In 1902, Chester G. Fisher—not yet 21—began a mission to supply Pittsburgh laboratories with precision scientific instruments, apparatus, and chemicals. A century later, the company he began now touches the lives of our researchers, teachers, and students across the globe, including those who keep our crops healthy and our water pure.

For 125 years, the Connecticut Agricultural Experiment Station has been putting science to work for society. Fisher Scientific congratulates this worthy achievement and is grateful for the opportunity to offer our support.

1875 125TH ANNIVERSARY 2000
One-hundred twenty-five years ago, The Connecticut Agricultural Experiment Station began to serve the citizens of Connecticut. This service began with analytical testing, then investigations of the pests of plants and of man and domestic animals, then improvement of crops through genetic means and methods of protecting plants to increase yields, and then studies of our natural environment and ways to increase the efficiency of farmers.

We celebrate this occasion with the publication of this commemorative booklet, which looks at some of the achievements of The Connecticut Agricultural Experiment Station and contains the greetings of many of our friends. The text describes some of our early achievements, such as the discovery of vitamins and invention of double-cross hybrid corn; it describes the services of the Experiment Station during two world wars, and through extracts from some of our annual reports describes some of the early work of the Station on both familiar and unfamiliar problems. It also describes current research and services of the Experiment Station. Also reproduced are the posters displayed at the 125th Anniversary Dinner that depict both past achievements and current research.

As The Connecticut Agricultural Experiment Station enters its sixth quarter century, I recognize the dedication of the Station's Board of Control, of all staff, both past and present, which helped make The Connecticut Agricultural Experiment Station, the first in the Nation, into an important research arm of the State and the Country.

Finally, I very much appreciate the trust citizens have placed in the Experiment Station over time and reaffirm, at this important milestone, our commitment to continually maintain and to earn that trust through practical and scholarly scientific achievement, service, and reporting.

John F. Anderson
Director
BRAVO!

The President, Officers, Directors and Members of the Experiment Station Associates wish, on this memorable occasion, to thank the Director, Vice Director, Scientists and Staff of the Connecticut Agricultural Experiment Station for their many acts of kindness and concern over the years.

We congratulate them on this milestone on a long and outstanding journey rich with remarkable accomplishments and on their commitment to excellence, which has so greatly benefitted the residents of this State.
SPEED SWEEPS & LEAF LIFTERS

SAVE THE EXPENSE OF MOST OF YOUR HAND HOEING & HILLING ROW CROPS!!

1. Less plant & leaf damage.
2. Potentially less herbicides.
3. Multiple row attachment.

4. Ideal for Organic Farming.
5. Cultivate & hill approximately 2 acres per hour.

U.S.Pat. #6,098,721 8-8-00

#1 Scoop
#2 Leaf lifter
#14 Speed sweep

Congratulations FOR 125 YEARS OF CONTINUED DEDICATION TO THE CONNECTICUT RIVER VALLEY FARMERS
2,000 Connecticut Companies Grow & Sell $500 Million Worth of Flowers & Plants Yearly, The Biggest Part of Agriculture In Our State.

The Experiment Station’s Work Is Indispensable to Our Industry.

The scientific back-up, research, and service we get every day from the Connecticut Agricultural Experiment Station is a tiny investment our state government makes to keep our floral and plant producers strong components of the Connecticut economy. We are proud of the Experiment Station on its 125th anniversary, and look forward to continuing a relationship that benefits all of Connecticut’s people.

Connecticut Green Industries

P.O. Box 414 • Botaford, Connecticut 06404 • 800-562-0610

STATION WEB PAGE

HTTP://WWW.STATE.CT.US/CAES

Launched December 1998, it continues to be improved, changed, and updated.

Content: Mosquito information, factsheets, publications, events, staff biographies, etc...

Special Feature: Plant Pest Handbook

The Plant Pest Handbook features approximately 247 host plants to search on insect and disease problems. The electronic version of the Plant Pest Handbook is bringing the citizens of Connecticut continuously new and updated information.
Congratulations to the Connecticut Agricultural Experiment Station on your 125th anniversary!

Quality
Since 1892

The Chas. C. Hart Seed Company
Phone 1-800-HART or Fax (800) 563-7221
PO Box 200100, Weathersfield, CT 06010-0100
Visit us at 304 Main Street in Historic Old Weathersfield, CT
www.hartseed.com

A Salute to the Connecticut Agricultural Experiment Station

First Pioneer Farm Credit says “Hat’s Off!” to the Connecticut Agricultural Experiment Station on your 125th Anniversary. We are proud to honor the hundreds of programs and work you do to improve agriculture in Connecticut.

And when Connecticut’s farm families and ag businesses need loans, leases, tax planning, tax preparation, estate planning or any other business service for their operations, we hope they remember First Pioneer Farm Credit. Like the Connecticut Agricultural Experiment Station, we’ve also been agriculture’s partner for more than 80 years.

www.firstpioneer.com
Cases of Wine Were Donated
by the Following Connecticut Vineyards

Bill Hopkins—Hopkins Vineyard
25 Hopkins Road; New Preston, CT 06777
(860) 868-7954

Larry McCulloch—Chamard Vineyards
115 Cow Hill Road; Clinton, CT 06413
(860) 664-0299

Nick Smith—Stonington Vineyards
523 Taugwank Road; Stonington, CT 06378
(860) 535-1222

Harry Townsend—Raynham Vineyards
709 Townsend Avenue; New Haven, CT 06512
(203) 467-1409

Steve Vellutini—Sharpe Hill Vineyard
108 Wade Road; Pomfret, CT 06258
(860) 974-5549

Gary Crump—Frias Vineyards
11 Shailer Hill Road; Colchester, CT 06415
(860) 267-8520

Dr. James Bobbi—Bobbi Vineyard
88 Atwoodville Road; Mansfield, CT 06250
(860) 429-7004

Robert Herold—The Vineyard at Tunnel Road
36 Driggs Road; Vernon, CT 06066
(860) 870-5102

Warren and Nora Strong—Bozrah Vineyard
83 Fitchville Road; Bozrah, CT 06334
(860) 889-3748

Valley Laboratory
Current Research

Releasing and evaluating ladybird beetles as natural enemies of forest insect pests

Analyzing soils and identifying insect pests and diseases

Studying nutrition in Christmas trees and ornamentals

Promoting integrated pest management (IPM) practices

Managing weeds in food crops and nurseries

Managing wilt diseases by developing resistant crops

Investigating new methods to control soil-dwelling insects
VALLEY LABORATORY

Key Events in Department History

In 1900, tobacco was planted under cloth for the first time in Connecticut, revolutionizing the tobacco industry.

In 1921, the Tobacco Substation was built in Windsor and became a department with P.J. Anderson as its first Director.

In 1929, a lysimeter was installed to study losses of plant nutrients through leaching.

In 1953, G.S. Taylor became Director and for the next 34 years studied several major diseases of tobacco.

In 1940, a new building was constructed in Windsor, and renamed the Valley Laboratory in 1965 to reflect the more diversified agriculture of the Connecticut Valley.

HAPPY 125th!

Congratulations and Best Wishes on reaching a milestone.

CONNECTICUT FOOD ASSOCIATION

GRACE NOME, PRESIDENT
Oppenheimer Capital

A division of AllianzPIMCO

Salutes

The Connecticut Agricultural Experiment Station

on its 125th Anniversary Celebration

SOIL AND WATER

Current Research

- Conducting statewide mosquito surveillance and investigating the epidemiology of West Nile virus
- Protecting the state's lakes from invasive aquatic plants
- Removing persistent pollutants from the soil with agricultural plants
- Using compost as a soil amendment to recycle organic waste
- Investigating the movement and reactions of chemical pollutants in the soil and in ground water
We are committed to conserving and protecting the environment.

At Pfizer, our mission is to improve the health of people worldwide through the discovery and development of innovative medicines. Our efforts to preserve the environment, to safeguard health, and to promote safety are inseparable from this mission.

Pfizer  Life is our life's work.
www.pfizer.com
Group W Network Services congratulates The Connecticut Agricultural Experiment Station on the occasion of its 125th Anniversary and applauds its contribution to the community we both serve.
Congratulations to
the CT Agricultural
Experiment Station
for 125 years of
outstanding service.
General Cigar Company congratulates

The Connecticut Agricultural Experiment Station on the occasion of its

125th Anniversary

MACANUDO  PARTAGAS

PUNCH  EXCALIBUR

Omega Engineering, Inc.
proudly supports
The Connecticut Agricultural Experiment Station
on their 125th Anniversary

One Omega Drive • Stamford, CT 06907 • 203-359-7630

Greetings
and
Best Wishes
from
The Garden Club
of
New Haven

CONGRATULATIONS
AND
MANY THANKS

BARTLETT TREE EXPERTS
APPLAUD 125 YEARS OF SERVICE

The Connecticut Agricultural Experiment Station has been putting science to work for society since 1875 to improve the standard of living and general well-being of Connecticut's citizens. Their efforts in scientific research are needed now more than ever... with our ever-present concerns about the environment and health issues that have affected our communities in recent years.

We at Bartlett share the same goals as we endeavor to further scientific knowledge through research in the field of arboriculture.

Bartlett Tree Experts
Corporate Offices
Stamford, CT
(203) 323-1131
www.bartlett.com
Congratulations on your 125th Anniversary
The EIC Board of Directors

Compliments of
The Plant Group, Inc.
117 Pond Road
N. Franklin, CT 06524

Congratulations to
The Connecticut Agricultural Experiment Station
on its 125th Anniversary

Thanks for all your good work and advice!
Masons Island Fire District, Inc.
Mystic, Connecticut

BOARD OF CONTROL

Officers

Governor John G. Rowland
ex-officio, President

John Lyman III
Vice-President

Norma O'Leary
Secretary

Dr. John F. Anderson
ex-officio, Director and Treasurer

Members

Shirley Ferris
ex-officio, Commissioner of Agriculture

Richard H. Bowerman

Dr. Donald B. Oliver

Leon J. Zapadka
Program
125th Anniversary Banquet

Tuesday, October 10, 2000, 6 PM
New Haven Lawn Club

Moderator, John Lyman III, Vice-President, Station Board of Control

Directors: John F. Anderson—Welcome
State Representative William R. Dyson, 94th District
State Representative Chris DePino, 97th District

Greetings of State Legislators
SENATORS
Judith G. Freedman, 26th District
REPRESENTATIVES
Richard O. Beldin, 113th District
Antonietta “Toni” Boucher, 143rd District
Mary Fritz, 90th District
Steve Jarmoch, 59th District
Alex Knopp, 137th District
Peter A. Metz, 101st District
Vickie Orsini Nardello, 89th District
John W. “Jack” Thompson, 13th District

Brenda Sisco, Legislative Director, Office of Governor John G. Rowland
Dr. Edmund Tucker, President, Experiment Station Associates
Dr. Paul E. Waggoner, Director, Experiment Station 1972-1987, National Academy of Sciences
Honorable, John DeStefano Jr., Mayor of New Haven

State of Science
Dr. D. Allan Bromley
Sterling Professor of the Sciences
Yale University
**FORESTRY AND HORTICULTURE**

**Key Events in Department History**

In 1901, the Department of Forestry was established and Walter Mulford became the first Station Forester.

In 1905, Mulford became the first State Forest Warden and made the first state laws combating forest fires.

In 1919, Station Forester Walter Filley became a member of the first Tree Protection Examining Board.

In 1927, research plots were established to monitor forest change and succession.

In 1968, computer models were developed showing the impact of leaf area on temperature and evaporation in the forest canopy.

In 1974, Station Forester George Stephens related tree mortality to insect defoliation.

---

**Music Program**

- *My Funny Valentine* ................................................. Rogers and Hart*
- *Chop Sticks (duet)* .................................................. De Lulli
- *Beautiful Dreamer* .................................................... Stephen Foster*
- *Maple Leaf Rag (duet)* .............................................. Scott Joplin
- *En Bateau (duet)* ..................................................... Claude Debussy
- *Op 25, No. 1 (The Harp)* .......................................... Frederick Chopin
- *True Love* ............................................................... Cole Porter*
- *Tenderly* ............................................................... Walter Gross*
- *Can Can (duet)* ........................................................ Jacques Offenbach
- *Autumn Leaves* ........................................................ Prevert and Kosma*
- *Two Preludes from Op. 23* ......................................... Sergei Rachmaninov
- *Barcarolle (from The Tales of Hoffmann) (duet)* .............. Jacques Offenbach
- *By the Beautiful Blue Danube (duet)* ............................. Johann Strauss, Jr
- *Slavonic Dance #8 (duet)* .......................................... Antonín Dvořák
- *Puttin’ on the Ritz* ....................................................... Irving Berlin*
- *By the Light of the Silvery Moon* .................................. Madden and Edwards*
- *The White Cliffs of Dover* ........................................... Walter Kent*
- *Golliwog’s Cake Walk (duet)* ...................................... Claude Debussy
- *The Entertainer Rag (duet)* ........................................ Scott Joplin

---

**Pianists**

_Gale E. Ridge-O’Connor_

_Steve Buchanan_

*Music provided by Mrs. Phyllis Mazik*
Imported Pests and Pathogens

BIOLOGY, DISPERAL, AND CONTROL

A Conference Commemorating the 125th Anniversary of
The Connecticut Agricultural Experiment Station

Tuesday October 10

8:45 AM Welcome.
John P. Anderson, Director, The Connecticut Agricultural Experiment Station, New Haven

9:00 AM Invasive Fungi: Identification, and Safeguarding Plant Resources (Powdery Mildews as Examples).
Mary Palm, Aphids/PPQ/USDA

10:00 AM Plant Quarantine on the Front Line at Kennedy Airport (The Size of the Problem).
Michael Kenney, USDA/PPQ/FR

11:30 AM The World-wide Distribution of a Tree Disease (Dutch Elm Disease).
Clive Bruiser, Alice Holt Lodge, Surrey, UK

2:00 PM Implications of New Importations of a Plant Disease Pathogen (Potato Late Blight).
Christine Smart and William Fry, Cornell University

3:00 PM The Effect of Multiple Importations of Pests and Pathogens of Native Trees (Chesnut Blight and Ink Disease).
Sandra L. Anagnostakis, The Connecticut Agricultural Experiment Station, New Haven

Wednesday October 11

9:00 AM Viruses of Plants and Fungi, Good and Bad (MYMV, Plum Pox).
Bradley Hillman, Rutgers University

10:00 AM Seeds as Vehicles for Pathogen Importation.
Wade H. Elmer, The Connecticut Agricultural Experiment Station, New Haven

11:30 AM Epidemiology and Management of a Periodically Introduced Pathogen (Blue Mold).
James A. LeMondia and Donald E. Ayer, The Connecticut Agricultural Experiment Station, New Haven

2:00 PM From Unappreciated Import to Unanticipated Control (Gypsy Moth).
Ronald M. Weeshol, The Connecticut Agricultural Experiment Station, New Haven

3:00 PM Pest Status, Ecology, and Control of Well Established Fruit Tree Pests (Leafminers).
Chris T. Maiter, The Connecticut Agricultural Experiment Station, New Haven

Thursday October 12

9:00 AM Management and Biology of a Well Established Crop Pest (Colorado Potato Beetle).
David Ferro, University of Massachusetts

10:00 AM Effect of Weather and Predators on Imported Insect Pests (Hemlock Woolly Adelgid).
Mark S. McClure, The Connecticut Agricultural Experiment Station, New Haven

11:30 AM Understanding and Suppressing Imported Pests (Scarab Beetles).
M.G. Klein, USDA/Ohio

2:00 PM Managing Exotic Forest Insects (Asian Long-horned Beetle).
Dennis Souto, USDA Forest Service/NH

3:00 PM Evolving Management Strategies for a New Exotic Forest Pest (Pine Shoot Beetle).
Robert Hand, USDA Forest Service/NH
ENTOMOLOGY

Key Events in Department History

In 1901, W.E. Britton became the first State Entomologist and in 1927, he and P. Carman began raising parasitic wasps for biological control of insect pests.

The state entomologist protects nursery plants, forests, and honey bees through inspections.

In 1963, D. Leonard and C. Doane developed the first artificial diet for rearing gypsy moths, which led to the discovery of the gypsy moth pheromone and viral control.

In 1967, R. Prokopy pioneered novel strategies of pest control based on insect behavior.

In 1983, J.F. Anderson and L.A. Magnarelli isolated Lyme disease (spirochetes) from ticks, mice, and raccoons.

In 1984, L.A. Magnarelli and J.F. Anderson developed antibody tests for Lyme Disease in collaboration with Yale and the CDC.

In 1989, T.G. Andreadis and R.M. Weseloh discovered that a fungus caused the collapse of the gypsy moth populations.

The Experiment Station's facilities over 125 years

The idea of state agricultural experiment stations was generated by Samuel W. Johnson, professor of agricultural chemistry at Yale University, at the time the Land-Grant College in Connecticut. Johnson envisioned putting science to work for agriculture in an institution supported by public funds and, if necessary, a private institution of higher learning. The 1875 General Assembly passed a bill appropriating $2,800 a year for two years, assigning management to the Trustees of Wesleyan College in Middletown. The location was chosen because Orange Judd offered free quarters in Orange Judd Hall, and he also made a grant of $1,000 to support the work.

Wilbur O. Atwater, a student of Johnson's, was made Director, and he appointed Edward H. Jenkins, who was later to become Director of the Connecticut Station and J.H. Armsby who was later to become director of the Pennsylvania Station as assistants. The only report issued was presented before the January 1877 meeting of the State Agricultural Society, a sponsor of the Station. There was mention of the necessity for further legislation to continue the work of the Station, and a farmer stated that the work so far had saved farmers $50,000 in fertilizer bills.

There is no open record of events that led up to passage of the bill by the 1877 General Assembly "establishing" the Station, providing for management by a Board of Control composed of representatives of agriculture, Wesleyan, Yale, and appointees of the Governor, who was an ex-officio member of the Board. Samuel W. Johnson was directed to call the Board into session and organize the work.

Johnson was elected Director and obtained free quarters in Sheffield Hall (at the corner of Grove and Prospect Streets in New Haven) from Yale University. He also reappointed Jenkins and Armsby as assistants. There was some evidence that the move to New Haven came because Johnson was
unwilling to leave his post at Yale to direct the Station in a different location.

Within a few years, Yale asked the Station to find other quarters because the space was needed for students. The Board selected a tract on Suburban Street, which ran west from Whitney Avenue near the city line, and purchased it from Eli Whitney Jr. There was a large wooden house, a large barn and some outbuildings, an ice house, and a well on the premises. The state appropriation also funded a brick two-story chemical laboratory building, which was occupied when the Station moved to the site in 1882. The chemical hoods were vented through a complex of chimneys at the peak of the roof. The main house served as office space, and it is probable that the Director lived in it. At least he did at a later date.

In 1887 the Congress passed the Hatch Act, providing funds for an experiment station in each state, usually in connection with the agricultural college. The original bill would have excluded the Connecticut Station, as well as some "independent" stations in other states. The senators from Connecticut were able to change the wording of the act so that the Station was eligible. The Storrs Agricultural School, which had been taken over by the state in 1881, had grown to a college of agriculture and it too was eligible. The General Assembly voted that Storrs and the Connecticut Station should share in the funds. Duplication of effort was to be avoided by the presence of Johnson on the Storrs Board of Trustees.

The Hatch appropriations were used to construct a wooden laboratory, which looked like a colonial building, to the west of the chemical laboratory. Dr. Roland Thaxter was appointed botanist and was to concentrate on plant diseases. He stayed only a short time but made some important contributions. He built a hand sprayer using a copper wash-bowl for a tank, and demonstrated control of plant diseases using Bordeaux mixture. He also determined the cause of potato scab.

The earliest glass photographic negatives still in the files of the Experiment Station were dated about 1892. However, a print dated 1888 shows five staff members: chemist A.L. Winton, E.H. Farrington, Edward H. Jenkins, Thomas B. Osborne, and assistant Hugo Lange. Not included were Director Johnson, the Station secretary, and Thaxter.

The earliest photographs of the grounds show the Whitney Building, the Chemical Laboratory, and the Botany Laboratory. One photo shows Suburban Street, which followed the Station property line on the southeast and veered northwest across the area where the present Johnson Laboratory stands. There are several photos of the barn, one showing a baggy which was undoubtedly the Station transportation. (At a later date Dr. William E. Britton wrote to a farmer in North Haven that a proposed visit could not be made because the Director was using the Station "fig.")


The Chemical Laboratory, currently the Thomas B. Osborne Library, on the left and the Whitney Building on the right.

---

**BIOCHEMISTRY AND GENETICS**

**Current Research**

The entire genome of the model plant *Arabidopsis thaliana* is sequenced and available on the World Wide Web.

The challenge now is to assign functions and use cloned genes as tools in plant breeding programs.

Finding genes that control transport of small molecules in and out of plant cells will allow engineering of many metabolic functions.

Finding genes that control light utilization will lead to improvement of photosynthetic efficiency in crop plants.

Genes in the *MYB* and *KNOX* families regulate expression of other genes controlling key aspects of plant growth and development.

Finding these master regulator genes will lead to engineering of important agricultural traits including growth habit, time to maturity, and productivity.
In 1898, biochemistry research began at the Station with the appointment of Thomas Osborne to study plant proteins.

In 1905, Edward East was hired as the first Station geneticist to work on protein content and hybrid vigor in corn.

In 1913, Osborne's animal feeding trials led to the discovery of vitamin A.

In 1917, Donald Jones published his theory of heterosis to explain hybrid vigor in corn.

In 1919, Jones published the double cross method of hybrid seed production leading to commercial production of hybrid corn throughout the United States.

In the 1930s, H.B. Vickery published a series of papers on the metabolism of organic acids in plant leaves.

In 1974, Israel Zeitch published his landmark textbook "Photosynthesis, Photorespiration, and Plant Productivity".

The Station's botanical laboratory in 1894.

The Johnson Laboratory after the addition in 1910.
library to move to the old chemistry building.

In 1909 growing pains encouraged an appropriation for an addition to the Chemical Laboratory. A brick and concrete addition was made on the east. In January 1910 the original building was destroyed by fire, probably of incendiary origin. The fire occurred when the streets were covered with snow and ice, and the fire equipment could not get up the Huntington Street hill.

The Board of Control collected the insurance on the chemistry building and immediately reconstructed it with concrete floors (the interior was originally wood). The Board also borrowed $6,500 to complete construction and equipping. Johnson had died in 1909, and the building was named the Johnson Laboratory in his honor at ceremonies held in the summer of 1910.

For several years the Station had leased farmland in Centerville (Hamden) from James Webb who was on the Station Board of Control for many years. After the dedication, the visitors adjourned to these plots for the first field day (probably traveling by trolley).

The Johnson Laboratory housed analytical and biochemistry, forestry, botany, and entomology. The botany laboratory, later named for Thaxter, was turned over to the horticulturists. In 1910 Lockwood Farm in Mt. Carmel (Hamden) was purchased with income from the Lockwood Fund. It was selected because it had some bearing orchards. More orchards were planted, and the lease on the Centerville land was terminated.

From early days, the Station had worked on tobacco, particularly fertilizing for high quality leaf. At the beginning of the 20th Century Jenkins introduced the concept of shade to produce this leaves with flat veins. Methods of curing were also studied, and an experimental curing barn was built in Windsor. This building still exists and can be recognized by the presence of a brick chimney.

In 1921 a group of tobacco farmers with whom the Station had collaborated purchased land in Windsor and sold it to the Station for a tobacco experiment station. The deed restricts use of the land to this purpose. A small wooden laboratory was built, together with a greenhouse. One of the first uses of the land was construction of a lysimeter by the new Soils Department established in 1923. This furnished valuable information on the loss of nutrients from the tobacco soils by leaching.

A photograph labeled "Station Staff" dated 1910 shows eight young women in the attire of the day. Unfortunately no one identified the members of the group. At the time there were six women on the staff. In the 1919 report, the Board of Control included resolutions on the death of Miss E.L. Terry, the first staff member to die while still working. Miss Terry was a graduate of Mt. Holyoke and was assistant to Osborne. She was the first woman granted an M.S. degree in physiological chemistry by Yale in 1913. The final paragraph of the resolution reads, "By her ability she won a place among scientific investigators and by her high courage in the fact of very difficult conditions she earned the respect and affectionate regard of all her associates."

The group photo also included Miss E.M. Brustleicht, later librarian and bookkeeper (the equivalent of the present business manager), Miss Luva Francis, long associated with
In 1875, S.W. Johnson's proposal to support agrarian research came to fruition with the establishment of the nation's first Agricultural Experiment Station.

The Station's work began in the area of consumer protection with the analysis of agricultural feeds and fertilizers to discourage fraud.

In 1932, analysis of nitrogen levels in feeds and fertilizers was performed on a macroscopic level by the Kjeldahl method.

In 1963, gas chromatography was used for determination of pesticide residues on agricultural produce.

This arrangement helped the transition when the agricultural extension service was organized and took over extension. The Board of Control (and to a great extent the staff) welcomed this transfer because it freed staff members for the important business of research.

In 1925 Director Jenkins retired and William L. Slate was appointed Director. Slate had originally been brought to Storrs by Jenkins as an agronomist. Later he was transferred to New Haven as Vice-Director.

The next major building constructed was the Jenkins Laboratory, which just got under the wire before the Depression stopped all state building. It was constructed to house botany, entomology, forestry, and genetics, and for the first time to provide laboratory facilities for these departments. Entomology had used space in the basement of the library for rearing parasites of the Oriental fruit moth, and its entomologist laboratory had been the abandoned coal bin in the Johnson Laboratory. The Thaxter Laboratory was given over to soils.

During the Depression, Station staff participated in several emergency programs to provide employment: mosquito control, Dutch elm disease control, and general forestry in the CCC camps. Later in the Depression, funds for buildings became available. The building housing the Jones Auditorium was constructed as an addition to the power house and assembly room, and included both the present garage and laboratories for rearing parasites. It was completed in 1942. The Tobacco Laboratory (now the Valley Laboratory) in Windsor was constructed under another provision that permitted new buildings. It was completed in 1941.

The original chemistry building had the chimneys removed first, and in 1935 was rebuilt by removing all the wooden construction, and replacing one floor with two. Although it was possible to construct a fireproof building, the Governor at the time endorsed the desire of the Director...
and Board of Control to preserve the façade of this building, named Osborne Library because of Osborne’s work in it, and because he donated his chemical library to the Station.

In 1989 both obrasecesses and crowding were taking their toll, and the Board sought a new laboratory. The Governor supported the idea but insisted that some of the obsolete floor space be demolished rather than be saved to be maintained at heavy expense. The old Whitney Building had some sentimental value, but was never occupied by Eli Whitney and needed major structural repairs. Both the Thaxter Laboratory and the Whitney Building yielded to the construction of the new building.

A fireplace mantel from the Whitney Building was installed in the Board Room of the new Slate Laboratory, and the more beautiful mantel from the Thaxter Laboratory was moved to the Director’s office.

The final major building project in the first century was reconstruction of the Johnson Laboratory. In this case the structure was sound but the arrangement inefficient, and the plumbing and electrical wiring entirely inadequate. Funds were obtained and this historic structure was renovated.

The auditorium in the Britton Building was renovated twice. First, to produce the modern auditorium named after Donald F. Jones in the early 1970s and again in the late 1990s to update it and make it accessible.

At the Valley Laboratory, the small auditorium was renovated and named for Gordon S. Taylor, longtime head of the Valley Laboratory and the old lyseimeter was renovated to rear lady bird beetle predators of the hemlock woolly adelgid. This facility was named in honor of Kenneth White, a Hamden landscaper who had great interest in the Station’s attempts at biological control of the adelgid.

The first new major construction of the millennium will be construction of an addition and a complete renovation of the Johnson Laboratory to update laboratory and office facilities for the Departments of Analytical Chemistry and Biochemistry and Genetics.

This article is a slightly edited and updated version of a talk prepared by Neeley Turner, for the 100th anniversary of the Station in 1975.

Compliments of
Bristol Insurance Agency, Inc.
William H. Shay Jr.
Ruel Miller
195 So. Main St.
Cheshire, CT 06410
(203) 272-3567

Congratulations on your Scientific Achievements
Salomon
Smith
Barney

Table decorations were provided by the Connecticut Green Industries (Connecticut Florists Association, Connecticut Greenhouse Growers Association, and Connecticut Nursery & Landscape Association).
Nile virus in crows and other birds in many parts of the state, helping policy makers base decisions about warnings, control or other public health measures on accurate information from numerous monitoring locations.

Thousands of ticks are identified and many of these are tested to learn if they carry the spirochetes that cause Lyme disease, helping physicians determine if treatment is advisable and to monitor the rates at which infected ticks occur in Connecticut.

Connecticut has a multimillion dollar nursery industry which needs protection from foreign invaders that threaten valuable crops and inspections that allow transport (and therefore sales) of their Connecticut-grown plant materials to buyers out-of-state. Nurseries are registered and inspected and shipments certified as required.

Bees are a valuable resource, not just for the honey they produce, but as pollinators of crops such as fruit trees and some vegetables. Beekeepers are registered, hives inspected for mite and bacterial diseases, and quarantines are invoked if necessary to protect bees from disease or other threats.

HAPPY 125TH
FROM YOUR FRIENDS AT
THE CONNECTICUT PEST
CONTROL ASSOCIATION

P.O. Box 312 • Danbury, CT 06813

ALL GOOD WISHES
AND
THANKS

Pamela & James Weil

Thanks to the
Connecticut Agricultural
Experiment Station for research that benefits the gardeners of Connecticut.

CONNECTICUT GARDENER
a publication dedicated to gardening in Connecticut
PO Box 248 • Greens Farms, CT 06436
203-259-0454

Part of the Station's Bird and Butterfly Garden at Lockwood Farm.

The Station has demonstration gardens showing horticultural crops discovered or introduced to the trade by Connecticut nurserymen. These nurserymen's gardens, installed with the assistance of the Connecticut Nurserymen's Association, are in New Haven, Hamden, and Windsor. In Windsor, a special garden is under development containing hundreds of shrubs and flowers to assist those seeking to become certified nurserymen identify plants. A different demonstration garden is under development at the Experiment Station's Lockwood Farm in Hamden. This Bird and Butterfly Garden, installed and maintained with the assistance of the Federation Garden Clubs of Connecticut and the Spring Glen Garden Club, shows the plants that can be grown in backyards or parks to attract birds and butterflies.

THE BOARD OF CONTROL OF
the Connecticut Agricultural Experiment Station invites you and all your friends who are interested in the annual Field Meeting of the Mount Carmel Field Station, held on Tuesday, August 24th, at 10:30 a.m. from when the meeting will be held at the station, and to be in attendance at the same time.

The plan of the buildings will be a survey of the field experiments in progress, an informal tour of the station with local leaders in various phases of agricultural operations, and an opportunity for questions. The tour will include a walk through the gardens, a visit to the experimental field, and a meeting with the Board of Control.

Lunch will be served at 12:30 p.m. on the grounds of the station. The station will supply tables, chairs, and refreshments.

The tour will start at 10:30 a.m. and end at 12:30 p.m. The station will supply tables, chairs, and refreshments.

The tour will include a walk through the gardens, a visit to the experimental field, and a meeting with the Board of Control.

E. H. JENKINS, Director

A copy of the invitation to Plant Science Day held at Lockwood Farm in Hamden in 1917. The tradition of Plant Science Day began in 1910 when farmers visited rented land used for experiments and has continued as an annual event, except during World War II.

The Station often hosts college or school groups for tours to help spread the word of its research projects and also to inspire a new generation of students to see science as a possible career.

Lockwood Farm in Hamden, with the Sleeping Giant in the background, serves as the location of many experiments and the annual Plant Science Day open house.

Three times a year Station facilities are opened to the public for special events. Plant Science Day in the Spring, held in the Jones Auditorium in New Haven, covers various topics of interest to home gardeners and gives attendees an opportunity to visit laboratories and greenhouses. Plant Science Day on a Wednesday in August is held at Lockwood Farm in Hamden. Visitors have an opportunity to hear talks, view exhibits, see demonstrations, and visit over 60 farm plots covering the wide range of work of Station scientists. Agricultural Chemistry Night in the fall in New Haven features talks and laboratory visits highlighting work of the Department of Analytical Chemistry.
Station serves public and State agencies

The Connecticut Agricultural Experiment Station had its beginnings as a scientific service agency, making analyses of fertilizers for farmers so they could learn the nutrients in the products they purchased before they experienced a crop failure because the nutrient-laden "guano" they purchased was really mud from New Haven Harbor. The science of the chemist could identify the nutrients and their composition.

Not surprisingly, this consumer protection work continues after 125 years with foods for the Department of Consumer Protection; fertilizer, seed, and animal feed analyses for the Department of Agriculture; alcohol analyses for the Department of Revenue Services; and pesticide and PCB analyses for the Department of Environmental Protection. It also performs other tests as needed for agencies such as the Department of Administrative Services, which may ask the Experiment Station to test a product being proposed for purchase or to determine if an already purchased product meets standards. While some of the products tested may change over the years, and the methods used for detecting violations are very different from the time when the Station was established, the Experiment Station has always been ready, willing and able to put its scientists to work to help protect farmers and other consumers from problems ranging from innocent mistakes to outright fraud.

Citizens with questions about plants or insects may call, write, or visit the Station in New Haven or Windsor for expert analysis and sound information about their problem. Many times the proper identification of a plant disease or insect helps a wider group than the single citizen bringing the problem to the Station. On occasion a new problem may be discovered because of a citizen inquiry, such as the discovery in 1998 of the small Japanese cedar longhorned beetle on an ornamental branch brought to the Station.

During the past few years the Station has established a home page to make information available to a wider audience 24 hours a day. Fact sheets and an On-Line Plant Pest Handbook help provide information.

Several dozen agricultural and natural resource organizations and state agencies use STATION FACILITIES FOR MEETINGS which inform and serve the public. The Donald P. Jones Auditorium in New Haven and the smaller Gordon S. Taylor meeting room in Windsor are used for many meetings, and, on occasion, Lockwood Farm in Hamden hosts an outdoor meeting.

The Station provides free Soil Tests for Connecticut citizens at both Windsor and New Haven to help them grow better crops and help reduce unnecessary fertilizer that may leach into ground water.

Woodland Gardens Extends Deep Appreciation to the Connecticut Agricultural Experiment Station for 125 years of Service to the Community.

Woodland Gardens
Central Connecticut’s Oldest & Largest Garden Center & Greenhouses
168 Woodland Street
Manchester, CT 06040
(860) 643-8471
Open 7 Days
www.manchesterconn.com

A copy of Bulletin Number 1, produced in 1877, reporting fertilizer sold for $32.00 per ton had an estimated value of $1.03 per ton.

STATION SCIENTISTS SERVE THE PUBLIC BY GIVING TALKS about their work to garden clubs, school groups, general audiences, and professional groups throughout the state. These talks help keep Station scientists in touch with problems in the field as well as inform the public of recent advances in laboratories.

Each spring and summer, when mosquitos become active, the Experiment Station has participated in a multi-agency effort to learn of disease threats from mosquito-borne viruses by collecting and testing mosquitoes. During the past few years, eastern equine encephalitis and West Nile virus have been found in mosquitos and West
Sponsors

Margaret R. Anderson
Dwight Arnold, Dwight Arnold Farms, Inc., Southwick, MA
Anthony and Winifred Balboni
Anne and Dick Bell
Terry and Tor Bertinuson
Mr. and Mrs. Richard H. Bowerman
Robert Brett
Scott R. Burbank, The Hartford Deferred Compensation Plan, Hartford
Dale L. Carlson, Esq., Wiggin & Dana, New Haven
Mr. and Mrs. David G. Carter, Neighbors and Friends
Kathleen Densey
Bernard P. Dzielinski
Environmental Council of Stamford
Mr. and Mrs. John C. Faulkner, III
First County Bank, Trust & Investment Services, Stamford
Edward J. Frattaroli, Inc., Stamford
Alexander (Bud) and Patricia Gavitt
Richard Gherlonne
E. Robert Gergan, FASLA, Landscape Architect, Northford
Martin W. Holich, Holic Speed Sweeps, North Hatfield, MA
Hull Forest Products, Inc., Pomfret Center
Edmund H. Lamb, II
Deanna and Steve Larson

The Long Ridge School – An independent school for children two years old through grade five providing excellence in education since 1938

Connecticut Light & Power is proud to support the Connecticut Agricultural Experiment Station. Congratulations on your 125th anniversary!

Connecticut Water

Customer Service: ♦ Billing Information ♦ Service Appointments ♦ Emergency Calls - All Hours

1-800-286-5700
TDD: 1-800-649-9118

Providing Quality Water and Service To Our Customers
Best Wishes for The Station's
Continued Success at
Useful Discovery by
"Inquiries and Experiments Regarding Plants,
Insects and the Pests of Plants,
Soil and Water"
(Connecticut General Statutes 22-81).

Paul E. Waggoner

Sponsors

Sharon and Louis Magnarelli
Maple Ridge Farm, East Haddam
Mary (Polly) Luckett Murray
Joy H. Nichols
North Stamford Association
Norma and Ernest O'Leary
Webster Elliott, Harmony, Calisto, Azlo, & Ziggy Ottenbreit
Raymond W. Pantalone, Arborist and Landscaper, Bethany
Lois V. Pierson
Planters' Choice Nursery, Newtown
Lillian M. and Richard A. Ryan
The Smiths' Tree Farm, Guilford
In Memory of Dr. Gordon S. Taylor
Total Tree Care, Cheshire
Erin Anne Van Yahres, JWB Spray Services, Inc., Bryn Mawr, PA
Mrs. Susan P. Vessicchio
Juris Vikmanis
Anthony F. Vuozzo, AMC Technology, Inc., Stratford
Mr. and Mrs. Paul Walgren
Jane F. West, American Association of University Women
George and Dorothy Whitney
Diane Worden, The Nature Center
Experiment Station was goal of Samuel W. Johnson

The Connecticut Agricultural Experiment Station was the result of the vision and perseverance of Samuel W. Johnson, the son of a New York farmer and founder of the State Agricultural Experiment Stations. Although Johnson's father thought farming, medicine and the law were the only way to make a decent living in the mid-1800s, the younger Johnson pursued a career in science and helped launch agricultural research in the United States.

Johnson was a bookish young man driven by an interest in natural science and a desire to put science to work for society. Some of his first scientific experiments were in a small laboratory at the family farm when he was 18 years old. After graduation from Lawrence Academy, Johnson taught general school subjects for several years before becoming an instructor in science at the Flashing Institute on Long Island and at the State Normal School in Albany. In 1850, he entered Yale Scientific School to study agricultural chemistry. As was necessary in those days to succeed in science, Johnson studied for two years in Germany. There he saw the German Station at Meekezten, which was the first of its kind. The German name for this institute was literally "Agricultural Experiment Station." Johnson, who often wrote for The Cultivator and Country Gentleman, described the work of the experiment station in an article. During the fall of 1855, Johnson returned to New Haven to become chief assistant at the Yale Scientific School chemical laboratory. In 1856 he was appointed to the chair in agricultural chemistry.

Johnson built support for an experiment station by offering farmers information they could use on the composition of fertilizer, based on scientific analysis rather than the often fraudulent claims of manufacturers. Training came through his writings and speeches, Johnson was invited to lecture at the New York State Agricultural Society at its annual meeting in February 1856. In that lecture, Johnson set forth his ideas on what science could do for agriculture and described the European stations and their work. To combat the problem of fraudulent products, Johnson suggested "if the manufacturer knew that every month or so a new analysis of his fertilizer would be published on behalf of the farmer... he would find himself compelled to be not only honest, but careful in his business." Back in New Haven, Johnson revived his earlier practice of evaluating fertilizers and was hired in 1857 by the Connecticut Agricultural Society to perform such analyses and to issue reports for farmers. He issued three annual reports, but the outbreak of the Civil War in 1861 led to the demise of the Agricultural Society. After the Board of Agriculture was set up, and Johnson was appointed its chemist, holding that position until 1898.

After returning from the February 1872 convention of agricultural colleges in Washington, Johnson renewed his campaign for an experiment station. At a Board of Agriculture meeting in December 1873, Johnson and W.H. Brewer of Yale discussed German experiment stations and their protégé, Wilbur O. Atwater, spoke on commercial fertilizers. Johnson, not surprisingly, expected the unanimous opinion of its members that "the State of Connecticut ought to have an Experiment Station as good as can be found anywhere, and they are of the opinion that the legislature of the state ought to furnish the means." The Board of Agriculture held 17 meetings in different parts of the state at which Johnson, Atwater, and others stumped for the establishment of an experiment station. A bill was drawn up for the 1874 legislature; the Agricultural Committee tabled it. After this, Orange Jud, trustee of Wesleyan University and agricultural publisher, offered the Board of Agriculture use of a laboratory at Wesleyan, the services of Atwater, who had been appointed chemist at the university, and $1,000 to start the station.

The following year the legislature accepted this offer and on July 20, 1875, appropriated $2,800 to the Trustees of Wesleyan University to be used in employing "competent scientific men to carry on the appropriate work of an Agricultural Experiment Station" for two years. The Connecticut Agricultural Experiment Station started its work in Orange Jud Hall at Wesleyan on October 1, 1875. Any disappointment that Johnson may have felt at having his idea implemented by his student rather than by himself was removed two years later in 1877 because, before the initial appropriation ran out, the legislature passed a new law establishing a Board of Control, which appointed Johnson to serve as Director.

Samuel W. Johnson


On account of our experience the previous year in finding nests of the brown-tail moth on nursery stock imported from France, and the continued absence of any Federal inspection of such stock, in order to protect the state from wholesale and rapid infestation with this most undesirable pest, an attempt was made to inspect all woody nursery stock brought into Connecticut during 1910. The inspection of this imported stock required an amount of time equivalent to one man's work for more than two months. One man could not have examined it all, however, without great delay and in some cases serious injury to some of the stock. In the rush of the season the services of three men were required on some days, all in different nurseries. Annual Report 1909-1910.

The Station has bought a farm of twenty acres at Mount Carmel, not far from the city, including a small house for the caretaker, has set out an orchard of apples and peaches for experiment, has begun an experiment on the effect both on the crop and on the soil of fertilizers and manures, and another on the handling of an old and neglected orchard. Annual Report 1910.

25540, Nyct's Spring Spirullia Compound. "The cultivation of cheese-fleets of mind, purity of life, and habits of cleanliness, greatly conduce to aid the medicine in the cure of disease." This delightful truism cannot be contradicted, but can hardly be considered as a specific recommendation for this particular preparation. Annual Report 1911.

It is an indisputable fact that the soda waters and soda water syrups sold in this state are grossly adulterated with chemical preservatives, saccharin and artificial colors and flavors...Annual Report 1911.

Experiments have shown that some still unknown substance is essential to growth and that this unknown substance is present in milk. Much work is being done in an effort to discover and isolate this substance. Annual Report 1913.

Cocaine, Heroin and Morphine. Seventeen samples of these drugs were analyzed in connection with the police crusade against their sale in New Haven. One sample was a mixture of cocaine and B-saline with milk sugar. Another sample suspected of being cocaine gave reactions for alkaloids, but too faint for identification. Nine samples proved to be heroin and five morphine. Another sample suspected to be morphine was milk sugar. The examination of these samples and the testimony given in court in connection with them, resulted in the conviction of distributors of these drugs in New Haven. The direct result of this New Haven campaign was the passage of a stringent law by the last legislature regarding the sale of narcotic drugs in this State. Annual Report 1913.

Cases of violent illness and death, following the eating of chestnuts from trees infested with chestnut bark disease, occurred last year in the state. Certain physicians and others attributed these effects to a poison developed by the disease. A careful study by the botanist revealed no evidence of any direct connection between the blight fungus and the illness. Small quantities of the pure blight fungus were eaten by the botanist, without any resulting discomfort, and white rats fed largely on infected chestnuts and various preparations containing the fungus developed no symptoms of poison. Annual Report 1914.

The chemical department is being called upon frequently by the police to identify habit-forming drugs found in possession of those who trade in them illicitly. This has been done without charge and necessary testimony given in court. Annual Report 1914.

Due to rising feed costs and uncertainty of transportation, interest is increasing in corn for grain in Connecticut. Annual Report 1941.

Of over 100 organic chemicals, five or six have shown promise in retarding the progress of the Dutch elm fungus in small (3-5' tall) elms, or in preventing growth of the fungus if applied before the trees become infected. Annual Report 1941.

Another fungicide recently developed here is juglone. This...substance...excreted by walnut roots... is known to kill top-rooted plants like alfalfa and tomatoes. Laboratory tests with the synthesized form of juglone prove that this material is more toxic than copper arsenite, commonly used as a fungicide before the outbreak of the war. Annual Report 1942.

We have been distributing the bacteria which cause "milky" disease of the grape for several years and have studied its effect on the grape population. Annual Report 1943.

The Station's soil testing service is becoming increasingly useful to the people of the State. The many new names on the record sheet that the public is becoming more and more aware of its existence. Repetition of the same names year after year shows that people benefit by the reports and have come to depend upon this service. Annual Report 1944.
Lockwood establishes trust fund

In the year covered by this report, the Station has received a portion of a bequest by William R. Lockwood, Esq., deceased, late of Norwalk. He died June 10, 1896, and left a will dated January 9, 1894, devising a portion of his estate to the Connecticut Agricultural Experiment Station, in trust. The Board of Control accepted the bequest and trust at its Autumn Meeting, October 13, 1896, which action was further confirmed, and Wm. H. Brewer was made special agent for purposes pertaining to the transaction of the necessary business, at a special meeting held January 5th, 1897. . . .

Mr. Lockwood had been interested in this Station and its work from its very inception, and in directing the use of the income, he used essentially the language of the Act of Establishment of the Station in the 4th section of the will: "I give, devise and bequest the other equal half part of such residue and remainder of my estate to the Connecticut Agricultural Experiment Station, a corporation or institution of that name, created and established by an Act of the General Assembly of the State of Connecticut, passed in the year 1877, and approved March 21, 1877, as trustee, in trust, to have, hold, manage and take care of the same, and to maintain the principal or capital thereof as a perpetual fund, for the following uses and purposes, to wit: and giving authorization and power to the "said trustee, at its discretion" to sell, buy, invest, etc., for the preservation of the property bequeathed, to meet the expenses incident to its preservation and management, and "to use and apply all the balance or net income in the promotion of agriculture by scientific investigation and experiment, and by diffusing a knowledge of the practical results thereof among the people of the State of Connecticut in such manner as shall be deemed by the Board of Control or governing body of said institution for the time being, most practicable and generally useful."

The Act cited as establishing the Station begins its first section with the words, "That for the promotion of agriculture by scientific investigation and experiments, an institution is hereby established, to be known as the Connecticut Agricultural Experiment Station."

Mr. Lockwood was a frequent attendant at annual agricultural conventions held by the State Board of Agriculture and was familiar with all the facts relating to the original establishment of the Station, and with its later operations. He wisely left the use of the income in such shape that it might be applied to any line of scientific investigation for the promotion of agriculture, which the judgement the board of control might deem most promising of practical results. He was reasonably familiar with the actual work of the Station and its results, and had often expressed his commendation.

This Station was the first of its kind in the country to be established by any State, as Mr. Lockwood well knew, and now he comes forward as the first person in America to bequest any considerable sum as a permanent endowment for scientific agricultural research. He has the honor to be the leader in this special beneficence, of such far reaching to his native state and of wider benefit to all mankind.

Wm. H. Brewer, Treasurer in the Annual Report 1900

The other half of Mr. Lockwood's estate was: left for the life use of his only son. But under the terms of the will, his son having died without heirs in May 1902, this second half ultimately came to the Station. Exclusive of some worthless securities, the Lockwood estate, chiefly in good securities, consisted in part of real estate in the vicinity of Norwalk and in Washington, DC...Under the terms of the will, if the Station ceases to exist...the whole fund is to be given to the Sheffield Scientific School without reservations.

Fifty Year Sketch by E.H. Jenkins.

This page courtesy of Pitney-Bowes.
Experiments lead to discovery of vitamins

In 1909, Thomas B. Osborne, a chemist at the Experiment Station who was son-in-law of Samuel W. Johnson, invited Lafayette B. Mendel of Yale to join him in his research. The team used rats to study the nutritive properties of foods Osborne had prepared from seeds of all of the ordinary crop plants.

Osborne and Mendel maintained albino rats upon diets made of pure protein, starch, lard, and a salt mixture. Although these rats lived for many months, they ultimately lost weight and died unless their diet was changed to include whole milk powder.

Upon further studies it appeared that the inorganic constituents of milk played an important part in recovery. For further experiments, Osborne and Mendel removed all of the milk proteins and evaporated the filtered whey to obtain a dry product that contained the sugar lactose and the minerals.

Using the “protein-free milk” as the basic food, the Connecticut scientists were able to maintain rats indefinitely by adding certain purified proteins.

They were also able to demonstrate the nutritive inadequacy of certain proteins such as gluten in wheat or zein in corn. Both were deficient in certain amino acids, the simpler components which make up proteins.

Further work showed that animals fed a protein-deficient diet or a diet low in the amino acid lysine were starved. However, they began to grow immediately after lysine was added to their diet.

This was the experiment that showed that certain essential amino acids must be supplied by food because animals have a limited capacity to produce their own.

A Rhode Island Red chicken, one of the first to be grown in confinement, on rations developed at the Experiment Station.

Although Osborne and Mendel knew they could raise rats to old age on whole milk powder and that protein-free milk helped to maintain rats on artificial diets for long periods, something was missing. That something appeared to be the butter in the whole milk powder diets.

Thus, butter was added to the diets of rats that were declining on protein-free milk diets. Recovery was almost immediate. The Connecticut scientists reported it appeared “as if a substance exerting a marked influence upon growth were present in butter.” Those words reported the discovery of what would later be called vitamin A.

In the meantime, in Wisconsin, Osborne’s former student Elmer V. McCollum—working with Margarette Davis—encountered failures in their rat-feeding experiments similar to those of Osborne and Mendel.

The Wisconsin scientists tried butter and an ether extract of eggs in their artificial diets and made the same discovery as Osborne and Mendel in Connecticut.

Although discovery is the goal of scientists, they must also publish their results so that others may build upon them. McCollum and Davis submitted a report to the Journal of Biochemistry exactly three weeks before Osborne and Mendel submitted theirs. Because of this, the Wisconsin scientists are credited with the first report, but it is quite clear that the discoveries were made independently.

The discoveries of Osborne, Mendel, McCollum, and Davis developed within a few years into the vitamin theory in transit... At least a dozen should be gathered if they are to be found, and if insects are accompanied by a sample of their work and notes regarding it, so much the better.

Annual Report 1909.

In the smallest village, as well as in the largest city, trees can often be protected by the creation of an intelligent public sentiment on the subject. Small villages can more easily produce and maintain exceptionally fine shade trees than can cities, where “modern improvements” do so much to damage them, and few material things add more to the attractiveness of small country places and their value to those who are seeking temporary or permanent homes, than well-shaded and well-kept streets. Annual Report 1908.

In July of the present year, a sample of low-priced green tea from a consignment purchased for use in a city almshouse was sent to the Connecticut Station for examination. The sample was found to contain 11.5% of dried sea fruit or berry...The flowers of many plants are often mixed with tea, to impart fragrance, and tea blossoms, it is said, are also used to some extent for this same purpose, but tea berries, having probably no value whatever, are doubtless added merely as an adulterant. Annual Report 1901.

To make of our Connecticut woodland and idle land what ought to be made of them, there is needed more intelligent management of such lands; above all, protection from fire. Timber must come to be regarded as a regular crop, and be cared for as such. This will come with a gradual diffusion of knowledge regarding the fire problem, regarding the general aims and methods of rational forest management, and regarding the details of a practical system of managing Connecticut woodlands and of establishing forests on idle lands. Annual Report 1901.

During the autumn months there have been meetings and basket picnics on the Station grounds of the New Haven Co. Pomona Grange and of the State Pomological Society. Two afternoons have also been devoted to the members of the senior class of the New Haven State Normal School who were specially concerned with the methods and results of the work in the chemical, botanical and entomological laboratories. Annual Report 1902.

In case of any serious insect outbreak, or the introduction into the State of any dangerous species, if specimens are sent to this office, an investigation will be conducted at once and measures will be taken to suppress it. Annual Report 1902.

A beginning has been made of observations regarding the mosquito in this state, with a view to lessening this nuisance. Annual Report 1903.
The agent was provided with a bicycle carrying in the frame a case containing 18 cans for samples. This case is similar in construction to those used by bicycle tourists for carrying traveling necessities, but is divided into compartments for the cans and the whole of one side opens so that any one of the cans can be removed without disturbing the others. The sampling agent, between the hours of four and seven a.m., rode from street to street and brought a pint of milk of each milkman whom he met, without making known the object of his errand. He also noted the name of the milkman or his dairy as given on the wagon, or if there was nothing on the wagon, he asked the driver for the name of the man who carried on the business. The agent thoroughly mixed the sample of milk and filled one of the tin cans with it. Annual Report 1900.

A particularly reprehensible adulteration, because very likely to prove injurious to health, is that practiced by the Southern Soda Works, Nashville, Tenn., manufacturers of number 1175, Sweetheart, One Spoon, Baking Powder. This preparation contains more than twenty-five per cent of a ground rock, insoluble in strong acids and consisting chiefly of silicates of magnesia. Prof. S.L. Penfield of Yale University, kindly examined this material and found it to be a mixture of pulverized talc and tremolite, a series of hornblendes, which is much used as a filler in the paper manufacture. The tremolite appears under the microscope in sharp needle-like spiniers which make it a dangerous admixture in food. Annual Report 1900.

Of 332 samples of spices sold in bulk which have been examined at the Station during the past three years, 127 or 38.3 per cent of the whole number, have been found adulterated... As the purchaser has no ready means of distinguishing between the pure and the adulterated, the only safe course is to buy spices in sealed packages, bearing the name of a reliable house whose goods have not been found adulterated. Annual Report 1898.

Since the coming of the Japanese chestnuts a new interest in chestnut culture has been awakened in Connecticut. The native chestnut grows naturally throughout the State and covers a considerable portion of the wooded area. Trees have been cut over many acres and some of the sprouts issuing from the stumps are of a suitable size to graft. Annual Report 1898.

Several new localities infested with San Jose scale have been brought to light during the year. One of the most important things to note, however, is the bringing into the State of two other species closely resembling the San Jose scale, and probably just as undesirable. Both were shipped into Connecticut upon nursery stock and according to the statement of the purchasers each came under a certificate of inspection. Annual Report 1899.

The VEGETABLE PROTEINS

The vegetable proteins are of great importance. One of the most important discoveries in the field of nutrition is the fact that vegetables contain proteins. These proteins are essential for the growth and development of the human body. They are the building blocks of all cell structures and are necessary for the production of enzymes, hormones, and other important substances. The vegetable proteins are also an excellent source of dietary fiber, which helps to maintain a healthy digestive system.

George Smith, left, and Rebecca Hubbell weighing a rat used in tests for vitamin D in milk. The rats were fed rations deficient in vitamin D and milk collected by the Station inspector. The milk passed if the rats did not develop a deficiency disease. Circ A 1948.

Feeding tests with rats and pigs showed that both species grew much more rapidly on "high-linoleic" corn. Experiments by others in Central America and Colombia involving children whose normal diets consisted largely of corn showed that they benefited greatly from high-linoleic corn. Also, children afflicted with the deficiency disease kwashiorkor recovered quickly if they were fed high-linoleic corn.
Station Directors, 1875-2000

The Connecticut Agricultural Experiment Station has had only seven directors during its 125 years. Station directors and their terms are:

Wilbur O. Atwater 1875-1877
Samuel W. Johnson 1877-1900
Edward H. Jenkins 1900-1922
William L. Slate 1923-1947
James G. Horsfall 1948-1971
Paul E. Waggoner 1972-1987
John F. Anderson 1987-2004

B.H. Walden spraying a tree on December 19, 1902.

Station, and experiments of this nature cannot otherwise be made. Annual Report 1889.

This fungus when cultivated in an absolutely pure condition on nutrient substrata and thence transferred to growing tubers with the necessary precautions, reproduces in them the disease called (potato) scab, from which it was originally obtained, the observations and experiments made so far being convincing, to the writer at least, that the two are directly associated as cause and effect. Annual Report 1890.

The Station is prepared to analyze and test fertilizers, cattle-food, seeds, milk, and other agricultural materials and products, to identify grasses, weeds, moulds, blights, mildews, or injurious insects, etc., and to give information on various subjects of Agricultural Science, for the use and advantage of the citizens of Connecticut. The Station does not undertake sanitary analyses of water. Annual Report 1894.

Specimens of wood sent by an orchardist living near New London from trees which were dying or dead, proved to be affected with the dreaded San Jose scale. Dr. Storey and Mr. Britton immediately visited the orchards, directed the course of treatment to keep the disease in check, till a winter treatment could be used to eradicate it, and a Bulletin was at once issued to call the attention of fruit growers to the subject. Annual Report 1895.

Mr. J.B. Olcott has continued the study of native and foreign turf-making grasses in the Grass Garden at South Manchester. The garden has been considerably enlarged during the year by collections made in England, France, Denmark and Austria by Mr. Olcott. Annual Report 1896.

The first publication of this Station on Foods was issued in July, as Bulletin No. 123, and covers seventy-nine pages, giving a detailed account of the examination of eight hundred and forty-eight articles of food, thirty per cent. of which were adulterated. Annual Report 1896.

In every case the purchasing agent asked for lard and there was sold to him an imitation or substitute without any statement of him that it was not pure lard. The prices paid ranged from seven to twelve cents per pound and averaged 9.3 cents. Annual Report 1896.

Eighty-nine per cent. of the ground coffee found on sale was grossly adulterated. The adulterants detected were peas, “imitation coffee,” “pellets” (pea hulls and starchy matter made into granules), wheat, rye, and chicory. Only two samples of pure ground coffee sold in bulk were found on sale. Annual Report 1896.

During the month of May one hundred and five samples of milk were bought by agents of the Station from grocers and a few bakeries in all parts of the city of New Haven. The analysis of these samples show the general quality of the milk sold by grocers, which is quite likely to be rather poorer than that delivered by milkmen to families. Annual Report 1896.

It may well be that the free publication and circulation of the simple facts that such and such foods and drinks are thus and so adulterated, and that A & B have sold and are offering for sale this and that falsified article, will in time effectually check the demand for and commerce in adulterated goods. Annual Report 1897.

During the last twenty years, the Connecticut Agricultural Experiment Station, in accordance with the act establishing it, has annually made and published analyses of every brand of fertilizer made, sold or offered for sale, in the State that could be collected by its special agents. During this time, the adulterated or fraudulent fertilizers, that for twenty-five years previously, were common in our markets, have practically disappeared, and, as respects them, the intelligent farmer has been efficiently protected from deception and fraud. Annual Report 1897.

Several States to which Connecticut nurserymen are shipping nursery stock have passed laws forbidding entry into those States stock from nurseries which have not been inspected within the year, and requiring with each shipment a certificate of inspection. In response to requests from our nurserymen, Mr. Britton has made eleven inspections of nurseries, and in eight cases has given the desired certificate. Annual Report 1898.

Samples Nos. 9502 to 9506 inclusive are interesting frauds. Each was put up in a tumbler which was covered...
Excerpts from Early Annual Reports

It has been felt from the first, that more abstract scientific investigations would afford not only the proper, but also the most widely and permanently useful work of an Agricultural Experiment Station. Such an institution will be worthy of its name in proportion as it carries on accurate and thorough investigations and experiments in agricultural science. First Annual Report 1876.

These results of chemical analysis confirm the general verdict of experience, which places our red rock soil among the best, while it shows that, excepting the sulfuric acid, this rock is about equally rich in all the needed elements of plant food. Annual Report 1878.

The advantage of spreading manure from the wagon as it is drawn out are, a saving of labor and an even distribution of the soluble salts (ammonia, potash, phosphates, etc.), in the soil by rain. If the manure is heaped on the field and gets a heavy rain before spreading, the ground under the heaps receives an undue share of the best part of the manure. Annual Report 1879.

To the General Assembly of the State of Connecticut: The Sheffield Scientific School of Yale College, which has furnished accommodations free of expense, since the establishment of the Station in 1877, gave notice at the end of the fourth year of this arrangement that it would need its rooms for instruction at the end of the five years named in its original offer, which would be June 30, 1882. This necessitates that provision be made for the future accommodation of the Station, and your Honorable Body will be asked to make a special appropriation to furnish a place and facilities for its work. Annual Report 1881.

At the request of Hon. J.B. Tate, the Dairy Commissioner, the Station has examined 61 samples of suspected butter obtained by the Commissioner in different parts of the State. Forty-seven of these were proved to be imitation butter. In thirty-nine cases suit was brought by the Commissioner against dealers in this article and in every case conviction was secured. Annual Report 1886.

Besides receiving many calls from individual farmers the Station has been visited last year by the Green’s Farms Farmer’s Club in a body and also by the Cheshire Grange, whose members to the number of seventy-five, came to the Station on an appointed day, bringing their lunch, and made a picnic on the Station grounds. It is hoped that other organizations of farmers will follow this example during the coming season. The Station officials will do all in their power to make visits interesting and profitable. Annual Report 1887.

Station Grounds, Laboratories and Offices are on Suburban st., between Whitney avenue and Prospect st., 1-1/8 miles North of City Hall. Suburban st. may be reached by the Whitney ave. Horse Cars, which leave the corner of Chapel and Church sts. Three times hourly, viz: on the striking of the clock and at intervals of twenty minutes thereafter. The Station has Telephone connection and may be spoken from the Central Telephone Office, 346 State st., or from Peck and Bishop’s Office in Union R.R. Depot. Annual Report 1888.

During April and May, special agents of the Station, Messers. B.C. Ellwood of Green’s Farms, and C.L. Gold, of West Cornwall, visited 144 cities, towns, and villages in the State and drew 887 samples of fertilizers, reporting also cases where the requirements of the fertilizer law appeared not to be fully met. Annual Report 1888.

Fifty samples of molasses have been examined for the Dairy Commissioner. Of the first twenty-two samples collected by him after the passage of the law regarding the adulteration of molasses, nine were found to be mixed with glucose; one also contained salts of tin. After giving public notice that after a fixed date, all sellers of such molasses would be prosecuted, further samples were drawn and sent here for examination, but they all proved to be pure molasses. Apparently molasses mixed with glucose is no longer sold in the state. Annual Report 1888.

Farmers are strongly advised to try experiments for themselves with the use of fungicides, for which full directions will be furnished by the Station on application, adapted to the particular disease which it is desired to treat, and when possible, personal supervision will be given if requested. Such cooperation on the part of farmers is much to be desired from the fact that no farm is attached to the
WARMEST CONGRATULATIONS
to the
Connecticut Agricultural Experiment Station!

Your commitment to research and education has been an enormous aid to our community as we fight to combat Lyme Disease and other tick-borne illnesses. We are very grateful for all you’ve done to protect us.

The Wilton Task Force on Lyme Disease & Other Tick Borne Illnesses
P.O. Box 643 Wilton, CT 06897 (203) 222-7089
Serving Fairfield County

THE NATIONS OLDEST AGRICULTURAL EXPERIMENT STATION

Congratulations
The Connecticut Agricultural Experiment Station

Epic
The Epic Printing Company

400 Cose Avenue
East Haven, CT 06512
Phone: (203) 469-3988
(800) 382-2397
Fax: (203) 469-7114

125th ANNIVERSARY

ANNOUNCEMENT.

The Connecticut Agricultural Experiment Station was established in accordance with an Act of the General Assembly, approved March 21, 1877, “for the purpose of promoting Agriculture by scientific investigation and experiment.”

The Station is prepared to analyze and test fertilizers, cattle-feed, seeds, soils, waters, milks, and other agricultural materials and products, to identify grasses, weeds, and useful or injurious insects, and to give information on the various subjects of Agricultural Science, for the use and advantage of the Citizens of Connecticut.

The Station makes analyses of Fertilizers and Seed Tests for the Citizens of Connecticut without charge, provided:

1. That the results are of use to the public and are free to publish.
2. That the samples are taken by consumers from stock now in the market, and in accordance with the Station instructions for sampling.
3. That the samples are fully described on the Station “Forms for Description.”

All work proper to the Experiment Station that can be used for the public benefit, will be made without charge. Work done for the use of individuals will be charged at moderate rates. The Station undertakes no work, the results of which are not at its disposal to use or publish, if deemed advisable for the public good.

Samples of Commercial Fertilizers, Seeds, etc., will be examined in the order of their coming; but when many samples of one brand or kind are sent in, the Station will make a selection for analysis.

The results of each analysis or examination will be promptly communicated to the party sending the sample. Results that are of general interest will be sent simultaneously to all the newspapers of the State for publication.

The officers of the Station will take pains to obtain for analysis samples of all the commercial fertilizers sold in Connecticut; but the organized cooperation of the farmers is essential for the full and timely protection of their interests. Farmers’ Clubs and like Associations can efficiently work with the Station for this purpose, by sending in samples early during each season of trade.

It is the wish of the Board of Control to make the Station as widely useful as its resources will admit. Every Connecticut citizen, who is concerned in agriculture, whether farmer, manufacturer, or dealer, has the right to apply to the Station for any assistance that comes within its province to render, and the Station will respond to all applications as far as lies in its power.

Instructing and Forms for taking samples, and Terms for testing Fertilizers, Seeds, etc., for private parties, sent on application.

Parcels by Express, to receive attention, should be prepaid, and all communications should be directed to

AGRICULTURAL EXPERIMENT STATION

NEW HAVEN, CONN.

P. O. Box, 945.
Laboratory and Office, in East Wing of Sheffield Hall, Grove St., head of College St.

Reproduced from the ’877 Annual Report
BEST WISHES TO
THE CONNECTICUT AGRICULTURAL EXPERIMENT STATION
EDWARD C. JACKOWITZ

AMERICAN DISTILLING

31 East High Street
F.O. Box 319
East Haddam, CT 06424
Tel. 860-267-4444
Fax 860-267-1111

World’s Largest Producer of Witch Hazel, Selling in Bulk Only

The Connecticut Tree Protective Association, Inc.
58 Old Post Road, Northford, CT 06472-6556
Telephone (203) 484-2512 or (888) 919-2872 (in-state) - www.CTPA.org

Organized August 16, 1922
We Advance the Care of Connecticut’s Trees

Congratulations to the Connecticut Agricultural Experiment Station on their 125th Anniversary!!
and Thank You for over a Century of Leadership and Support for Arboriculture
and Tree Care in Connecticut....

Major corn discoveries made in Connecticut

The name of Donald F. Jones, the Connecticut Agricultural Experiment Station, and hybrid corn are inseparable in the history of American agriculture. His discoveries continue to pay huge dividends to consumers of meat and milk in Connecticut and the rest of the world.

The story begins in Station Board minutes around the beginning of the 20th Century which record the frequent discussion of the need for employing a person to work on "the improvement of crops." In 1905, the Director was authorized to find such a person. The person was Edward Murray East, who left Illinois to take the position in September 1905. Trained as a chemist, by the time he arrived in New Haven, East had read everything written on the subject of genetics from Darwin on, and he brought with him several inbred strains of corn he had selfed in Illinois.

At the same time, George Harrison Shull was inbreeding corn at Cold Spring Harbor, Long Island. Both East and Shull found that continued inbreeding reduced yield and vigor of corn while exhibiting particular characteristics. Both found crossed inbred lines often resulted in superior yields when the hybrid seeds were planted.

Although yields were greater, East concluded that even superior crosses would not be practical because of the difficulty in growing the seed and the resulting cost. Shull moved to Princeton and ceased corn breeding in 1912 and East moved to Harvard. Herbert B. Hayes replaced East and continued the work. When Hayes left Connecticut for Minnesota, Donald F. Jones took up the work.

The 25-year-old Jones arrived in Connecticut in 1914 to continue breeding experiments knowing about the work of Shull and East. He took the next logical step, which was to cross two different hybrid lines which originated from four distinct inbred lines. The resulting "double cross" plants from "single cross" parents produced a greater vigor and yield than the parent and grandparent plants.

Jones actively campaigned for the adoption of this economical technique by commercial seed producers until the late 1920s because he recognized that the average farmer could not carry out the extensive inbreeding, selection, and crossing necessary to produce the desirable final product.

In 1919 he wrote: "...it is something that may easily be taken up by seedsmen; in fact, it is the first time in agricultural history that a seedman is enabled to gain the full benefit from a desirable origin of his own or something that he has purchased. The man who originates devices to open our boxes of shoe polish or autograph our camera negatives, is able to patent his products and gain the full reward for his inventiveness. The man who originates a new plant which may be of inestimable benefit to the country gains nothing—not even fame—for his pains, and the plants may be propagated by anyone. There is correspondingly less incentive for the production of the improved types. The utilization of first generation hybrids enables the originator to keep the parental types and give out only the crossed seeds, which are less valuable for continued propagation."

Jones took every opportunity to point out the practical value of breeding to produce desirable plants, the practical value of hybrids to improve the resulting progeny, and the practical value of a second or double-cross to avoid undue expense in seed production. He also carried the message "practical value" in a book co-authored with East, and it appeared frequently in the popular magazine Wallace’s Farmer as well as the Breeder’s Gazette and Scientific American. He spoke to farmers, experiment station scientists, and seed producers in the Corn Belt. He spoke at professional meetings. He also published an extensive discourse on hybridization in his textbook Genetics in Plant and Animal Improvement.
The Double Cross Inbreds

Plaque placed by the Connecticut Seed Trade Association commemorating the hybrid corn discovery of Jones.

much for corn as the Great Corn Belt Experiment Stations in states where they grow 50 to 100 times as much corn as Connecticut, and where their experimental farms are far larger, their appropriations greater, and their scientific personnel more numerous.”

By the time Wallace spoke, Jones had produced another major innovation in corn seed production. Working with Paul Mangelsdorf of Harvard during the late 1940s and early 1950s, Jones worked out the complicated interactions using a male sterile plant and a restorer gene that led to production of corn seed without the manual detasseling of individual plants. This second major achievement meant cheaper seed by reducing the cost of its production. Jones was a giant in agriculture; we still benefit from his discoveries.

One of the persons who recognized the practical value of Jones’s discovery was agricultural publisher Henry A. Wallace of Iowa, later a vice-president under Franklin D. Roosevelt. Wallace took up the double-cross hybrid early, and as Jones had hoped, helped turn it into a practical invention by producing hybrid corn seed. How this partnership with Wallace and other seed producers grew is illustrated by the acres of hybrid corn in production. In 1900 no hybrid corn was planted; in 1933 approximately 100,000 acres; in 1939 approximately 20 million (more than 20%), and by the mid-1940s, hybrid corn was grown on approximately 60% of the corn-producing land of the United States. Today the amount is virtually 100%.

The discovery by Jones and its practical application had an immeasurable impact on nutrition and food production. The higher-yielding corn was used as feed for the cattle, swine, and chickens that were grown for meat, milk, and eggs, making the products more plentiful and cheaper to produce.

In 1955, Wallace spoke at Plant Science Day at Lockwood Farm: “The marvel is that Connecticut, which is about 38° in corn acreage, should have, during the first 20 years of this industry, done perhaps a hundred times as

Director James G. Horstfall, left, Donald F. Jones, center, and Henry A. Wallace, right, on “Donald F. Jones Day” at Lockwood Farm, August 16, 1955.

HAPPY 125TH ANNIVERSARY!

- Tyler Cooper
- & Alcorn, LLP
- Counsellors at Law
The Experiment Station during World Wars

WORLD WAR I

John P. Street, chief chemist, was given leave of absence, commissioned captain in the United States Army, and engaged, under the Surgeon-General, in the inspection and control of army rations and food wastes in the cantonments in this country. Promoted to major, he was sent abroad and is serving in France. C.B. Morison, assistant chemist, was given leave of absence, commissioned lieutenant in the United States Army, and is doing work similar to Major Street’s in the American cantonments. I.W. Davis, in charge of gypsy moth work, was given leave of absence and is a corporal in the United States Marine Corps. Twelve men employed as laborers in the gypsy moth work have also entered the army or the navy. B.E. Jenkins, director, is the Federal Food Administrator for the New Haven District and is a member of the Food Committee of the State Council of Defense. W.E. Britton, chief entomologist, is chairman of the Food Committee of the New Haven War Bureau. W.O. Fillies, forester, has served as recruiting officer for the Foresters’ Regiment and is a member of the State Fuel Administration. W.C. Pelton, vegetable expert, is one of the committee assisting in the supervision of gardens in New Haven.

In 1917 the seed crop was greatly damaged by an unusually severe freeze, and to protect farmers from planting worthless seed this year the Station tested over 1,100 samples, chiefly drawn by the County Agents in all parts of the State, reporting each test to the Extension Department of the Agricultural College, to the County Agent and to the owner of the sample. Only one-third of the samples tested was satisfactory, but largely as a result of this work very little poor seed was planted and the corn crop in 1918 is very satisfactory.

Aside from the above direct war services, every member of the staff has devoted much time to special war work. Of special importance is the work of Dr. Osborne, with the collaboration of Dr. L.B. Mendel, of the Sheffield Scientific School. In our opinion, the greatest service which the Station is rendering in the present emergency, both to agriculture (in the department of cattle feeding) and to the war effort, which will continue to be of special value until the production of human food everywhere has become nearly normal again, is that which Dr. Osborne has done at this Station for the last twenty-five years and more. It was supported for years wholly from State Funds, but is now in part supported by the Adams Fund. This work has established for the first time, with substantial accuracy, the ultimate and proximate composition of a large number of protein bodies, proving that while their ultimate composition is in many cases nearly alike they differ widely in the nature and relative amount of their complex constituent radicals.

There followed a very extensive study of the relative nutritive value of these individual proteins by newly devised methods which, for the first time, made such tests possible, and which incidentally showed the futility of many of the short-time feeding tests which often have been given a confidence which was misplaced. This study of the nutritive value of different single proteins showed that “protein” was not assimilated as a unit, but that each form of protein was a complex of nutrients (amino-acids and bases) from which the required elements were selected by the body, which rejected the others. The very different requirements for growth and maintenance have been demonstrated. By the methods referred to above it has been for the first time possible to determine the relative importance of each mineral element in nutrition. The nature, the importance, and the relative amount of vitamins existing in various feeds of animal and vegetable origin are being studied. The application of all this work to the vast problem of feeding our own people and our allies at this time is being made by Dr. L.B. Mendel, who has been collaborating with...
Growing Potatoes in War Time

Prepared with the Assumption Department of the Agricultural Experiment Station, Connecticut Agricultural Experiment Station, New Haven.

Field of potatoes in flower

How Connecticut Nurseries Can Aid in Food Production

We are in a critical period of food production, and Connecticut nurseries can play a significant role in this effort. They can provide both immediate and long-term benefits to our food security.

Immediate Benefits:
- **Plants for Home Gardens:** Connecticut nurseries can supply a variety of plant materials that are suitable for home gardens. These can include vegetables, fruits, and ornamental plants.
- **Soil Improvement:** Nurseries can offer advice on soil preparation and fertility management, which are crucial for successful food production.

Long-Term Benefits:
- **Disease-Resistant Varieties:** Connecticut nurseries can provide disease-resistant varieties of crops that are well-adapted to our climate. These can help reduce the need for chemical pesticides.
- **Genetic Diversity:** Maintaining genetic diversity in crops is crucial for long-term food security. Nurseries can offer a variety of seed and vegetative propagules to ensure this diversity.

In conclusion, Connecticut nurseries have a critical role to play in our food production efforts. By providing high-quality plant materials and expert advice, they can help ensure that we have a reliable food supply during these challenging times.

DR. M. F. MORGAN
(Adj. Colonel, U. S. Army)

As this Report was being written, we were shocked and saddened to receive word that Dr. Morgan, chief of our Bull School, had been lost in a plane crash while in the Philippines.

An expert in military agriculture, Dr. Morgan was a respected leader in the field. His contributions to our understanding of agricultural science and his dedication to improving food security will be greatly missed.

In memory of Dr. Morgan, we shall continue to work towards the goal of feeding the world, even in the face of such tragic losses.

- **Nutritional Value:** The field day will be held on [Date], at [Location]. All interested individuals are welcome to attend.
- **Safety Precautions:** Attendees are encouraged to wear appropriate safety gear, including sunscreen and water bottles.

Please join us in remembering Dr. Morgan and in honoring his legacy.
Connecticut Farm Bureau Association
and its County Farm Bureau Affiliates
express our congratulations and thanks to
The Connecticut Agricultural Experiment Station
for 125 Years of Dedicated Service
to the Connecticut Agriculture Industry

Connecticut Farm Bureau Association
510 Pigeon Hill Road
Windsor, CT 06095

Phone: 860-298-4400
www.cfba.org

Dedicated to promoting Connecticut's agriculture industry through education, legislation and grassroots leadership.

THE DOCUMENT COMPANY
XEROX

Congratulates
The Connecticut Agricultural Experiment Station
on its
125th Anniversary

XEROX® The Document Company® and the digital X are trademarks of Xerox Corporation.