Frank Meyer, 
Agricultural Explorer

For 60 years the work of Frank N. Meyer has remained a neglected segment of America's heritage. Now, as people are becoming concerned about feeding the world's growing population and about the loss of genetic diversity of crops, Meyer's accomplishments have a special relevance. Entering China in 1905, near the dawn of the single era when explorers could travel freely there, he became the first plant hunter to represent a government and to search primarily for economically useful plants rather than ornamentals. No one before him had spent 10 years crossing the mountains, deserts, farms, and forests of Asia in search of fruits, nuts, vegetables, grains, and fodder crops; no one has done so since.

During four plant-hunting expeditions to China and Central Asia, Meyer enriched America's agricultural and horticultural resources, made important botanical discoveries, and improved the economy of his adopted country. As he fulfilled his promise to "skim the earth in search of things good for man," no hardship or danger deterred him. He sent the United States Department of Agriculture hundreds of shipments of live cuttings and thousands of packages of seeds, which resulted in more than 2,500 plant introductions. Though he published little, the 2,500 pages of his letters tell of his journeys and the plants he collected, and the USDA Inventory of Seeds and Plants Imported contains descriptions of his introductions.

Until recently little was known about the first 25 years of Meyer's life, when he lived in Amsterdam and was called Frans Meijer. Dutch sources reveal that he was born into a loving family in 1875. Frans was a quiet boy, who enjoyed taking long walks, reading about distant lands, and working in his family's small garden. By the time he had finished elementary school, he knew that he wanted to be a world traveler who studied plants; however, his parents could not afford to give him further education. When he was 14 years old, he found work as a gardener's helper at the Amsterdam Botanical Garden.

During the next eight years, Frans progressed to gardener and then head gardener in charge of the experimental garden. Hugo de Vries, director of the experimental garden, observed that Frans was intelligent, industrious, and dependable and trained him to be his assistant. He taught the boy French and English and allowed him to attend lectures on botany and plant propagation. In his leisure Frans studied languages, mathematics, and science and collected herbarium specimens of the plants of the Netherlands. When he was 20, de Vries arranged for him to study for six months at the University of Groningen.

Though he continued to work at the 

Isabel Shipley Cunningham

Isabel Cunningham's biography of Frank Meyer, entitled Frank Meyer: Plant Hunter in Asia, was published in June of this year by Iowa State University Press.
Amsterdam Botanical Garden for two years thereafter, Frans felt faraway places beckoning until his desire to see the world became too strong to resist. For several months he wandered across Europe, using maps and a compass as guides. Once he almost lost his life in a blizzard when he crossed the Alps in an area where there were no roads. In 1900 he set out for England to earn money for his passage to America. A year later, in October 1901, he arrived in the United States.

When Meyer reached Washington, he presented a letter of introduction from Hugo de Vries to Dr. Erwin F. Smith, a bacteriologist at the department of agriculture, and found work in the USDA greenhouses on the Mall. For a year he was content in new surroundings. Then his desire to see what lay beyond the horizon led him to work as a gardener in southern California. There he continued to long for "farther off and unseen places."

After 18 months he left California to study the flora of Mexico. He walked 1,000 miles, discovering new fruits and flowers every day, and felt that he was learning more about plants than books could have taught him in 10 years.

After returning to the United States in July 1904, Meyer found employment at the Missouri Botanical Garden, where he initiated the preparation of a list of seeds for exchange with botanical gardens in other countries. He planned to leave St. Louis as soon as he had saved enough money to explore the Andes; however, his destiny was to lead him in another direction. David Fairchild, head of the Foreign Plant Introduction Section of the USDA, for several years had been searching for an explorer to send to China. When he heard of Meyer's willingness to walk great distances and his passion for plants, Fairchild offered him this assignment and Meyer eagerly accepted. To train him for his work, Fairchild sent him on a 10-day trip to the New York Botanical Garden and the Arnold Arboretum. After examining Augustine Henry's herbarium specimens in New York, Meyer studied the tremendous collections at the Arnold Arboretum and received the advice of the director, Charles Sprague Sargent. Two days later he began his journey to China.

**The First Expedition**

Soon after Meyer reached Peking (Beijing) in September 1905, he hired a guide, cart, driver, and donkeys and set out into the mountains on a 10-day trip. A sweet, seedless persimmon four inches in diameter was his first major discovery. "As soon as the leaves are off," he promised Fairchild, "I'll go back to those trees and will try to send you a thousand scions." Sargent later predicted that this persimmon would add $100,000 to the American economy. In late autumn Meyer divided his collection of grape, apricot, and catalpa cuttings, pear, persimmon, and elm scions, and *Ginkgo biloba* and *Pinus bungeana* (white-barked pine) seeds. Then he mailed bundles to the USDA and the Arnold Arboretum. He never trusted anyone else to pack his cuttings and scions, for only he could judge just how much water he must wring out of the dampened sphagnum moss before wrapping each package first in oiled paper and then in burlap, which he stitched at the seams. If the moss were too wet or too dry, the material would not survive the long journey to America.

Meyer eagerly complied with the USDA policy of collecting ornamentals "when encountered." In January, when ice a foot thick
formed on the canals, he returned to the Western Hills, where he had observed remnants of original vegetation around ancient temples. There he collected cuttings of the Chinese pistachio (*Pistacia chinensis*), a horse chestnut (*Aesculus chinensis*), a catalpa (*Catalpa bungei*), and a cultivar of the Peking willow (*Salix matsudana* 'Umbraculifera'). None of these trees was new to botanists, but all were virtually unknown in America. In the mountains he also found a columnar juniper (*Juniperus chinensis* 'Columnaris'), wild peach trees (*Prunus davidiana*) for use as a rootstock, the famous Peking pear (*Pyrus pyrifolia* var. *culta*), a promising maple (*Acer truncatum*), and a semidouble rose (*Rosa xanthina*) "to be shared with Professor Sargent." Sargent later wrote that this rose had been known to botanists only through Chinese paintings until Frank Meyer sent it to America.

The letters Meyer wrote during his first six months in China reflect a kaleidoscope of impressions and emotions: the miserable nights spent on brick beds in filthy inns, where he battled bedbugs, centipedes, lice, and scorpions; his joy when he "felt at peace with the whole creation" as he collected seeds of crimson oaks and flaming maples in the Ming Tombs Valley; the shock of awakening one night in Mongolia to find an assassin's knife a few inches from his throat;
his pleasure while watching his Chinese
guide making his own herbarium collection;
the frustration of lacking time to learn Man-
darin and the many dialects of the Chinese
language; and his pride in finding useful
plants to send to his adopted country. He
admired the Chinese people: "China is going
to come to the front, for the people are a
solid kind of men and they possess many
sterling virtues. In agriculture, they are ex-
erts."

When authorities approved his plan to fol-
low the Yalu and Tumer rivers to Siberia in
search of hardy plants, he left Peking in late
April for Newchwang (Yingkou) in Man-
churia. There he mailed the USDA a collec-
tion containing the first oil-bearing soybean
sent to the United States. He then set out
through wild mountainous country with
carts, mules, an intelligent guide, and a
coolie "of doubtful character." Though he
had no equipment for pressing or drying her-
barium material, he frequently paused to
gather specimens as he traveled. North of
Mukden (Shenyang) he found a drought-
resistant alfalfa, white peonies blooming in
ravines, and a wilt- and bright-resistant
spinach that was to save the threatened
American spinach-canning industry.

When Meyer crossed to the Korean side of
the Yalu at Antung (Dandong), he entered an
unexplored region. For weeks he and his
men followed narrow footpaths across
mountain ranges and waded icy streams. He
collected zoysia grass (Zoysia japonica) near
the Yalu, and in the mountains a pyramidal
cherry with bright green foliage, which
Alfred Rehder of the Arnold Arboretum
named Prunus meyeri. Farther north he and
his party passed through primeval forests
never before seen by Westerners. Though
they lived on boiled oats during the last two
weeks of the journey, they walked 20 to 35
miles every day. At last they reached Siberia.

From Vladivostok Meyer shipped his col-
lection of 220 kinds of seeds and cuttings, as
well as herbarium specimens, and then con-
tinued his journey north. At Nikolsk (Us-
suriysk, formerly Voroshilov) he arranged an
exchange of seeds of hardy plants with a
government forester; in the countryside
nearby he collected seeds of the Amur maple
(Acer ginnala), which bore an abundance of
rosy-red fruits.

He paused at Khabarowsk to mail his col-
lection of pears, plums, nuts, wheat, barley,
forage crops, and the Amur lilac (Syringa
amurensis). He also arranged seed exchanges
with the government agronomist and the
head forester of the Imperial Domains there.
At dusk he would watch the sun setting over
the ice fields of the Amur, silhouetting the
white birches against the dying purple of the
western sky. One evening as he returned to
his inn, three murderous ruffians attacked
him, but he drew his bowie knife and de-
fended himself so vigorously that they ran
away.

Meyer spent Christmas at Kwan Tientse
(Changchun) with a missionary who agreed
to collect seeds for the USDA in exchange
for seeds of hardy vegetables and flowers.
After leaving his host, he traveled south in
bitter cold but forgot the frigid air that froze
his beard to his scarf as he watched the rising
sun color the mountaintops rosy red. On
January 21 he arrived at Mukden and pre-
pared 20 large sacks of cereals and legumes
for shipping to the USDA. Then a telegram
ordering him to meet E. H. Wilson in Shan-
ghai before February 10 abruptly canceled
his plans to collect plants he had previously
spotted in Manchuria.

When Meyer reached Shanghai, he learned
that Wilson had promised to send the USDA economically useful plants from the upper Yangtze and that he himself was expected to collect botanical specimens for the Arnold Arboretum in the barren Wu Tai Shan. He made no attempt to appear content with the bargain Sargent and Fairchild had made. Letters from both explorers show that their initial meeting was a disaster. Unaware that Meyer believed his own work had been undervalued, Fairchild also had chosen this time to convey Sargent's criticism of the USDA's failure to collect herbarium specimens "of the botanical species of which you have sent us seeds." Earlier Sargent had insisted that Meyer's work include the collection of herbarium material, but Fairchild had told Meyer that the department "did not place that much importance on herbarium specimens." Meyer nevertheless had collected herbarium material on his journey north and had shipped two boxes of specimens from Vladivostok. The contents of these boxes were badly damaged in a typhoon. Frustrated by this loss, Meyer replied that Sargent's criticism "is somewhat comical. It is just as if the department people were disappointed when Professor Sargent did not collect plants of economic interest on his journeys."

In April Meyer mailed 14 packages to the

Frank Meyer and his collecting party at 4,000 feet near Ying Tau Ko, China.
USDA and set out with his interpreter and guide for the Wu Tai Shan. "There goes nothing above fresh air, a blue sky above one's head, and if some mountains or lakes can be added, then life is worth living. I love exploring better than anything else," he wrote Fairchild. After reaching the mountains in a snowstorm, he studied the sparse vegetation and took photographs of the barren landscape. He then traveled south to Taiyuan. There he found quantities of *Rosa xanthina*, which bloomed early and freely and withstood cold temperatures and long periods of drought. At this point his interpreter and guide refused to endure further hardships, forcing him to return to Peking.

Sargent later complained that Meyer should have remained in the Wu Tai Shan until more vegetation appeared; Meyer replied that he could not have done so "unless I was of a barnacle nature, which God help me, I never hope to become." The following February he returned to gather seeds, staying in a room so cold that ink froze on his pen. For five days he collected seeds of several spruces, a pine, and a larch that had not been recorded previously. He also found two willows, a lilac, a rose, rhubarb, hull-less oats, and a rare hull-less barley.

A Chinese cart loaded with boxes of seeds, mostly wild peach stones and chestnuts, leaving Frank Meyer's hotel enroute to America.
After a trip to sultry Chekiang (Zhejiang) Province, where he collected edible, ornamental, and timber bamboo (including one now called *Phyllostachys meyeri*), Meyer traveled to Tsingtao (Qingtao) and began a journey across Shantung (Shandong) Province. In the Lau Shan he found a rare dwarf sorghum and a previously unknown yellow-flowered catalpa. Later he collected the Shantung plum-cot, a single yellow rose (*Rosa xanthina* f. *spontanea*) that bloomed profusely in rocky soil, and epiphytic orchids that Fairchild forwarded to the Royal Botanic Gardens at Kew.

As he and his guide searched for the celebrated pound peach of Shantung, soldiers warned them of robbers nearby. Meyer’s party did encounter a band of outlaws the next day, but he held his pistol “glistening in their eyes” and saw the leader signal his men not to attack. The risks of the journey proved worthwhile near the village of Feicheng, where Meyer found the sweet and juicy peaches that sometimes weighed more than a pound. *Juniperus chinensis* and *Pinus bungeana* trees at least 1500 years old made this trip memorable. He also saw Chinese cabbages (*Brassica pekinensis*) weighing up to 40 pounds each, hawthorns (*Crataegus pinnatifida*) bred to produce fruit that made delicious preserves, a rare yellow-fruited hawthorn, and a dogwood loaded with dark green berries that the natives used as a source of oil for lamps. After four months he returned to Peking.

Meyer disliked the confining task of labeling, describing, and packing seeds and cuttings of the hundreds of plants he collected. To assist him in determining the correct Chinese names of the plants, he employed Chow-hai Ting, who continued to work with him during his later expeditions. While he labored indoors, he yearned for “the burning sun and the smell of the mountains.” Sargent criticized him for covering too much territory, but he argued that he must travel widely in order to find plants that would make America “wealthier and better.” He firmly believed that “any ordinary botanist” could stay in one place and collect specimens of shrubs and trees; identifying grains and fruits that might benefit humanity seemed to him infinitely more challenging.

To give his expedition “a fitting end,” Meyer planned a series of journeys. In November a trip north to Jehol (Chengde) yielded acorns of oaks that looked like chestnut trees (*Quercus variabilis*) and 73 bundles of fruits, nuts, forage crops, and hardy ornamentals. But he despaired as he watched farmers cutting down trees. “I see with sad eyes the last vestiges of a once grand vegetation,” he mourned. Late in January he worked in deep snow in the mountains beyond Peking, collecting the white-barked pine, a rare pyramidal white poplar (*Populus tomentosa*), persimmons, apricots, yellow plums, a free-flowering pink rose (*Rosa odorata*), and pods of a spiny locust (*Gleditsia heterophylla*). Since this tree seemed to be in a state of mutation, he asked Fairchild to send sets of pods to Sargent and to de Vries. He also assembled a large quantity of scions of the dry-land elm (*Ulmus pumila*), a dwarf lemon (*Citrus × meyeri*), a silver-blue juniper of dense habit (*Juniperus squamata* ‘Meyeri’), and a dwarf lilac (*Syringa meyeri*). Published accounts state incorrectly that Meyer found this lilac (PI 23032) in the Wu Tai Shan. He bought *Syringa meyeri* at Fengtai near Peking on March 31, 1908. He previously had collected *Syringa villosa* (PI 22675) in the Wu Tai Shan.
After transporting his collection to Shanghai in May 1908, Meyer supervised the packing of 20 tons of plant material, including 2 zelkovas, a Chinese holly, 18 lilacs, 4 viburnums, 2 spreas, a rhododendron, a daphne, 30 kinds of bamboo, and 4 lilies. Throughout the four-week voyage to America, he exposed his plants to sun and air whenever the weather was mild and cared for a pair of rare northern monkeys that he was bringing to the National Zoological Park.

During a year in the United States, Meyer visited many agricultural experiment stations, forming a list of their needs to guide him on his coming expedition to Central Asia. Long before the discovery of germplasm, he wrote, “In the future we will create unheard-of strains of fruits and shrubs and trees and flowering plants. All we need now is to build up collections so as to have the material at hand.” He eagerly returned to the Arnold Arboretum to study the extensive living collections and herbarium specimens there. When Sargent reprimanded him for his failure to collect a large number of the latter, Meyer responded that the USDA had sent him to China to collect plants of economic value; privately, he told Fairchild that he agreed with Sargent about the need for authentic material in herbariums. In response to Sargent’s request for specimens of all the arboreal species that he might find in the future, he asked the USDA to authorize him to fulfill that request.

Meyer spent most of the spring and summer of 1909 “cooped up in that little office in hot and humid Washington.” He sorted his hundreds of negatives and photographs and studied the 1,664 inventory cards that had accompanied his introductions. Of these, 1,297 had survived, and over 50 percent of the 497 varieties that he had sent as scions or plants were growing in America. He also completed his bulletin, *Agricultural Exploration in the Fruit and Nut Orchards of China*, before he received his appropriation and set out on a three-year journey to Central Asia.

**The Second Expedition**

Aware that he had begun his first trip to China without adequate preparation, Meyer prepared for his second by visiting European nurseries and botanical gardens. In England he spent a week studying the “wonderfully rich” herbarium at the Royal Botanic Garden. “If I had known that Kew is after all rather poor in northern Chinese material . . . I most certainly would have collected more,” he wrote Fairchild. “It really hurts me now to find out how much more useful I could have been to mankind.” He was im-
pressed by the Chinese plant introductions that E. H. Wilson "kindly pointed out" at Veitch and Sons and at Kew. As he studied collections at the Jardin des Plantes and Vilmorin Nurseries in France and "other centers of accumulated knowledge" in Belgium, Germany, and Russia, he arranged plant and seed exchanges for the USDA.

When his itinerary took him to Antwerp, he acted as host to members of his family, whom he had been longing to see. "We are a crowd of eight people," he wrote Fairchild. "I am, of course, the most popular member, and they want me to talk for hours and hours about all my experiences." Four days together were not enough. He took his entire family with him for three additional days when he traveled to Brussels. Then he moved on to botanical gardens in Germany and Russia.

After a series of frustrating delays in St. Petersburg (Leningrad), Meyer received the necessary permits and journeyed to the Crimea. On a rocky cliff there he found the common privet (Ligustrum vulgare), which proved to withstand cold winters and drought in the upper midwestern United States. In addition to roots and seeds, he mailed to the USDA olive cuttings, herbarium specimens, to be divided with the Arnold Arboretum; and algae and fungi, for the New York Botanical Garden. Then, accompanied by an assistant and an interpreter, he boarded a steamer and crossed the Black Sea.

Meyer assembled a large collection and arranged several seed exchanges during four months in the Caucasus. An early shipment contained seeds of apples, cherries, almonds, and an evergreen hawthorn (Crataegus meyeri); several kinds of wheat; soil samples; and herbarium specimens to be "shared liberally with Professor Sargent." From his base at Tiflis (Tbilisi), he explored not only Georgia but also Azerbaidzhan and Armenia, sending the USDA grapes, plums, apricots, black barley, coffee made from soybeans, a new peony, and cuttings of the Paradise apple (Malus pumila var. paradisiaca) from its native habitat. In late April he and his interpreter left Tiflis on foot for the northern Caucasus. Despite snowstorms in the mountains, Meyer collected alfalfa, clover, and herbarium specimens of other plants. When he reached Baku, he sent the USDA fruit, grain, legumes, and alfalfa, as well as fossils and ancient pottery for the Smithsonian Institution. On May 30, 1910, he crossed the Caspian Sea to Russian Turkestan.

Vegetation in Russian Turkestan lacked variety, and the police there harassed Meyer continually. Nevertheless, before venturing into the Hissar Mountains south of Samarkand, he found the drought-resistant

A crowded street on market day in Tching to Tchun, Shensi, September 1914.
Kashgar elm (Ulmus carpinifolia var. umbraculifera) for settlers in the arid south-western United States. No roads existed in the steep mountains and food was scarce; however, he collected the Siberian bush cherry (Prunus prostrata) and herbarium specimens of pistachio, almond, maple, and juniper. After stopping at cholera-infested Tashkent, where he hired a German interpreter of Russian, Meyer and his small party plodded across the desert through ankle-deep sand with 1,200 pounds of baggage.

When they reached Chinese Turkestan (Xinjiang Autonomous Region), Chow-hai Ting joined the party. From Kashgar (Kashi) they traveled to Yarkand (Shache) and continued south across “dreary expanses of sand and grit,” relieved occasionally by oases sheltered by Russian olive shrubs (Elaeagnus angustifolia). Near Khotan (Hotan) Meyer collected a drought-resistant ash (Fraxinus potamophila), which later proved to be use-
ful in Nevada, and two wheat cultivars (Triticum aestivum ‘Ak-Mecca Boogdai’ and T. aestivum ‘Kizil Boogdai’) that are still maintained in the USDA germplasm collection at Beltsville, Maryland. Returning to Kashgar on trails used only by natives, he and his men climbed barren mountains where food was scarce and then trudged across snow-covered deserts until they lost track of time. The tents of the fierce Kirghiz sometimes offered shelter from icy winds that froze their hot tea before they could drink it. On the mountainsides Meyer found a spruce species (Picea schrenkiana), several kinds of hardy wheat, hull-less barley, and alfalfa and cut scions of fruit trees, elms, willows, and rare poplars. He returned exhausted to Kashgar on January 1, 1911, after an absence of two months. There he packed and mailed seeds of peaches, nectarines, plums, and pomegranates; 11 varieties of sweet apricot kernels (Prunus armeniaca), pistachio nuts, and grains, as well as herbarium specimens of other plants.

Meyer and his party then set out across the desert to Aksu (Aqsu), where Chow-hai Ting took the main road east to China and the others followed a rough trail north. In a valley in the towering Tian Shan, Meyer collected two types of wheat (Triticum aestivum ‘Kara Boogdai’ and T. turgidum) that are stored in the USDA germplasm collection today. As his small party approached the Mussart Glacier, which formed a pass through the Tian Shan, they prepared for the awesome climb along shifting trails beside gaping chasms. They reached solid ground after six hours on moving ice and then scaled a steep ascent to 13,000 feet. Descending in deep snow at dusk, they camped in bitter cold. Though snow, rain, and hail fell during the next several days, Meyer “grubbed out” roots of climbing asparagus and a rare alfalfa (Medicago platycarpa), and cut scions of apples, apricots, and willows. From Kuldja (Guldja or Ining) he mailed 52 packages of roots and cuttings, including a hawthorn for the Arnold Arboretum. North of Kuldja he had difficulty finding a guide because he and his party were entering a “robber district.” Though robbers “prowling around” disturbed their rest on four nights, they continued north across an alkaline plain where only artemisia and tamarisk grew. Finally they arrived at Chuguchak (Qoqek or Dacheng) in Mongolia.

After pausing at Chuguchak, Meyer and his interpreter trekked through barren and monotonous country until they reached the Altai Mountains in Siberia. Siberian irises (Iris sibirica), globe flowers (Trollius asiaticus), and daphne (Daphne altaica) covered the slopes and perfumed the air. Among patches of snow in alpine meadows, Meyer noticed primroses, gentians, anemones, and dense masses of pansies, buttercups, and violets. Near Lake Markakol he and his companions were forced to balance on fir logs as they carried hundreds of pounds of baggage across a rushing mountain stream. Even on a limited diet of bread, wurst, and tea, he enjoyed climbing range after range of snow-capped mountains. Camping under a majestic pine near a swift and icy stream, he rejoiced because “fear and wrong disappear in such surroundings.” After descending at last to the lowlands, he and his interpreter reached Omsk on July 2, 1911, having walked about 1,000 miles from Kuldja. The journey along the border of Mongolia and Siberia had yielded extremely hardy apples, apricots, currants, and alfalfa, as well as two new pasture plants, Lathyrus pisiformis and Vicia megalotropis.
Mail from three continents awaited Meyer at Omsk, but a letter from Augustine Henry pleased him most. Dr. Henry, a former British consular official in China, had sent many herbarium specimens to the Royal Botanic Gardens at Kew. His letter complimented Meyer on his bulletin about fruit and nut culture in China. A USDA request for 500 pounds of seeds of wild *Medicago falcata* anchored Meyer in Siberia until fall. After his German interpreter of Russian returned to Tashkent, he traveled to Tomsk and spent 10 days studying herbarium material and conferring with professors at the university there. He then searched the area around Semipalatinsk where the yellow-flowered wild alfalfa grew in scattered locations. When he returned to Omsk, he mailed the USDA alfalfa, legumes, vetches, clovers, and two promising forage crops (*Astragalus* sp. and *Hedysarum* sp.), as well as conifer cones, samples of wheat, and herbarium specimens of other plants for Sargent.

Though he had intended to go on to China, news of the revolution there forced him to turn westward.

As Meyer traveled along the Volga, he visited agricultural stations, nurseries, and universities, collecting seeds and scions of hardy fruits and 15 cultivars of the variable *Medicago falcata*. He also arranged exchanges of seeds and wheat samples. In a ravine near Saratov, he found a creeping vine (*Coronilla varia*), from which propagators developed Emerald crown vetch, a groundcover that now controls soils erosion on the banks of interstate highways. Though he had developed typhus malaria, he spent two days at Koslov (Michurinsk) with Gregori Mijurin, called the Luther Burbank of Russia, and mailed the USDA scions of some of the hardiest cherries, apricots, plums, and quinces in existence. He also arranged seed exchanges at the Kharkov Botanical Garden, the Moscow Agricultural Institute, and the St. Petersburg Bureau of Applied Botany. When his illness became severe, he stayed indoors long enough to complete a 38-page report on wild alfalfa and to pack wheat, barley, flax, herbarium material, and cones of a hybrid pine for Sargent.

In March 1912, he left Russia and visited his family and Hugo de Vries in Holland before going to England. At Cambridge he conferred with Augustine Henry and conveyed an offer from Fairchild to Kingdon-Ward. He also studied rare ornamentals at Veitch and
Sons and the Royal Botanic Gardens, where officials asked permission to publish some of his photographs. His assignments completed, he crossed the Atlantic on the *Mauretania*, passing through dense low fog just one day behind the *Titanic*.

Confined to an office in Washington once more, Meyer wrote reports and identified his photographs. Though Fairchild often urged him to record his botanical observations, Meyer found formal composition uncongenial. He prepared to return to China after only six months in America. Before departing, he spent two weeks at the Arnold Arboretum, studying the herbarium collections, taking notes in the library, and conferring frequently with Sargent, Wilson, and Jackson Dawson, superintendent of plantings. They welcomed him cordially, and he enjoyed discussing plant exploration in the interior of China. Sargent suggested that he send all rare woody plants directly to the Arnold Arboretum; however, Meyer could promise only to label all rare arboreal plants to be forwarded to the Arboretum. The relationship between Wilson and Meyer had changed since their first meeting. Wilson took time to show Meyer his own collection of *Prunus* and the newly introduced Chinese plants at Farquhar's Nursery. From Boston Meyer traveled to New York, where he visited botanists at the New York Botanical Garden and shared his knowledge of unexplored northern Korea with Roy Chapman Andrews at the Museum of Natural History. Then he set out on a three-year expedition that would encircle the globe.

**The Third Expedition**

Meyer stopped briefly in England to consult William Purdom, the only Western collector except Potanin who had worked in Kansu (Gansu) Province in China. In January he crossed Russia and Siberia by train, stopping occasionally to visit potential USDA correspondents or to arrange seed collections and exchanges. Once in Peking he hired Chow-hai Ting as his interpreter and Johannis de Leuw, “a young Hollander,” as his assistant. He soon mailed seeds of Swiss stone pine (*Pinus cembra var. sibirica*), Japanese larch (*Larix leptolepis*), Japanese fir (*Abies firma*), Cryptomeria *japonica*, *Zelkova acuminata*, and the Hinoki cypress (*Chamaecyparis obtusa*). After a brief trip to Shantung and a severe attack of malarial fever, he packed and mailed seeds of fine local varieties of vegetables and scions of the seedless Chinese jujube (*Zizyphus jujuba*), the English walnut (*Juglans regia*), and the Chinese walnut (*Juglans cathayensis*) for Sargent.

Because the Office of Forest Pathology needed to know whether the chestnut blight (*Endothia parasitica*) that was killing American chestnut trees was of foreign origin, the USDA asked Meyer to look for the fungus in China. Meyer searched the mountains beyond Peking and soon mailed specimens of the fungus to America; however, he observed healed wounds on the Chinese chestnut trees (*Castanea mollissima*) and reported that they appeared resistant to blight. After pathologists had grown cultures that proved the American chestnut blight had come from the Orient, they told Meyer that he had accomplished the most important work done in plant pathology in 10 years. Meyer was amused and wrote Fairchild, “Haven’t you any more such problems to solve in China? They do not involve so much trouble as, for instance, bamboo culture or jujube problems.”
Meyer delayed his expedition to Kansu for months because bands of outlaws were terrorizing the inhabitants of the interior. While he waited for conditions to improve, he shipped the USDA grains, legumes, a dwarf cherry (Prunus humilis), 150,000 stones of the promising bush cherry (Prunus tomentosa), 20,000 persimmon (Diospyros kaki) seeds, 1,500 pounds of Prunus davidiana stones, 250 pounds of chestnuts (Castanea mollissima), entomological and pathological material, and a wooden case containing several sets of 500 labeled herbarium specimens. He also sent scions and cuttings including Viburnum farreri. Sargent later declared that such a handsome shrub had not been introduced into America for a long while.

Meyer, de Leuw, and Ting finally left Peking by train in mid-December. At the end of the railroad they began a challenging journey across Shensi (Shaanxi) Province. In the rugged Ta hua Shan, where trails were too steep even for donkeys, Ting fell and sustained an injury. When they reached Sian (Xi’an), a doctor informed Ting that he could not con-
continue the journey to Kansu. While he rested, Meyer spent several weeks in the countryside near Sian. There he found heavenly bamboo (*Nandina domestica*), jasmine (*Jasminum nudiflorum*), the pagoda tree (*Sophora japonica*), the Chinese honey locust (*Gleditsia sinensis*), and the princess tree (*Paulownia fortunei*). He collected nine named persimmons, four named jujubes, chestnuts that appeared unusually resistant to blight, and a slow-growing privet (*Ligustrum quihoui*) bearing masses of black berries. In the southern United States this handsome privet now produces panicles of creamy white flowers and remains evergreen all winter. Meyer, de Leuw, and Ting left Sian on February 1 and crossed Shansi (Shanxi) and Honan (Henan) provinces, despite wind, sleet, and snow. Moving on to Shantung, Meyer collected scions of pears, apples, peaches, haw, quinces, and jujubes; 12 tree peonies (*Paeonia suffruticosa*) and 5 herbaceous peonies (*P. lactiflora*); and root cuttings of *Paulownia for-
tunet, Albizia chinensis, and Populus tomentosa. Then he and his men boarded a train for Peking.

Though he intended to explore Kansu, the difficulty of replacing Ting and the activities of a murderous band of outlaws called White Wolves delayed Meyer's departure. While he searched for an interpreter, he mailed the USDA 15 cases of seeds of the bush cherry, rooted rice plants, roasted soybeans, vegetables, and ornamentals. In desperation, he finally employed an interpreter who lacked experience in the field. Accompanied by de Leuw, Chi-nian Tien (the interpreter), and a coolie, he left Peking with 30 bulky pieces of baggage.

As they crossed the mountains of Honan and Shansi provinces, high temperatures and heavy rainfall spoiled their food and made drying specimens nearly impossible. Meyer nevertheless continued his journey with relays of pack animals, despite a band of outlaws nearby and several attacks of "this accursed fever." East of Pingyang (Linfen) he noticed a small green peach the size of a marble and recognized it as the original wild peach (Prunus davidiana var. potanii). He found it repeatedly as he traversed Shansi, Shensi, Kansu, and the Tibetan borderland. Potanin had collected herbarium specimens of this peach in Kansu, but Meyer sent the USDA dried fruits, samples of the wood, scions, and 700 peach stones. Tired, dirty, and hungry, he and his men reached Sian on August 19, 1914, only to hear upsetting news of the outbreak of war in Europe. Despite official warnings that the roads ahead were unsafe, they continued their journey.

Between Sian and southwestern Kansu (Gansu) Meyer and his party climbed steep and slippery mountain trails and shared shelters with their mules or slept among idols in ancient temples. As they traveled, Meyer collected a large amount of herbarium material and dried it over charcoal fires. Though botanists then believed that Pinus bungeana grew only in Hupeh (Hubei) Province, Meyer found it in Shansi, Shensi, and Kansu as well. Approaching the Tibetan borderland, Chi-nian Tien and the coolie refused to continue the journey because they feared certain death at the hands of the Tibetans. When Meyer reached Siku (Zhugqu), he had spent three days trying to persuade Tien to abide by his contract.

By coincidence, a British plant-hunting expedition led by Reginald Farrer and his assistant, William Purdom, happened to be in the remote town of Siku at this time. Farrer, who had been sending the Gardeners' Chronicle a series of articles describing his "state of perfect isolation," heard of Meyer's arrival "in a tempest of surprise, by no means wholly pleasurable." Farrer and Purdom called on Meyer and then left Siku for several days. While they were gone, Meyer experienced "great difficulty with the interpreter and coolie. They left the inn and hid themselves." Farrer also described these events, although they took place in his absence: "Words flew until the interpreter descended the stairs with more precipitation than he would have chosen, followed by the coolie." He then added that Meyer's conduct so antagonized the townspeople in Siku that his life was in danger there. Though Farrer avoided saying that Meyer shoved Tien, recent versions based on Farrer's account state that Meyer threw Tien and the coolie down a flight of stairs.

When Meyer returned Farrer's visit, he explained that he had asked the magistrate to enforce Tien's contract. Since Farrer spoke Chinese, he accompanied Meyer to a hearing
and helped to present his claims. “Had it not been for our presence indeed,” Farrer wrote, “it is not easy to imagine how the American party could have extricated themselves from the present predicament.” Farrer wrote that he assisted Mr. Meyer and “[sent] him on his way rejoicing.” Actually, Meyer did not go on his way. Farrer and Purdom left for winter quarters, but Meyer used Siku as a base for two weeks. He first journeyed to the mountains south of Siku and across the Siku River into what was then Tibet (Xizang). After he had found the bush almond (*Prunus tangutica*), Potanin’s peach, and other fruits, he returned to Siku. Then he followed the Siku River west, collecting scions of fruit trees and a hazelnut (*Corylus tibetica*) at altitudes up to 10,000 feet. Returning to Siku once more, he dried his herbarium material and negotiated with muleteers for the journey north to Lanchow (Lanzhou).

On November 19, 1914, Meyer and de Leuw began a challenging trip over snow-covered mountains without an interpreter or a guide. They crossed four mountain passes at elevations above 11,000 feet in a single day. Magnificent spruce trees 150 feet tall, splendid red-barked birches nearly 100 feet high, and groves of *Sinorundinaria nitida* (a type of bamboo) repaid Meyer for the hardships he endured. At Taochow (Lintan) American missionaries received him cordially and agreed to ship the USDA seeds of barley, oats, flax, and spring wheat in return for winter wheat, vegetable seeds, and flower seeds. He and de Leuw and their muleteers then climbed a chain of high mountains. Food was scarce and the White Wolves had left the few inns along their route in ruins. Nevertheless, Meyer enjoyed the rugged scenery and collected nuts, scions of fruit trees, herbarium specimens, and *Daphne tangutica*, “a first-class decorative.” When he and de Leuw reached Lanchow, they had walked a thousand miles from Sian. Able to relax at last, Meyer spent the night reading 120 letters that awaited him.

During his stay in Lanchow, Meyer was disturbed by news of the war in Europe and by his failure to find an interpreter. Unsanitary conditions there also troubled him. All water used in the city came from the Yellow River (Huang He) in wooden buckets, and,
"horrible to say, in these same buckets, all
the waste water [was] carried to the river and
thrown out." Despite these problems, Meyer set
a record by successfully shipping live plant
material from Lanchow to Washington.
After a prolonged search, he abandoned
hope of finding an interpreter to accompany
him as he returned to Peking. He and de
Leuw therefore prepared to make the
difficult and dangerous journey alone.

Early in January 1915, Meyer and de Leuw
left Lanchow with two muleteers, three
mules, and a cart containing rare herbarium
specimens. Setting out at daybreak each
morning, they climbed windswept moun-
tains and endured dust storms and bitter
cold. When they reached the Kansu border,
they encountered soldiers who suspected
Meyer and de Leuw of carrying contraband
poppy seeds and forced them to stand against

Floating rafts of bamboo poles, *Cryptomeria
japonica* and *Cunninghamia lanceolata.*
a wall in preparation for immediate execu-
tion. Fortunately the soldiers changed their
minds and escorted the two men to a nearby
town for consultation with a superior
officer. After a customs inspector in the
town examined their baggage, he released
them. For several weeks they trekked
through Shensi (Shaanxi) and into Honan
(Henan), crossing deep ravines and climbing
steep mountain trails, despite fierce dust
storms, icy winds, sleet, and snow. They
finally reached the railroad, having walked
40 miles in 15 hours that day. When they
arrived at Peking, they heard further news of
the war in Europe and of Japanese aggression
in China. "A dark cloud hangs over all hu-
manity," Meyer wrote Fairchild. "If only we
are not at the threshold of another dark age."
Despite his concern, he labeled and packed a
collection that included grains, alfalfas, soy-
beans, fruits, nuts, ornamental trees and
shrubs, lichens and mosses, and cones for
Sargent. Before leaving Peking for Chekiang
(Zhejiang) Province, he tried to fill Fair-
child's requests for seeds: 50 pounds of
*Prunus davidiana*, a bushel of *Pistacia
chinensis*, several bushels of *Pinus
bungeana*, 75 pounds of *Ulmus pumila*, and
a 1,000 pounds of *Zizyphus jujuba*. He also
received a plea from the USDA: "We have
been carrying out your suggestion and send-
ing Professor Sargent one-fourth to one-half
of all the seeds you are sending. Couldn't we
propagate first and then share?"

Meyer and de Leuw traveled south in May
1915, stopping at Nanking (Nanjing) to ar-
range a shipment of seeds of the Chinese elm
(*Ulmus parvifolia*) and *Albizia chinensis.*
They reached Hangchow (Hangzhou) during
the rainy season, but Meyer forgot the sultry
weather when he saw hickory nuts in the
markets. Knowing that the hickory never had been reported in China, Meyer questioned missionaries and learned that the nuts probably came from Yuhang (Linping) in the Pan Shan, south of Hangchow. At Yuhang he found that he must travel west several days. At last he discovered groves of hickories (Carya cathayensis) in sheltered valleys in the mountains and also observed Ginkgo biloba growing semiwild. Sargent later wrote Meyer that finding the hickory was by far his most interesting accomplishment from a botanical point of view. After parting from de Leuw at Shanghai, Meyer went to Japan. There he found the chestnut blight unrecognized but well established. His assignments completed, he left Japan for the United States.

At the USDA’s plant introduction station, in Chico, California, Meyer inspected his thriving Tangsi cherries, jujubes, dwarf lemons, almonds from Turkestan, Chinese chestnuts, olives from Central Asia, and tung-tree seedlings. Best of all, he saw orchards of fruit trees growing on his Prunus davidiana stock in alkaline soil that had previously been considered useless, even for alfalfa. In contrast, the news of the loss of his shipment from China in a cyclone at Galveston was difficult to accept. He hoped that the rare herbarium specimens that he had collected in the interior of China might be salvaged, but all were lost.

Once more Meyer devoted much of his time in America to paperwork. He also visited agricultural experiment stations, gave lectures, and wrote the article “China, A Fruitful Field for Plant Exploration.” In March he spent pleasant days with E. H. Wilson, Camillo Schneider, and Jackson Dawson at the Arnold Arboretum. Late in May he attended Wilson’s lecture at the New York Botanical Garden before moving on to Boston. He stayed there three weeks, conferring frequently with Sargent and Wilson about his next expedition. He also enjoyed discussing plant propagation with Jackson Dawson and visiting him and his family. Before returning to China, he visited experiment stations in western states.

The Fourth Expedition

In Oregon Meyer studied the fire blight (Bacillus amylovorus) that was destroying American pear orchards. F. C. Reimer of the Southern Oregon Experiment Station, who had tested all available varieties of pears, told him that only the wild pears he had sent from China (the Chinese sand pear, Pyrus ussuriensis, and P. calleryana) resisted fire blight. He therefore planned to collect great quantities of wild pear seeds for use in developing a congenial immune stock for pears.

Three weeks after Meyer reached China, he and Chow-hai Ting set out to collect the Chinese sand pear in the Shingling Shan, northeast of Peking. Published accounts have confused this pear (Pyrus ussuriensis) with the Peking pear (Pyrus pyrifolia var. culta), which Meyer collected in the same region 10 years earlier. Thereafter he sent to the USDA not only seeds and roots of the wild pear but also a spruce (Picea meyeri), the Manchurian walnut (Juglans mandshurica), 15 cases of stones of Prunus davidiana, several hundred pounds of dried Zizyphus jujuba, 75 pounds of Juniperus chmensis berries, seeds of the huge Brassica pekinensis, lichens and fungi for the New York Bo-
tanical Garden, and acorns for Sargent. As he left for the Yangtze Valley, he admitted to Fairchild that he did not feel quite well, blaming "this never-ending, horrible war" for "making me feel like a ship adrift."

Meyer and Chow-hai Ting traveled up the Yangtze River (Chang Jiang) to Ichang (Yichang). "I am now on Terra Sancta," he wrote Fairchild. "Mr. Wilson and Dr. Henry had Ichang for headquarters for many years. I feel like a Christian in Palestine or a Mohammedan in Mecca." He soon began an extensive search for the Callery pear (Pyrus calleryana) and found the trees widely scattered on sterile slopes, sunny ledges, and in standing water in low areas. When he returned to Ichang, he was pleased to learn that the USDA had distributed 17,234 of his Ulmus pumila to settlers on the northern plains.

In a letter written during his stay in Ichang, Meyer said that America's entry into World War I caused him to feel so depressed that he could not eat or sleep. His doctor warned him that continued overwork, loneliness, and worry about the war, especially in the debilitating climate of the Yangtze Valley, could cause further attacks of "nervous prostration."

A few weeks later Meyer and Chow-hai Ting went to Hankow (Hangou), where Meyer looked forward to a visit from Liberty Hyde Bailey. "At last I will again meet somebody who is my superior in knowledge of plants," he commented. When Bailey arrived, he and Meyer visited markets and gardens and enjoyed "solid talks." In June Bailey returned to confer with Meyer for several more days. Meyer stayed in hot and humid Hankow throughout the summer, but Chow-hai Ting returned to the cooler climate of Peking in July. Before leaving Hankow, without any competent assistance, Meyer shipped the USDA a 260-pound crate containing citrus specimens, nuts, early rice, late soybeans, soil for nematode analysis, cones for Sargent, and entomological and pathological specimens.

After a 16-day journey through the mountains of Hupeh (Hubei), Meyer settled at Kingmen (Jingmen) where he had observed the greatest concentration of Pyrus calleryana. His frustration mounted as weeks passed, for the pears were ripening very slowly. He was forced to wait in order to extract the seeds and was unable to collect in the mountains north of Ichang as he had planned. By mid-October, he had accumulated 5,000 pounds of pears the size of marbles. Eventually he and his helpers cleaned and dried about 100 pounds of seeds. In addition, he harvested a large quantity of seeds of Pistacia chinensis and Eremochloa ophiuroides, afterward named centipede grass.

His solitude ended when F. C. Reimer arrived to study the wild pears in their native habitat. Meyer shared with Reimer "unreservedly" the information he had gleaned and showed him "special trees that it tooks weeks to spot." They then spent five days exploring the Chikang Shan west of Ichang. After Reimer departed, Meyer began a 17-day trip north of the Yangtze that took him almost to the border of Szechwan (Sichuan) Province. Along the way he found Ginkgo biloba growing "undoubtedly wild" for the first time. He also collected the Ichang lemon (Citrus ichangensis) and the kiwifruit (Actinidia chinensis) before returning to Ichang by rowboat. Though civil war had spread to Hupeh, he nevertheless explored for another week south of the Yangtze.
When Meyer reached Ichang again, he was trapped there by government and revolutionary troops that were fighting in the surrounding countryside. He filled the winter days by helping Westerners with their horticultural problems, arranging his herbarium specimens, and serving with other foreign residents on a defense committee. Despite rifle fire a mile from the city and stories of looting and atrocities, he occasionally took long walks in the country. All commerce stopped and food became scarce. In March he wrote Fairchild that “fighting occurs almost hourly and everyone feels depressed from this long-drawn state of suspension.”

**Meyer’s Death**

Meyer and his guide, Yao-feng Ting, slipped through the battle lines on May 2 and walked 80 miles past looted and burned villages. Though soldiers occasionally stopped them, Meyer was able to reach Kingmen and reclaim his baggage and collection. Then he walked 60 miles to the Yangtze, where he found a boat bound for Hankow. He planned to go to Shanghai to mail his collection and then to move to the cooler coast of Shantung to label and mail his herbarium material; however, he delayed leaving Hankow because he had contracted a severe digestive disturbance. On June 1, 1918, he and Yao-feng Ting boarded a steamer for Shanghai. The next day Meyer talked at length to a British passenger and felt well enough to have dinner for the first time since his illness began. Just before midnight the cabin boy reported that he could not find Mr. Meyer. The captain ordered a search of the riverboat, but Frank Meyer was not on board.

As soon as the American consul at Shanghai heard of Meyer’s disappearance, he launched an investigation. Meyer’s body was recovered from the Yangtze and brought to Shanghai for burial in the Bubbling Well Cemetery. Horticulture reported that Meyer fell overboard and was drowned, while the American Nurseryman called his death “one of those mysteries of the white man in the Orient.” Sargent commented in a letter to Wilson, who was in Korea. “He may have committed suicide or some of the Chinamen may have thrown him overboard. This is certainly bad news, for he was getting to be a useful collector.”

People on three continents mourned the death of Meyer. The supervisor of parks in Shanghai wrote that he “undoubtedly knew more about the economic vegetation of China than any other man.” Liberty Hyde Bailey said, “I shall never cease to regret his untimely end, and I am more than ever glad that I had the two opportunities to be with him last summer, not only because I liked him personally, but also because he gave me so very many points of view and so much interesting information about China. . . . He was worthy of anything we can do to perpetuate his memory.” From the Chosen Hotel in Korea, Wilson wrote to Fairchild. “I am much distressed over the sad end of Meyer and also deeply puzzled. By his untimely death plant exploration has lost one of the most energetic and enthusiastic servants it ever had.” In a letter to Meyer’s father, Fairchild said that the thousands of plants that Meyer had introduced had been increased to hundreds of thousands by propagation and had been scattered throughout America; however, he deeply regretted that Meyer’s “remarkable fund” of knowledge had not been recorded and published.
Meyer's Contribution

Frank Meyer introduced plants that are still treasured because they are useful, beautiful, or new to botanical science. His efforts to find in remote regions "the rudimentary and long-forgotten parent stock or as yet unused wild plant that might be adapted to man's profit" furnished new germplasm for the development of improved varieties of fruits, nuts, grains, fodder crops, shrubs, and flowers. He opened the field of agricultural exploration in Asia. He also investigated methods of dry-land farming that the Chinese had perfected; developed the earliest USDA seed exchanges; established a group of USDA correspondents and missionary-collectors abroad; perfected techniques for shipping live material over great distances; and collected thousands of herbarium specimens. The National Arboretum in Washington holds a set of his documented specimens; other specimens are preserved at the Arnold Arboretum, the New York Botanical Garden, and elsewhere.

Drought-resistant trees and ornamentals previously unknown to botanists are among Meyer's significant introductions. His *Ulmus pumila* thrives from Canada to Texas and breaks the searing winds on formerly treeless prairies, while his *Pistacia chinensis* is used for street plantings in the Southwest. His new trees and shrubs include *Carya cathayensis*, *Citrus × meyeri*, *Crataegus meyeri*, *Juniperus chinensis* 'Columnaris', *Juniperus squamata' Meyeri*, *Picea meyeri*, *Prunus × meyeri*, and *Syringa meyeri*. He was the first to send to America *Ligustrum quihouei*, *L. vulgare*, and *Viburnum farreri*. No other plant hunter in modern times found *Ginkgo biloba* in the wild or sent living plant material of *Prunus davidiana* 'Potaninii' and *P. tangutica* to the Western world.

Ornamental plants that have Meyer's introductions as their source include all hardy yellow roses that grow in New England or the northern prairie states, greenhouse roses that had as grafting stock his *Rosa odorata*, lilies propagated from his scarlet Korean *Lilium* species, and ornamental trees bred from his hawthorn, bush almond, Feicheng peach, and Callery pear. An outstanding example is the 'Bradford' pear, which Dr. John L. Creech of the USDA developed and called a living memorial to Frank Meyer. Other cultivars from *Pyrus calleryana* are 'Aristocrat', 'Chanticleer', 'Whitehouse', and 'Capital'.

The USDA still holds many of Meyer's trees and shrubs, including *Acer buergerianum* (USDA Plant Introduction No. 19411), *Acer truncatum* (PI 18578), *Diospyros sinensis* (PI 23013), *Malus halliana* (PI 38231), *Myrica rubra* (PI 22905), *Syringa meyeri* (PI 23032), and *Viburnum macrocephalum* (PI 22978). The Glenn Dale Plant Introduction Station in Maryland maintains a 100-foot-long *Ligustrum quihouei* hedge (PI 38807), while *Juniperus chinensis* 'Columnaris' (PI 18577) forms handsome hedges at Glenn Dale and at the National Arboretum. *Rosa xanthina* (PI 21620) apparently now grows only at the Arnold Arboretum.

Among the fruits that Meyer collected, *Prunus davidiana* not only proved to be a good rootstock for peaches but also enabled orchardists to grow apricots and plums on dry, alkaline soil. In addition, it has been used to develop a leading rootstock that is resistant to nematodes. His Tangsi cherry (distributed as *Prunus pseudocerasus*) continues to be a factor in breeding early cher-
Persimmons grown commercially in America, despite their Japanese names, are a direct result of Meyer's work in China. His *Prunus calleryana* remains the rootstock most resistant to fire blight and pear decline. The Meyer lemon (*Citrus × meyeri*) is an important source of frozen lemon juice in Florida and is also grown commercially in Texas, South Africa, and New Zealand.

The contributions made to American agriculture by Meyer's grains, fodder and forage crops, grasses, and vegetables were largely unrecorded. The USDA Small Grains Collection at Beltsville, Maryland, holds 10 of Meyer's wheats, while the National Seed Storage Laboratory at Fort Collins, Colorado, stores one of his soybeans and two of his sorghums. His centipede grass is used as a lawn grass in the Gulf States. Though his celery-cabbage, bean sprouts, alfalfa sprouts, and bean curd failed to interest his contemporaries, his *Spinacia oleracea* collected in Manchuria is in the breeding lines of most multidisease-resistant cultivars of spinach grown in the United States today.

Meyer acknowledged the pioneering nature of his work when he wrote, "We are only cutting out a few steps in the mountain of knowledge and others have to mount by our steps." Though he collected 42 varieties of soybeans and contributed careful studies of soybean products, especially as a protein substitute, this represented only a beginning. He laid the groundwork for future accomplishment when he found blight-resistant chestnut trees in China and when he collected zoysia grass in Korea. Others went to Asia later to collect soybeans, chestnuts, zoysia, peaches, and pears, but Meyer first pinpointed their location and revealed their value. Meyer's introductions often entered the mainstream of American agriculture unrecognized when propagators used them as unrecorded breeding parents. Though it is impossible to identify each use of a specific introduction, what is significant is that all uses were made possible by his initiative and discrimination.

**Conclusion**

E.H.M. Cox, who accompanied Farrer on his second expedition, wrote, "It is unfortunate that much of Meyer's work has been forgotten in comparison to the more showy introductions of other collectors who specialized more in ornamentals than in economic plants . . . . To most gardeners he is not even a name, but he has done more toward helping the economic life of a country than most plant collectors and his name should be a household word among American farmers."

Despite physical hardships and an increas-
ing sense of isolation, Meyer pursued his goals courageously. He could have no more fitting epitaph than the words Fairchild wrote soon after his death: "Meyer's field work is done. Whether his body rests near the great river of China or under some of the trees he loved and brought to this country matters little to him. He will know that throughout his adopted land there will always be his plants, hundreds of them, in fields, in the backyards and orchards of little cottages, on street corners, and in the arboreta of wealthy lovers of plants. And wherever they are, they will all be his."

China remained fully open to foreign plant collectors for less than half a century, the Grand Age of plant exploration. Frank Meyer emerges from the shadows that have surrounded his life and work to take his rightful place beside E. H. Wilson, George Forrest, and Frank Kingdon-Ward, the giants of that memorable era.

References

Archives


Published Material

——. 1915. "Mr. Reginald Farrer’s Explorations in China." Gardeners’ Chronicle, 3rd ser., 58: 1