some” information from small grain community trials. Each report includes a publications list that is cumulative and starts with Experiment Station authored publications on the topic from 1930. The bulk of the volumes pertain to oat, but they also include a small number of pages for barley and winter wheat. Winter wheat was only included from 1941-1943. The 1941 report includes 1935-1941 yields. Barley ceased to be included in 1949 when it was renamed as *Annual Report of Cereal (Oat) Breeding Projects*. The 1949 report includes information on barley diseases but no variety yields for barley. The 1951 report has a section titled “1951 Iowa Oat Variety Tests” on pages 15-18. These pages give a nice overview of oat yield trials in Iowa. They were a joint effort with the Experiment Station and USDA. It does not say when trials began but the data table covers 1947-1951 and goes on to give detailed summaries of all varieties tested to date in the U.S. and Canada.

Most of these cover corn variety tests, but several also include oat variety tests. See no. 45 (1914) – Allamakee County (this one covers ONLY oat); no. 56 (1916), Blackhawk County – covered only oat; no. 59 (1916), Hardin County – covered corn and oat; no. 62 (1916), Clinton County – covered corn and oat.

Aimed at farmers, this discusses the two varieties mentioned and also includes performance chart for 6 oat varieties in Iowa 1961-62.


Provides 1943-1947 variety yields.


Aimed at Iowa farmers, this article describes disease-resistant varieties available for planting in 1943. Provides a table comparing average yields of varieties and includes information related to the crown rust situation for 1938-1942.


This article is aimed at Iowa farmers, and since this is a new variety of oat, there is a considerable amount of background information on the development and history of Clinton oat.
It also includes a chart comparing Clinton oat with Tama, Boone, Marion, Gopher and Richland at Ames and Kanawha, 1939 to 1945.


Describes this variety as the highest yielding variety tested in Iowa to-date.


Aimed at Iowa farmers, this article describes two new varieties available for planting in 1958. It provides background on the two varieties, characteristics and benefits of each. Tables on page 6 compare performance of Burnett and Newton with other oat varieties in Iowa from 1952-1956 along with their reactions to common oat diseases.


Summarizes the 1963 growing season conditions and includes data on performance of 16 varieties tested 2 or more years in 10 locations and also 21 oat varieties tested at 5 locations in
Iowa. Data included for each variety: number of years tested, height, straw strength, groat percent, test weight, rust indicators, yield in each of the regions, and state average yields.


Wheat, J.G., K.J. Frey, J.A. Browning, R.E. Atkins, and E.S. Dyas. 1957. Iowa oat variety trials summary, 1953-1957. Agron. 413. Iowa State Univ. Agric. Ext., Ames. Similar to Agron. 385, but includes performance of 13 oat varieties for 2 or more years in Iowa from 1953-57. Eight varieties were eligible for certification in Iowa – details are provided on each variety. Includes chart of agronomic characters and disease reaction of varieties.

Yield trials at 10 locations in Iowa (in 4 regions). Data for each variety includes disease reaction, lodging, height, test weight, and yield. Summarizes the 1958 growing season conditions, and provides details on 10 varieties eligible for certification.


Yield trials for 11 locations in Iowa (in 4 regions. Summarizes the 1959 growing season conditions and includes data on performance of 16 varieties tested 2 or more years. Data included for each variety: number of years tested, height, straw strength, groat percent, test weight, yield in each of the regions, and state average yields. Includes a chart of agronomic characters and disease reactions of oat varieties.


Yield trials for 11 locations in Iowa (in 4 regions. Summarizes the 1960 growing season conditions and includes data on performance of 16 varieties tested 2 or more years. Data included for each variety: number of years tested, height, straw strength, groat percent, test weight, yield in each of the regions, and state average yields.


Crops from 1891, 11 varieties and includes date of sowing, seed per acre, weight of seed, date of harvesting, yield per acre and weight per bushel.
Orchardgrass – see Forage Crops

Potatoes

Covers about 2 dozen varieties, a yields table, including time of ripening and characteristics for
1891 crop.

Stn. (147):61-81.
Provides results of three years’ investigations (1910-1912) on early and late varieties grown in
Iowa. Experiments include 12 varieties. Reports on results of spraying experiments, variety tests,
selection of best hills as a means of increasing yield, and planting dates as they influence yield.
Pages 70-76 cover Potato Variety Tests. The Bulletin also covers spraying tests and the influence
of seed selection and planting dates on yields.

Includes info on varieties, characteristics and yields of each.

Sorghum


These are annual reports describing progress with a sweet sorghum breeding program. It is located in Ames, IA, with winter nursery activities in Puerto Rico and three testing locations in Iowa. Experimental hybrids are evaluated every year using an experimental forage chopper purchased and adapted by the Department of Agronomy and Agricultural engineers at ISU.


Aimed at Iowa farmers, this article gives a good overview of grain sorghum and sorghum culture. It includes a list of varieties along with descriptions of each. Two tables are included that provide test yields of grain sorghum in 1955.


First report of sorghum being grown at the Iowa Agricultural Experiment Station during 1888 season. Describes the production process to create sorghum syrup. Includes info on varieties and yields. Aiming at the improvement of sorghum as a sugar bearer.


Info from 1889 season. Results include comparisons with the 1888 season and other varieties supplied by the USDA for testing.


Work began in Bulletins 5 & 8 continued in 1890. Also mentions (on p. 530) that “The season of 1890, notoriously an unfavorable one for corn, was likewise in this locality a most trying one for sorghum.” Compares variety results with those of same variety (Early Amber) in Minnesota.

This article is aimed at Iowa farmers, but includes a list of recommended varieties along with descriptions of each variety. Tables include data from sorghum variety trials in Ames in 1940 and a summary of reports from 17 counties’ demonstration plots in 1940.

Soybean


This has a very short article and a table for Soybean Variety Comparisons in Iowa for 1956-60. For each variety, it includes maturity date, height, lodging score, yield and chemical composition (percent protein and percent oil).


This is simply a table, there is no accompanying article. For each variety, it includes maturity date, height, lodging score, yield and chemical composition (percent protein and percent oil).


Feature article with considerable detail on the genetics of each variety and name origins. It also includes a table showing the performance of Bonkee and Neal with other oat varieties grown in

Discusses Lindarin 63, Harosoy 63 and Hawkeye 63 – and compares them with their “regular” counterparts (Lindarin, Harosoy and Hawkeye). Provides comparisons based on three years, 1960-62 with data from four locations. For each variety, it includes yield, maturity, lodging, height, and seed size.


Includes a table showing soybean variety comparisons in Iowa for 1958-1962. For each variety, it includes maturity date, height, lodging score, yield and chemical composition (percent protein and percent oil). Mentions that extensive results are available in Agronomy publication no. 591, authored by C.R. Weber.


Includes a table of soybean variety comparisons in Iowa for 1959-63. The complete report is available in Agronomy 653, written by C.R. Weber.


Fehr, W.R. 1967. A new corn belt soybean...it’s high yielding...it’s early...it’s Corsoy. Iowa Farm Sci. 22(5):8-9.


Aimed at farmers, this provides details of the new variety and compares its performance with Wayne and Shelby varieties from 1966-67 in Iowa.


Aimed at farmers, this article provides detailed information on the Provar variety. Includes performance comparisons with Amsoy, Corsoy and Hawkeye for 1965-1967 in Iowa.

Aimed at farmers, provides information on development and characteristics of Rampage. Includes comparison information for Rampage, Hark, Wirth and Chippewa 64 in Iowa from 1965-67 and elsewhere in the U.S. and Canada for 1966-68.


Aimed at farmers, provides information on the development of Wirth. Includes comparison of Wirth with Hark, Rampage, and Chippewa 64 in northern Iowa from 1965-67.


Tests from strains crossed and grown at the variety test plots at Iowa State College in 1922. This thesis provides yield information for 1926 and 1927 yields, the 2 year average yield, and the rank within the cross. Hybrid strain yields were compared with Manchu variety yields.

Hughes, H.D. 1941/42. Soybeans through 30 years at the Iowa station. Report on Agricultural Research (Iowa Agric. Exp. Stn.), 1941/42, pt. 1:19-26. This was a special report providing a history of soybean experiments in Iowa, 1910-1940. It does not contain details on specific variety yields; however, it does provide information on which varieties were recommended in specific time periods. It also lists the individual researchers and key Iowa State College publications that were published during this time period.


Hughes, H.D., and F.S. Wilkins. 1925. Soybeans for Iowa. Bull. Iowa Agric. Exp. Stn. (228). Nice 1-page summary with facts about soybeans on page 346. “Soybeans have been under continuous observation and test at the Iowa station since 1910” (p. 347). Touted as a “safe and dependable crop.” Provides varieties and yields for 1915-1924. Says that 157 varieties of soybean have been under observation in Ames fields. Very comprehensive, detailed information on varieties and cultural methods.
These are available for a smattering of years including 1937, 1939-1941, 1944-1946. They contain a wealth of raw data and information on the soybean variety yield tests conducted in Iowa. The gap in years may be due to lack of staffing. They were authored by Martin G. Weiss from 1937-1940 and he was called to active duty in the Army on Jan. 3, 1942, so the 1941 report (written in early 1942) was compiled by Charles Weber. The 1944 and 1945 reports were compiled by Robert R. Kalton and then the 1946 report was again authored by Charles Weber when he returned from military leave on July 1, 1946.


Volume I is a 70 page quick visual at-a-glance collection of soybean statistics for Iowa and the U.S. Iowa statistics include individual county-level production and yields. It also has a wealth of information on uses (both industrial and food), prices, supply and demand. While it does not provide variety yield information specifically, it includes summary information of soybean research results from Iowa State University projects and information on other research programs funded in Iowa from 1968-1988. Volume II is a 20 page statistical update, including information related to the Soybean Promotion and Research Checkoff (SPARC) program that started in 1991.

Presents findings about factors that limit soybean yields, compiled by researchers from six universities in five states; funded by the Soybean Research and Development Council. Includes varieties under investigation, their yields (where available at publication time) and contact information for the principal investigator for each project.

Iowa State University and Iowa Crop Improvement Association. 2006-present. Iowa’s official variety trials [online]. Available at: http://www.croptesting.iastate.edu (verified 31 Aug. 2016.)

At first glance, it looks like the website only provides the most recent 2 years; however, if you look under either corn or soybean, in the Reports section it will show earlier reports.


This summarizes soybean variety development in Iowa up to 1967. It includes discussion of Amsoy, Hark, and Hawkeye. Focuses on varieties developed in Iowa. Shows differences in yields from 1930-39 and 1957-66 in Iowa versus the U.S. as a whole.


Good history/summary of soybean as concentrate, as hay, and as an emergency crop. Gives best practices for planting and recommends 5 varieties for Iowa. Provides variety yields starting on page 161. Recommends looking at *Bulletin* no. 228 for more details on early years of testing.


Also known as Iowa State University SCN-resistant soybean variety trials. This is an annual publication summarizing the results of 9 field experiments located throughout Iowa. Roundup Ready and non-Roundup Ready varieties are evaluated in northern and central districts. Only Roundup Ready varieties are included in southern district tests.


Agronomic characters evaluated were yield, estimated processed value per acre, maturity, height, lodging, emergence score, chlorosis score, and phytophthora. Also evaluated were protein and oil content as well as hilum, flower and pubescence colors.


Tests were co-sponsored by the Iowa Soybean Promotion Board. They were conducted in 9 locations in Iowa (3 each in Northern, Central, and Southern districts). Agronomic characters evaluated were yield, maturity, height, lodging, emergence score, chlorosis score, and phytophthora. Also evaluated were protein and oil content, seed size, lipoxygenase enzyme activity and hilum color.


Same tests as mentioned for the 1993 specialty soybean test (see entry above).


This was aimed at Iowa farmers and focuses on a new variety, Lincoln. Weber is careful to explain this is not a hybrid, discusses ways to increase yields and the best cultural practices.

Tables on page 6 include a comparison of Lincoln with standards varieties in Iowa from 1940-1943 and also a comparison of early soybean varieties in Northern Iowa from 1939-1943.


Aimed at Iowa farmers, this article describes two new varieties, Kim and Kanrich. Weber provides a table comparing these new varieties with three other varieties from 1951-1955. Data includes yield, height, shattering percentage, seeds per pound, maturity date, lodging score and palatability evaluation.

Weber, C.R. 1956. Chippewa - - A new soybean for northern Iowa. Iowa Farm Sci. 10(8):19-20. Aimed at Iowa farmers, this article provides background information on this new variety, characteristics and culture. A map showing this variety was really suited to northern counties in Iowa and only a small sliver of the northern part of the state. A table shows “Record of Chippewa and Other Varieties in Regional Tests” with combined results from Canada, Indiana, Illinois, Iowa, Minnesota, Ohio, Pennsylvania, South Dakota and Wisconsin from 1949-1954.


Provides a table showing 5 soybean varieties and yields for 1944-1947 in three regions of Iowa. Varieties included are: Adams, Lincoln, Illini, Dunfield, and Chief. The article discusses the development of the Adams variety and ways in which it is “slightly superior” to the Lincoln variety.


Results of new variety testing, Hawkeye, from 1943-1946 at five locations in northern and central Iowa. In summary: It matures a week earlier than Lincoln, but is equal to Lincoln in yield and oil. It matures as early as Richland, stands up as erect, and is suited to the same areas, but grows 4-5 inches taller and produces 6 more bushels per acre. It also includes comparisons with Earlyana, Mukden, Dunfield, and Illini varieties.

Sugar Beets


Mentions that sugar beet experiments have been carried out at the Iowa station since 1891. Reports on the results of seed sent out to each county with instructions for growing and then
analyzed the samples of harvested crops sent back to the station. Results are given for each county. Six varieties of sugar beets were grown on Experiment Station land on six different plots with varying conditions. For each variety, provides sugar percent and purity percent. The remainder of the Bulletin details best production practices and plans for the 1898 crop.


Both of these publications report results of experiments with 5 varieties of sugar beets at two ISU Research and Demonstration Farms in Southeast Iowa. The end goal being to determine if sugar beets could be grown in this area of Iowa with good yields for use in biofuels production.


Includes information on 2 varieties planted by the Iowa Agricultural Experiment Station in 1890 and many others supplied by farmers from around Iowa. Also includes an analysis of Nebraska sugar beets in 1890. Provides suggestions for farmers for best results in future.


Results from Iowa farmers who volunteered to use seed from Germany. Results were “distinctly better than those of 1892” even with the disadvantage of being planted a month later than usual due to late arriving seed shipments from Germany. Includes varieties, date of planting, weights, sugar percent, who grown by and what county.


Includes analysis of beets sent in by farmers as well as those grown on station grounds. Ends with a nice comparison chart of results by variety, including averages. Cautions that samples were too small to allow conclusions of “considerable size.” Appended are results from USDA Bulletin no. 33 (by Dr. Wiley), reporting on Iowa beets of 1891.


Grew beets under 12 different conditions and reported out results: date of planting, variety, soil conditions, yield, number of beets in sample, weight, percent of sugar in beets, and purity of juice.
Wheat and Triticale

Atkins, R.E., et al. 1948-1965. Iowa winter and spring wheat variety tests [years]. Agron. no. 224, 252, 286, 313, 353, 386, 417, 451, 483, 508, 561. Iowa State Univ. Agric. Ext., Ames. These were annual reports which each covered the preceding 5-years. Results from 9 experiment station farms – 4 north, 3 central, and 2 south – with 10 varieties grown. Each variety was replicated 3 or 4 times at each location. Provides yearly yield data plus 3 and 5 year averages for ripening date, height, lodging, test weight and winter survival. Four pages are devoted to providing short summaries of wheat varieties – both those recommended for Iowa and other locations in the U.S.


Atkinson, J. 1900. Winter wheat. Bull. Iowa Agric. Exp. Stn. (51):24-30. “Yield per acre throughout the state...has been larger from the winter than the spring wheat crop.” Shows data for 1885-1900 and is clearly trying to encourage farmers to grow more winter wheat. Presents results from 19 varieties planted in Sept. 1899 from seed “procured from surrounding states and Canada” to show that they are tough enough to survive Iowa winters.

Burnett, L.C. 1912. Winter wheat growing in Iowa. Bull. Iowa Agric. Exp. Stn. (133) Gives an early history of winter wheat in Iowa, including a large section on Turkish wheat. Also provides experiment information and yields for 10 varieties of winter wheat and average yield of varieties of both winter and spring wheat for 1906-1910 in 6 counties in Iowa.


Covers winter wheat (press drill vs. common grain drill) and root crops for stock.


Gives a good introduction to triticale and comparison with wheat. Reports on multidisciplinary, multisite research project on triticale starting in 2001. This research has included variety trials, management research, cropping system evaluations, soil quality assessments, and livestock feeding trials. Provides results of trials with 4 varieties from 2001-2005.


Summarizes results of research on Trimark 37812 and NE426GT, two high-yielding grain triticale varieties. Refers researchers to the full data reported in 7 other publications.


Thirty three varieties were included in the 2008 winter wheat and triticale variety test at Sutherland. Each variety was sown in three different plots to average the effects of soil variability. The varieties were planted September 28, 2007 at a rate of 1½ bushels/acre. The plots were harvested on July 22, 2008.


This is an excellent listing of data on red winter wheat varieties from experiment station research throughout the Great Plains. Experiments taking place at Ames, Iowa are included in the data provided.


This provides tables and figures showing locations in the U.S. that were growing each variety of wheat in 1959. It also shows historical figures for percentage of the total wheat acreage occupied by each variety from 1919-1959 and actual acreage figures for 1954 and 1959. Iowa wheat variety data is located on pages 14, 24-25, 68-69, 79. Table 1 is in alphabetical order by U.S. State and Table 2 is in order by variety name.


Single page report of experiment with varieties of winter wheat planted in September 1891 (late due to fall drought). No detail on yields for each variety – only gives variety yield ranges. “Yield
of above varieties in 1891 ranged from 8 to 40 and 1/3 bushels per acre, mostly of good quality.”