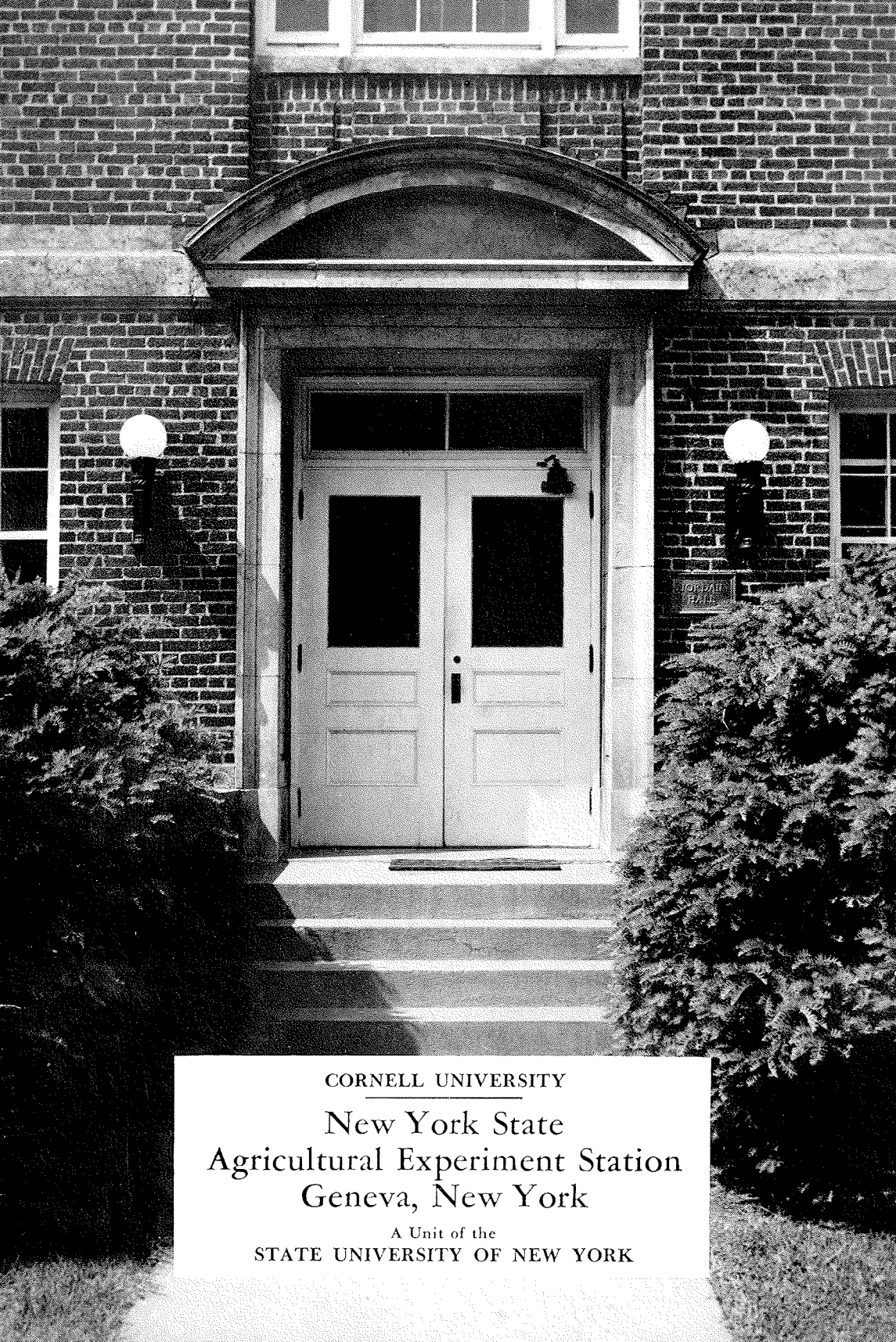


CORNELL UNIVERSITY

New York State Agricultural Experiment Station Geneva, New York

A Unit of the

STATE UNIVERSITY OF NEW YORK

ORIGIN AND OPERATION

THE New York State Agricultural Experiment Station at Geneva was created by act of the Legislature of 1880, "for the purpose of promoting agriculture in its various branches by scientific investigation and experiment."

Doctor E. Lewis Sturtevant, the first Director, took possession of a 125-acre farm on the western outskirts of the City of Geneva on March 1, 1882. For several years the original farm home, which is still in use as the Entomology Building, housed all the offices and laboratories, while the upper floors served as the Director's residence.

The State has since erected four office and laboratory buildings in addition to a central heating plant, residences, greenhouses, and other farm buildings. More land has also been acquired so that the Station now has about 600 acres at its disposal for its research program at Geneva. Additional facilities are available to the Station in the Hudson River Valley and the Chautauqua Grape Belt.

A product of necessity

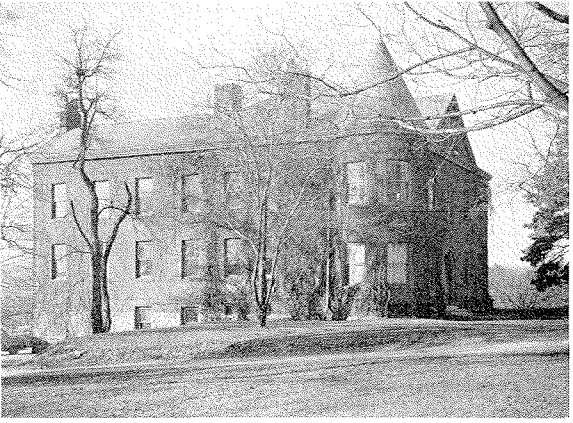
The Experiment Station was born "out of the necessities of farmers", according to Robert J. Swan, first president of the Board of Control of the Station in his first report in 1882. He spoke of the "hindrances and discouragements" that beset farmers and among these he listed insect pests, diseases, drought, soil exhaustion, a multiplication of weeds, and other problems.

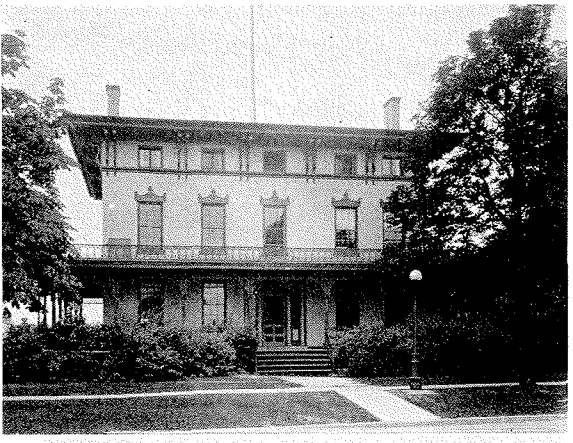
Many of these "hindrances and discouragements" are still with us only in a more complex form, such as virus diseases, insect resistance to pesticides, and others, coupled with an insistence on the part of the consumer for quality in fresh and processed foods undreamed of 75 or even 25 years ago.

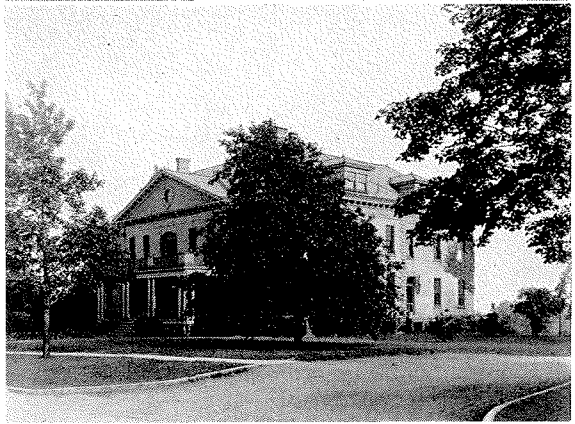
Horticultural research

The Experiment Station, an integral part of Cornell University and a unit of the State University, is a horticultural research institute in the broadest sense, with special emphasis on problems of production and processing of fruits and vegetables grown in New York State. A staff of 63 scientists, aided by 144 professional chemists, seed technologists, biologists, horticulturists, and nontechnical workers, is engaged in investigations pertaining to food science and technology, the control of insect pests and diseases of fruits and vegetables, the breeding of better varieties, the development of fertilizer and cultural procedures which will result in increased production and higher nutritive value of processed foods, the improvement of seed stocks, the testing of rootstocks, and many other related projects.

Jordan Hall—The administration building







The professional members of the staff are also members of the Cornell University Faculty and the faculty of the College of Agriculture at Ithaca and, in certain cases, of the faculty of the School of Nutrition. All of the research work done at Geneva is closely integrated with work in similar fields under way in any unit of Cornell so as to avoid duplication of effort but at the same time assure a well-rounded-out program for the agriculture of the State.

With the establishment of the State University in 1948, the Station and the College of Agriculture together became a unit of that organization under contract with Cornell.

Seek basic facts

In all of their work the Station scientists are attempting to establish facts and principles to serve as guides to farm practice and to industrial operations involving farm crops. Once these basic facts are established, other agencies promote the application of the findings.

The Station does not attempt to run a "model" farm or food processing plant. Rather the fields, orchards, and pilot plant are used as "laboratories" for carrying on extensive controlled experiments under more or less natural conditions to supplement the investi-

Top to bottom:

Chemistry

Entomology

Hedrick Hall—Pomology, Plant Pathology, Vegetable Crops, Seed Investigations

Sturtevant Hall—Food Science and Technology and Pilot Plant

gations made in greenhouses and laboratories.

Service activities

In addition to the research program, an important activity at the Station is the testing of seeds, fertilizers, feeding stuffs, legume inoculants, and pesticides. This is done in cooperation with the New York State Department of Agriculture and Markets. All glassware used in butterfat and bacteriological testing of dairy products in this State is also tested here for accuracy.

Information services

The results of work done at the Station are made available in various ways. Technical reports are published in scientific journals and in bulletins put out by the Station. Material of a more practical nature may appear in bulletins published jointly with the Extension Service of the College of Agriculture at Ithaca. Members of the staff also give counsel and advice on problems within their field by correspondence and at farm meetings.

In order to keep the farmers of the State informed on developments in research at this Station and at the Cornell University Agricultural Experiment Station at Ithaca, a quarterly magazine is issued here at Geneva known as FARM RESEARCH. It is mailed free upon request. Other publications from the Station may be obtained by writing to the Bulletin Office.

Each week items of special seasonal interest that develop in the course of the experimental work are released to newspapers and farm and trade papers and are also briefed for release over the radio. These mediums of information—the press and the radio—serve to keep the Station's constituency informed on the most recent findings.

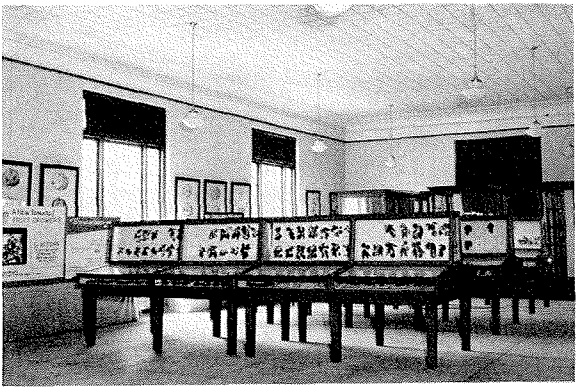
Visiting fruit growers in Station orchard

Library and museum

A reference library of more than 28,000 volumes is located in Jordan Hall. There, also, will be found a collection of wax models of new varieties of fruits and vegetables originated here, examples of plant diseases and insect work on fruits and vegetables, and other displays designed to visualize the results of experiments, all of which prove of special interest to visitors.

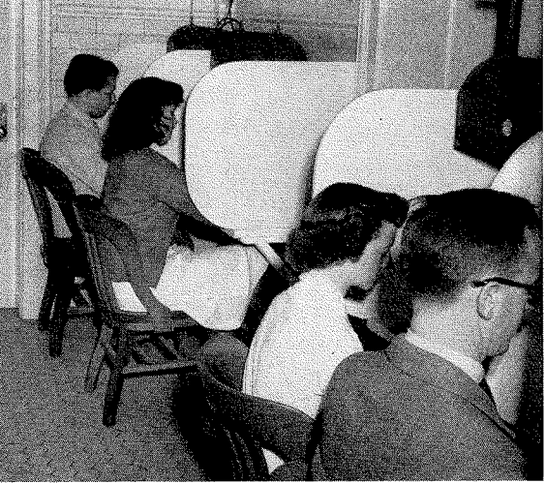
Meeting rooms are located in Jordan Hall to take care of groups ranging from a few persons to gatherings of 350 to 400. The Station welcomes the use of its facilities by farmers and organizations serving agriculture.

Individuals and groups are also welcome to visit the Station and participate in guided tours of the laboratories and field work. Prior arrangements as to date and time will assure a more satisfactory visit.



Museum with wax models of new fruits and other exhibits

FOOD SCIENCE AND TECHNOLOGY



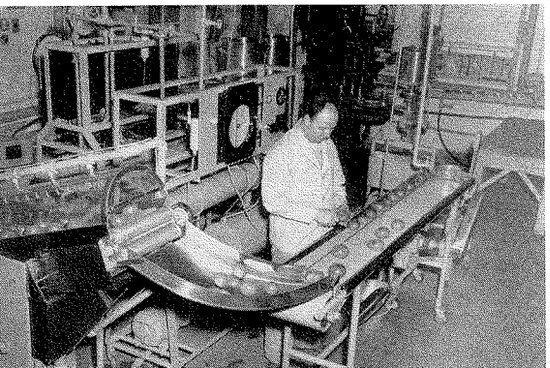
A "taste" panel in operation—an important tool in food processing research. Panel members in "isolation" booths score identical samples, the history of which is unknown to them. By averaging scores, the investigator can check the effect of any step in the processing operation on the color, flavor, texture, or other quality factor.

THE WORK of chemists, bacteriologists, and food technologists touches upon the every-day life and well being of all of us and deals with the fundamental nature of foods.

How food processing operations may influence the flavor, color, palatability, texture, and nutritive value of foods as they reach the consumer are under intensive study in the Food Science Department. The food scientists are concerned with the keeping qualities of foods and the effect that processing has upon bacteria and enzymes associated with raw products.

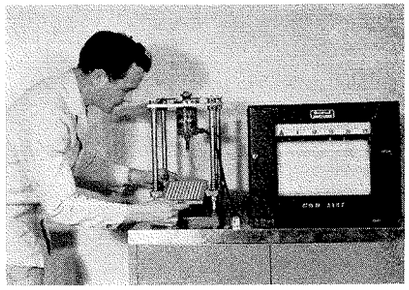
Ways of measuring objectively the factors that go to make up "quality" in processed foods receive attention from the food technologists. These studies are of considerable importance both to producers and processors who must meet high standards of quality of raw products and processed foods for the consumer.

Pilot plant set-up for tomato juice



Preservation of food

Studies of the pectic substances in fruits and vegetables have led to some very practical applications of the findings, as for example the now common practice of adding calcium salt in canning whole tomatoes to improve their texture.



The Geneva "texturometer"—a device designed and built at the Station for determining the "chewability" of foods, either raw or processed.

Station chemists are also studying the effects of atomic irradiations on preserving fruits and vegetables, particularly the effects of the treatment on pectin which plays such an important role in plant texture.

The food scientists also study activities of plant enzymes and have found how to curtail these activities to prevent undesirable changes in processed foods, particularly frozen foods. They have also determined the rate of freezing and the comparative worth for freezing preservation of a long list of varieties of fruits and vegetables. Much of this information is of value to the homemaker as well as to the commercial processor.

Food bacteriologists are concerned with finding ways to check the growth of undesirable bacteria, yeasts, and molds in foods without impairing natural flavors, aroma, and the general good quality of the processed product. Or, as in the case of fermented foods such as sauerkraut and pickles, they are seeking ways to encourage the growth of *desirable* bacteria.

Working with the fruit breeders, the food scientists are currently testing fruit seedlings developed in the Station's breeding program in an effort to develop better varieties for processing.

Dehydration studies with vegetables are receiving special attention in a cooperative project with the Army Quartermaster Corps.

The designing and building of pilot plant equipment have contributed much to the solution of complicated problems in quality evaluation, vegetable dehydration, and other fields of food processing.

Control activities

The introduction of new sprays and dusts and the problem of pesticide residues pose questions for the chemist to solve. With these materials becoming more and more complex in nature, the chemist must often devise entirely new analytical methods to determine their chemical nature and to measure their persistence in processed foods. Interest in the so-called systemic insecticides and fungicides which are taken up by plants through their roots or through the leaves also pose complex problems to be solved by the plant chemist.

Equipment for nitrogen determinations in the chemical control laboratory

It is in these laboratories, too, that the visitor to the Station will find the official testing of fertilizers, feeding stuffs, and pesticides which mean so much in protection to every farmer of the State. Tests of cultures for inoculating legumes and checking all dairy glassware used in the State are also part of the service work performed in this Department.

The proof's in the eating. Here studies on freezing preservation of sliced apples reach the ultimate test, how do they stand up in a pie? Growers and processors alike have a stake in the results, not to mention the consumer.

ENTOMOLOGY

INSECTS are man's chief competitors for the world's food supply. In no quarter is this fact more fully recognized than among growers of fruit and vegetable crops.

Production of ample yields of saleable produce is won only as a result of ceaseless warfare against the hordes of insects and mites that would make this food their own. In this struggle, growers place chief reliance on chemical spray and dust treatments.

Chemicals so used must not only be potent insect killers, but inexpensive, noninjurious to the plant under treatment, present no undue danger to the spray operator, and finally, must not persist in amounts on the harvested product to create a health hazard to consumers.

Station entomologists see to it that recommended pesticides meet all these exacting requirements.

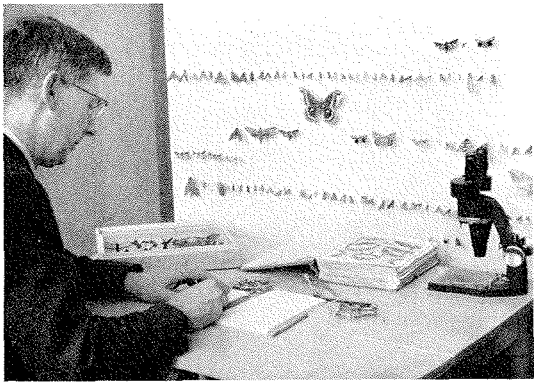
New pesticides

A great landmark in pesticide developments was the introduction of DDT. This material and the flood of new synthetic organic products which followed have revolutionized pest control practices. Miraculous though they have been by older standards, their use has not proved an unmixed blessing. They have created new public health problems which have had to be resolved. And making pest control too easy in some cases became a factor in the over-production of certain crops.

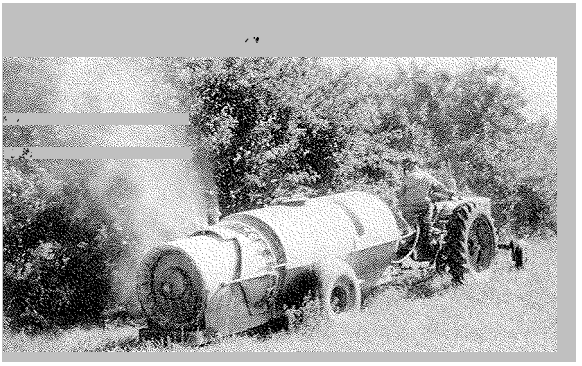
Of special concern to Station entomologists, however, is the increasing trend among pests to develop resistance or partial "immunity" to these chemicals. This illustrates the need of more basic information on insect toxicology and physiology. Studies of this nature are under way and will be expanded.

Insects are important not only for the direct damage they may do to plants, but for the virus, bacterial, and fungus diseases they may transmit. All of the principal fruit and vegetable crops are subject to one or more such diseases. One means of controlling these diseases is to apply insecticides to destroy the insect "vector." Another is to breed varieties resistant either to the disease, the vector, or to both.

It is not enough merely to develop good pesticides. Someone must devise effective, and preferably



Identification. Here an Entomologist studies catch of moths taken in light trap to determine kind and relative abundance of sweet corn pests.



Air blast sprayer enables one man to treat up to 100 acres of orchard a day

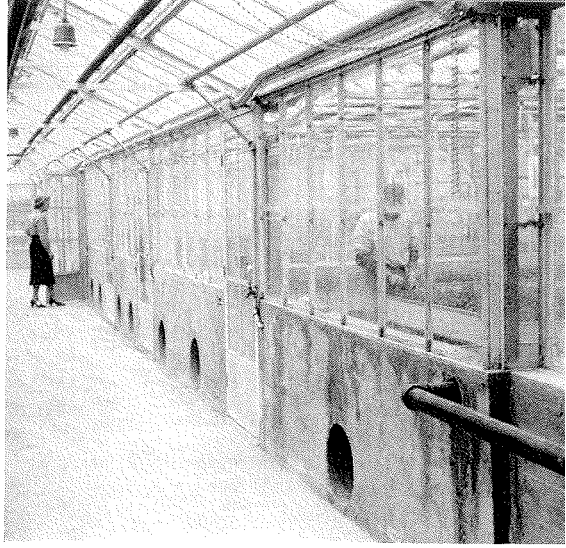
simple and inexpensive, means of applying such materials to the crops. Station entomologists have had a hand in many such engineering developments. One of these is shown in the accompanying illustration—the tractor-mounted row crop sprayer.

Natural enemies encouraged

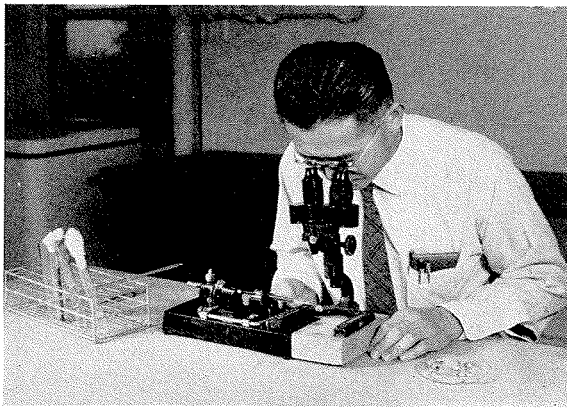
In nature, pest species are kept within bounds by other insects operating as parasites or predators and by various microbial diseases. Station entomologists are constantly on the alert for ways in which these "living insecticides" can be used to control pest species or to supplement other measures.

Milky-disease is a good example of how this principle has been successfully exploited. First applied in the control of the Japanese beetle, it now shows promise against another foreign invader of the Empire State, the European chafer. These insects become infected with this bacterial disease in the grub stage, when they are inhabitants of the soil. Thousands of acres of turf and pasture lands of the State have now been inoculated with this manharmless disease organism from cultures propagated at the Station.

There appears little likelihood we shall ever succeed in eliminating insect pests entirely. Thus far anyway, of the estimated 20 thousand species resident in New York we haven't succeeded in eliminating even one species. The well-known ability of insects to adapt and survive even in the face of catastrophic conditions is illustrated, currently, in their development of pesticide-resistant races. No, a grower's best hope in his fight with the insects is only an annual victory. With the advent of spring he can count on a resumption of the war.



Battery of greenhouse "cells" permits the quarantining of either insects or plants in studies on insect-transmitted diseases and similar research



Injecting a grub with bacteria causing milky disease. Such grubs produce spore material used to inoculate turf and pasture land for the control—in the grub stage—of the Japanese beetle and European chafer.

Tractor-powered row crop sprayer which Station entomologists helped develop. Costs about $150.

PLANT PATHOLOGY

DISEASES of plants are as varied and often as baffling as human ailments. Complications of weather which affect the plant and the parasite, sensitivity of the plant to treatment, development of new strains or races of parasites, selection of fungicidal materials that will not be hazardous to humans, and the ever-present element of cost—all must be taken into account in controlling plant diseases.

The plant disease specialists at the Station are studying diseases of tree fruits and nursery stocks, maladies of small fruits, such as grapes and berries of all sorts, and diseases of vegetable crops used in the canning and freezing industries.

Then there are diseases which do not yield to any form of external treatment. Among these are the verticillium wilts of strawberry, tomato, and other crops, cabbage yellows, root rots, and a host of virus diseases of fruits and vegetables.

Apple seedlings sprayed with fungicides which are being "screened" for their effectiveness against scab are placed in a humidity chamber which provides ideal conditions for scab development

Seek better disease control

The major diseases of fruits and vegetables grown in New York State—root rots, mildews, rusts, scab, black rot, anthracnoses, blights, virus diseases, and those caused by nematodes—are with us year after year, depending upon seasonal conditions. Their symptoms are now well recognized by most growers. The chief concern of the Station scientists, therefore, is not so much in identification and diagnosis as it is in devising new and better control measures. They are constantly trying new fungicides, screening plants of foreign introductions for possible disease resistance, and developing new technics for plant disease studies.

Just as in the field of medicine where new drugs are constantly being brought forward for the relief of human ailments, so in the field of plant diseases scientists are at work to develop new and better fungicides. Antibiotic substances are gaining special prominence. These new materials must first be subjected to rigid tests in the field. Special emphasis is placed on the

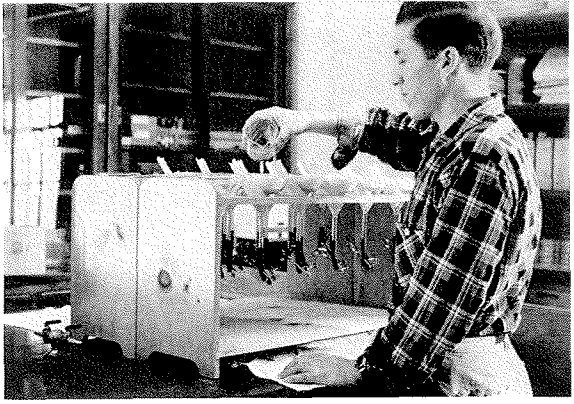
Stainless steel tanks are used to grow plants in sterile soil in studies of disease resistance of breeding lines

effect of fungicides upon yield and quality of fruits and vegetables.

Disease-resistance sought

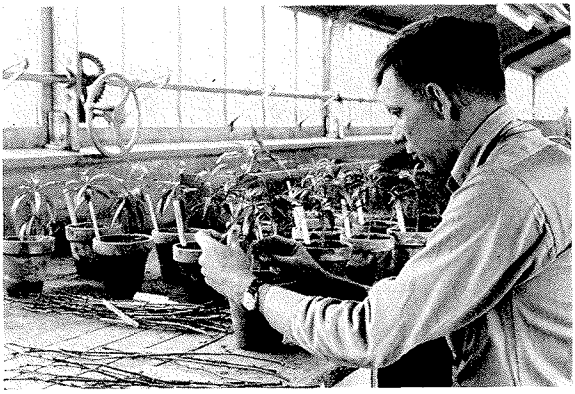
If races of plants wholly immune from disease could be developed, all our problems would immediately vanish—but then the millennium would also have been attained and we cannot wait that long. Many plant diseases, however, cannot be reached by fungicidal sprays or dusts—at least not with our present knowledge of such things. The only hope is to develop crop varieties that are resistant to them. The virus diseases of peas, raspberries, stone fruits, beans, and other crops, cabbage yellows, the verticillium wilts, and the root rots of peas and beans are examples of maladies that cannot be controlled with fungicides. The fruit and vegetable breeding programs at the Station have as one of their major objectives the development of new varieties that are largely, if not wholly, resistant to these diseases.

Sometime plant disease control must be looked upon as purely preventive or "insurance", much as in the case of preventive medicine for humans, because it is impossible to predict disease outbreaks far enough in advance to guarantee protection if a disease does strike. For instance, tomatoes are sprayed with a fungicide to protect them from a number of foliage blights and fruit rots which can be disastrous to the crop.



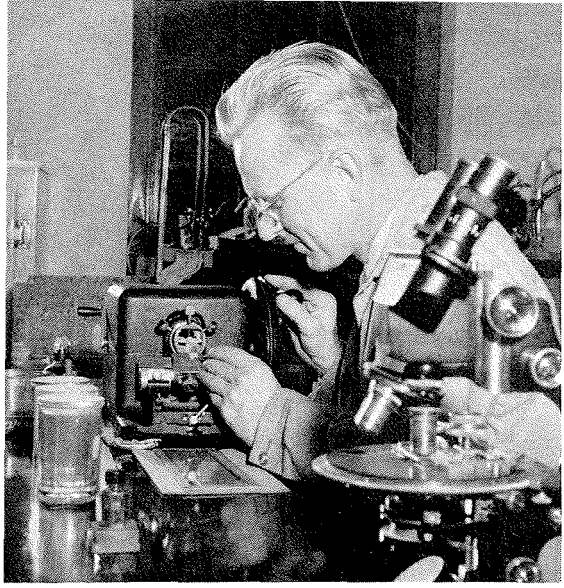
The threadlike plant parasites known as nematodes cannot be seen without magnification, but they can be filtered out of soil samples for identification under the microscope

Scionwood and rootstocks of stone fruit are "indexed" for virus disease to prevent the use of virus-infected stocks in nursery propagation. Nematodes can cause serious damage to fruit crops in New York State. Research on the control of these pests on plants receives considerable attention.



"Indexing" cherries for virus infection provides a means for sorting out virus-free stock from diseased stock

Testing new fungicides in the orchard requires carefully measured applications of spray materials



The microscope and the microtome aid the geneticist in studying chromosome development in fruit cells in connection with fruit breeding operations

POMOLOGY

FROM the very early days of the Station to the present the growing and evaluation of fruit varieties has been an important function. The present-day collections contain over 500 named varieties of apples, about 200 pears, over 100 each of peaches and sweet cherries, 25 or more sour cherries, nearly 200 plums, 50 apricots, several hundred grapes, 40 raspberries, 60 strawberries, and miscellaneous collections of currants, blackberries, blueberries, elderberries, and nuts.

Fruit breeding

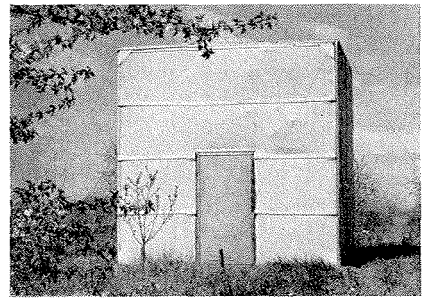
A fruit breeding program was initiated with the establishment of the variety collections and constitutes today a large part of the total effort of the Department. Major emphasis is placed on needs of the processing industry and for greater disease resistance in all of our fruits.

New fruits recommended for trial by the Station are introduced through the New York State Fruit Testing Association with members in every state and Canada.

Cytological and genetical studies closely coordinated with the breeding program deal with breeding behavior, polyploidy, and induced and spontaneous mutations or sports. Radiation technics are also employed to induce mutations.

Nursery investigations

Nursery projects include propagation methods and investigations of rootstocks and interstocks that result in control of tree size and induce early bearing. These projects also include consideration of technics to eliminate virus diseases in rootstocks and scion materials used for propagation.



Cheesecloth tents placed over entire trees make it possible to study pollination problems under controlled conditions

Plant nutrition investigations

These apple trees live their entire lives in these pots, blossoming and producing fruit year after year as though they were in the orchard, but with the investigator controlling their plant food supply to study their nutritional requirements

Size controlling rootstocks make possible truly dwarf fruit trees as well as trees smaller than those grown on standard rootstocks

range from studies of fundamental physiological and biochemical effects of nutrient deficiencies to field experiments where the maintenance of soil fertility levels is studied.

Orchard management

Orchard management studies include irrigation, weed control, cultivation, sod, mulch, plant spacing, pruning, fertilization, and nutrient deficiencies.

Management studies with small fruits include investigations of plant propagation, spacing, fertilization, irrigation, and weed control.

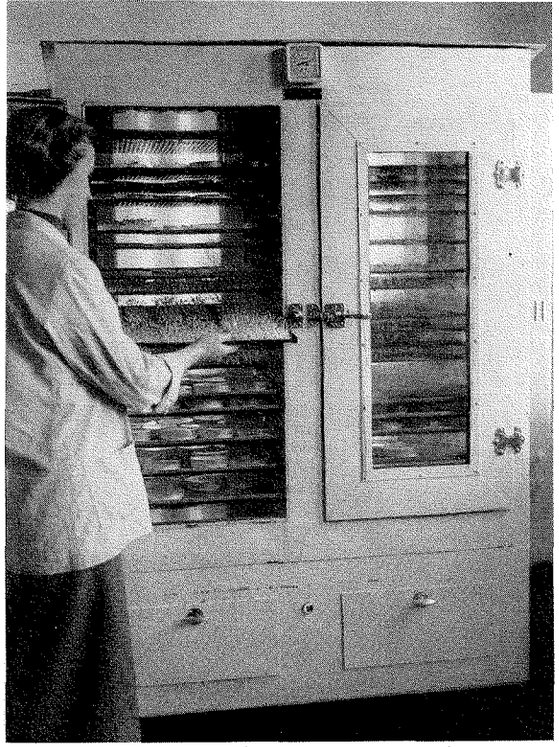
Cultural investigations with juice and wine grapes include pruning, training, diagnosis of fertilizer requirements, weed control, rootstocks, and fruit maturity.

Problems in the physiology of plant growth and development include studies on the naturally occurring growth substances in fruit plants, dormancy, juvenility, and blossom bud initiation.

Planting stocks of new fruits developed at the Station are made available through the cooperation of the New York State Fruit Testing Association

A portion of the thousands of seedlings started each year in the greenhouse in connection with the fruit breeding program, each one a potential new variety although very few actually survive the first test

SEED INVESTIGATIONS AND PLANT INTRODUCTION



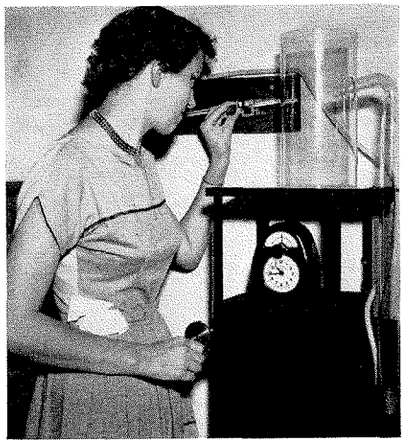
Seeds are placed on moist blotters or other material in special germination chambers to determine the percentage of seeds capable of producing normal seedlings

PROVIDING a seed testing service for the citizens of New York State and maintaining a plant introduction station for the northeast region of the United States are the major responsibilities of the Department of Seed Investigations.

Seed testing services

In the laboratories and trial grounds of the Department, the citizens of New York are provided with the most complete seed testing service available in this country.

In the laboratories, purity analysts trained to identify seeds of all of the crops and weeds common to this area examine seed samples for troublesome weed and crop contaminants and determine the percentages of pure seed and foreign materials. Germination analysts place seeds on moist blotting paper, paper toweling, or other substrate and put them in specially designed chambers where moisture, temperature, and light are carefully controlled so that ideal conditions are maintained for the germination of each kind of seed. A seed pathologist makes examinations for seed-borne diseases, determines the kind of fungicidal treatment that has been applied, and measures the effectiveness of treatment applications.



A carefully calibrated blower is used to remove chaff from seeds in purity test

Growing plants to maturity in field trials is the best way to measure the varietal purity of seeds

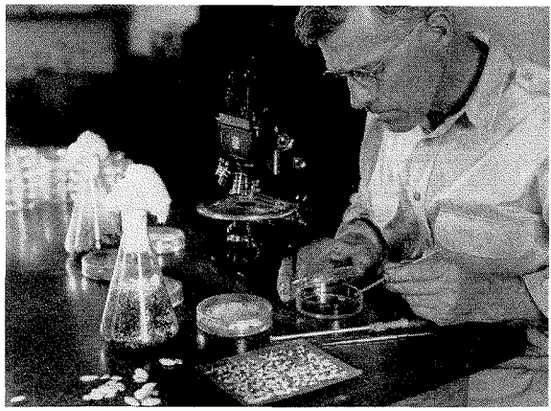
In the trial grounds, specialists plant samples of seeds and grow plants to maturity to determine their conformity to varietal characteristics.

All types of seeds

No seeds produced or used in New York State are excluded from these seed testing services. Lawn-seeding mixtures and packets of vegetable and flower seeds used by home owners are tested along with the grain and forage crop seeds used by dairy farmers, the vegetable seeds used by market gardeners and processors, and the flower, tree, and shrub seeds used by commercial florists, nurserymen, and foresters.

Whenever seed testing duties permit, the seed specialists use their skills and equipment for developing even better methods of testing seeds. They are at present attempting to develop standard methods for the testing of flower and other kinds of seeds less commonly encountered. They are also attempting to develop methods of measuring varietal purity by greenhouse and laboratory technics. Problems which constantly arise to plague seed producers, processors, dealers, and seed control and certification officials are likewise receiving attention.

Results of the official seed testing, which is carried on in cooperation with the State Department of Agriculture and Markets, are published annually and are available upon request to the Station. These reports are helpful both to seedsmen and seed buyers.



Seed-borne disease organisms are removed from seeds, grown in cultures, and identified with the aid of a microscope

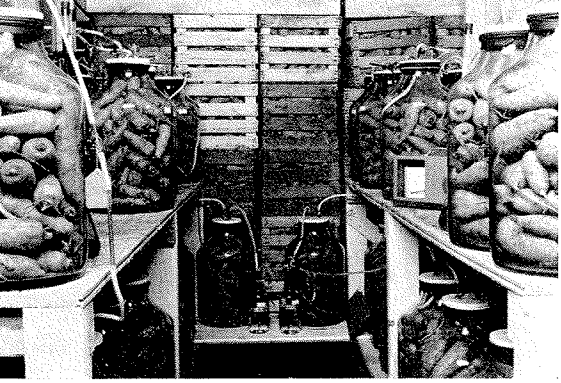
Plant Introduction Station

Agriculture and industry sometimes find their progress hampered by a lack of plant materials needed for breeding better varieties or for industrial uses. In recognition of this fact, a carefully coordinated program has been developed to provide access to the plant resources of the entire free world.

Plant explorers under the direction of the Plant Introduction Section of the United States Department of Agriculture comb likely parts of the world for plants requested by industrial or agricultural research workers. The plants obtained by the explorers are grown at plant introduction stations, their merits determined, and seeds produced for distribution.

The Experiment Station at Geneva provides facilities for the Plant Introduction Station which serves the 12 northeastern states. This Station, known as the Northeast Regional Plant Introduction Station, grows, observes, and produces seed from nearly a thousand new plant introductions each year.

The advisory committee for the Northeast Regional Plant Introduction Station considers the merits of a disease-resistant cucumber from Japan



Atmosphere and temperature control apparatus used to study bitterness in carrots

VEGETABLE CROPS

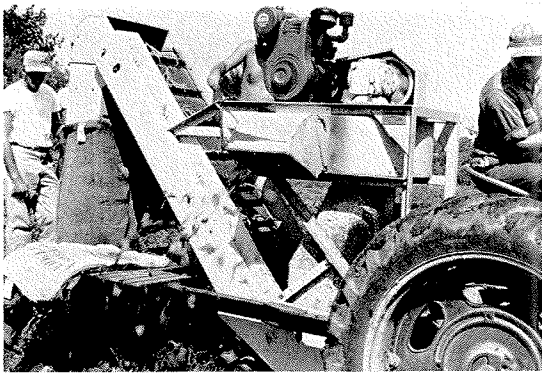
VEGETABLE crops research at this Station dates back to its very beginning. Reports of the first Director reveal that much work was done in the early years in the testing of vegetable varieties and the culture of vegetable crops.

Requests from canning crop growers and canners in the early 1920's led to the present program of canning crop investigations which was inaugurated in 1925. A 60-acre farm is now devoted exclusively to the study of problems related to the production of vegetable crops for processing. In addition, other areas of the Station farms are used for vegetable breeding, variety testing, fertilizer and rotation experiments, and irrigation investigations. A few limited experiments are carried on in other vegetable-producing sections of the State.

Vegetable breeding

More than half the personnel and resources of the Department are devoted to plant breeding projects to develop superior varieties of greater yield, higher quality, resistance to plant diseases, earlier maturity, and improved flavor and color. Some of the most destructive plant diseases exist in the soil and cannot be reached by sprays. Virus diseases also cannot be controlled by spraying. Breeding for resistance is the best control of these troubles.

Marked progress is being made in developing improved varieties of peas, snap beans, tomatoes, sweet corn, cabbage, squash, lima beans, carrots, and spinach.



Snap bean harvester in operation

A corollary of each breeding project is an extensive variety trial to determine the relative merits of new introductions. Four tomato varieties developed at the Station, Red Jacket, Gem, and Longred,

General view of Canning Crops farm

introduced in 1947, and Red Top, introduced in 1952, are now grown on nearly all the cannery tomato acreage in this State.

Improved production practices

Experiments are underway to increase yields and improve the quality of vegetables for processing by means of more effective use of fertilizers, including new kinds, optimum rates of seeding or spacing plants, correction of minor element deficiencies with soil treatments or with foliar sprays, comparison of various cover crops and rotations to maintain or improve soil structure, and by determining water requirements of each crop and optimum frequency and amount of irrigation.

A very comprehensive irrigation experiment uses water from a farm pond, which is filled by conserving surface run-off from heavy rains.

Plant quality research

Many vegetable crops for processing are bought on grades which are based on the maturity and quality of the product. As a basis for these grades, an impartial agency, such as the Experiment Station, must determine the relative yields and grades at various stages of maturity and evaluate methods of measuring maturity. These facts aid growers and processors in negotiating contracts and in determining harvesting stages for optimum returns.

Problems under study in this connection include cause and control of bitter flavor in stored carrots; relation of yield, maturity, and quality to optimum returns from peas; comparison of methods of forecasting optimum harvest date for peas; physical and chemical changes in sweet corn varieties at various stages of maturity; yields and quality grades of beets at successive stages of maturity; and yields and size grades of various varieties of snap beans.

An irrigation experiment with tomatoes

New weedicides are continually being developed and are tested to determine their relative effectiveness, and also to determine whether any toxic residues remain on the crop or in the soil.

Equipment research

New machinery for more efficient vegetable production and new devices for measuring quality objectively are tested. Among these are an improved precision planter for peas and beans, a new snap bean harvester, fertilizer placement machines, soil conditioner applicators, liquid fertilizer applicators, and quality measuring devices, such as the tenderometer, maturometer, Steinlite moisture tester, etc.

In this pea breeding experiment the plants are grown on trellises to aid in the study of plant characteristics

LOOKING AHEAD

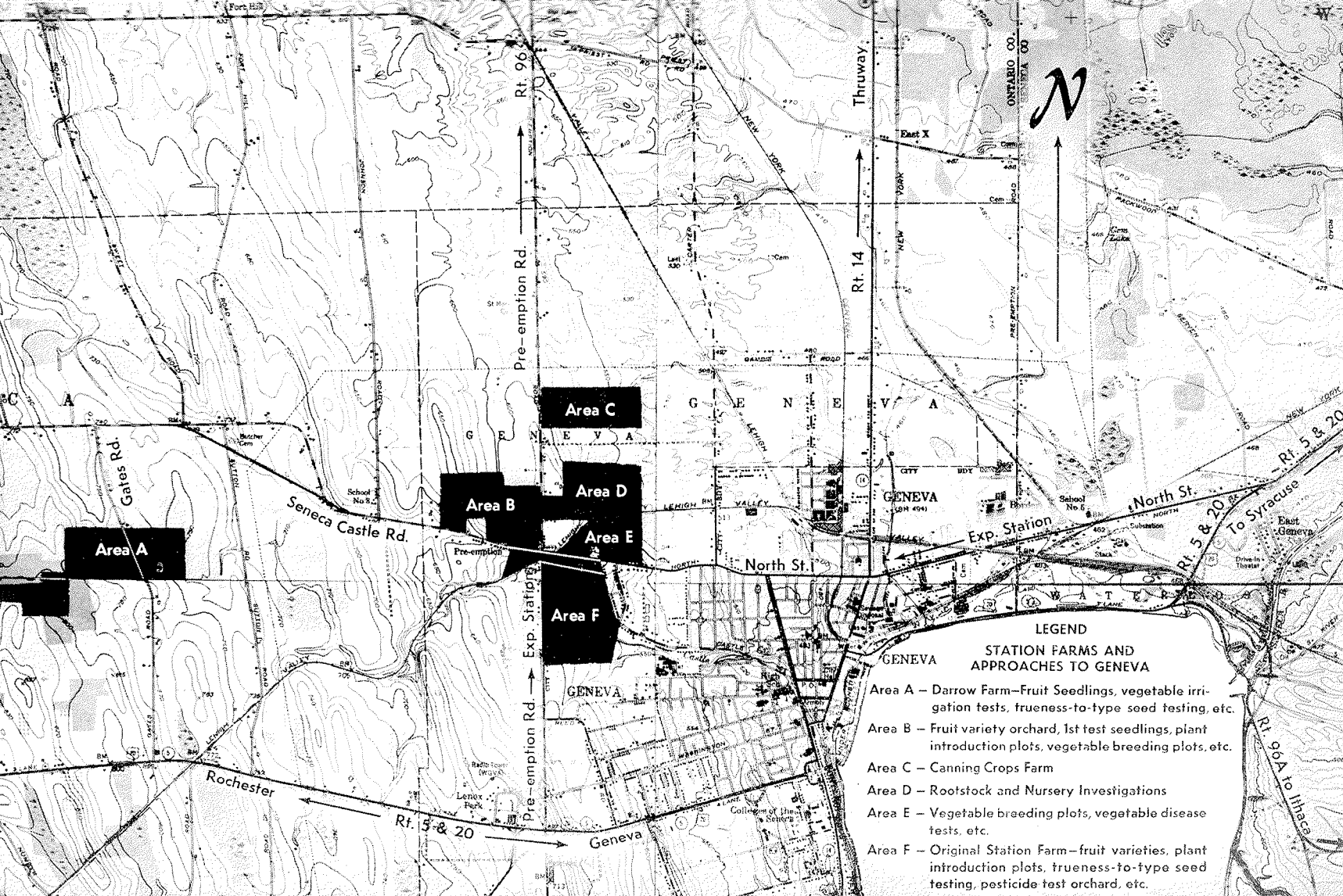
THE CHIEF aim of those concerned with long-term planning for the Experiment Station is to build a research institute where highly trained scientists will be provided with every facility to develop methods of producing and processing more wholesome and more nutritious as well as more attractive and palatable fruits and vegetables.

Much has already been done to shape such a research program. A nucleus of chemists, bacteriologists, horticulturists, cytologists, geneticists, and food technologists is already at work. As the program develops, there will be added biometricians, chemical engineers, and physicists who are trained in the use of dielectric heating, supersonic energy, radioactive isotopes, and other modern developments as applied to agriculture.

Recent acquisitions have materially increased the farm lands available for the fruit breeding program, plant introduction tests, and other experimental plantings. Plans for a food science building and pilot plant are well along and work is expected to get under way in 1957. Plans are also being developed for new facilities for insect and plant disease investigations. These will provide the entomologists and plant pathologists with quarters in which to rear insects and cultures of plant disease organisms, greenhouses in which host plants and their insect pests and diseases can be brought together and "quarantined" for tests on their control, and laboratories in which to conduct their researches—all under one roof.

Most problems brought to our attention have practical and economic aspects, but satisfactory solutions can seldom be found by merely applying existing knowledge. We now have to explore new frontiers of science to establish a firmer basis for the solution of practical difficulties confronting the food industry.

The first of five ponds built on Station farms in recent years to collect run-off water for irrigation purposes and as a source of water for spraying operations


Area A
Area B
Area C
Area D
Area E
Area F
Rt. 96
Pre-emption Rd.
Thruway
Rt. 14
Gates Rd.
Seneca Castle Rd.
Exp. Station
North St.
Rt. 5 & 20
To Syracuse
Rt. 96A to Ithaca
Rochester
Geneva
GENEVA
LEGEND
STATION FARMS AND APPROACHES TO GENEVA
Area A – Darrow Farm–Fruit Seedlings, vegetable irrigation tests, trueness-to-type seed testing, etc.
Area B – Fruit variety orchard, 1st test seedlings, plant introduction plots, vegetable breeding plots, etc.
Area C – Canning Crops Farm
Area D – Rootstock and Nursery Investigations
Area E – Vegetable breeding plots, vegetable disease tests, etc.
Area F – Original Station Farm–fruit varieties, plant introduction plots, trueness-to-type seed testing, pesticide test orchard, etc.

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