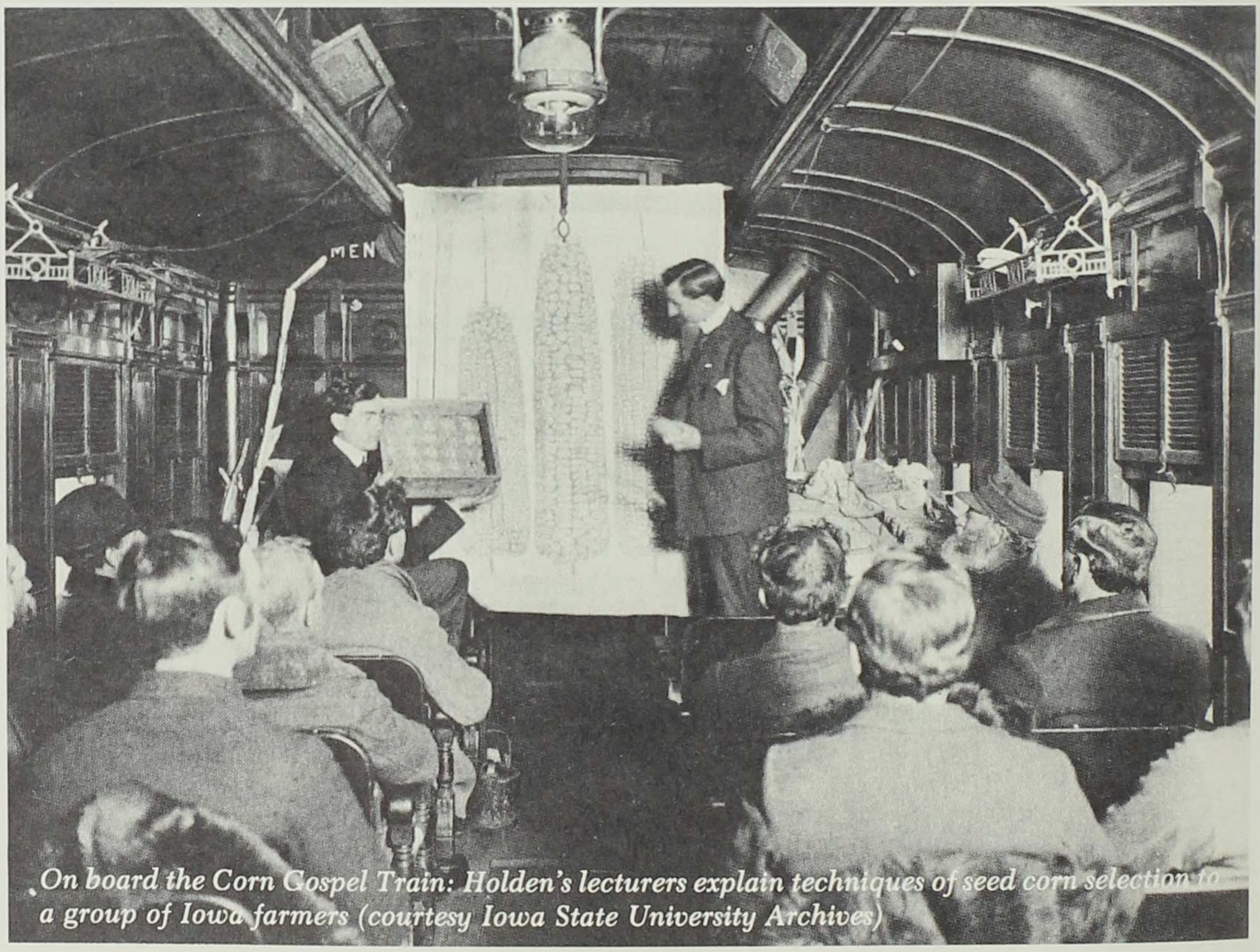


On board the Corn Gospel Train: Holden's lecturers explain techniques of seed corn selection to a group of Iowa farmers (courtesy Iowa State University Archives)

P. G. Holden and the Corn Gospel Trains

by Rosanne Sizer and William Silag

Like many young men of his day, P. G. Holden spent his summers working for neighboring farmers near his home in rural Michigan. There wasn't much science to agriculture then, at least as it was practiced on the typical family farm. Most farmers of the 1880s conducted their businesses as their fathers had, without much regard for the experimental work conducted at the nation's agricultural laboratories. By the time Holden reached his teens, he had witnessed a wide range of farming techniques, some good and some bad. What impressed him most, however, was his employers' apparent ignorance about corn. Here was the staple crop of the region, the basis of midwestern agricultural prosperity, yet most of the farmers Holden knew selected and stored their seed corn with a carelessness unmatched in any other area of farm work. At planting time, the typical farmer of Holden's acquaintance simply reached into the crib, pulled out several hundred good-looking

ears, and — willy-nilly — commenced the planting season.

Perry Greeley Holden became Professor of Agronomy at the University of Illinois in 1896, and for the next several years he conducted experiments in corn breeding, including tests of the effects of different soil treatments on various types of corn. In 1900, he left the laboratory to take a job as the head of field work for the Illinois Sugar Refining Company. Charged with improving growing practices among the company's sugar-beet suppliers, Holden developed the idea of the "short course," an intensive training session designed to help beet growers improve their yields. Turnouts were disappointing, but the short courses kept Holden out in the field, where he could meet and teach the practicing farmer.

While travelling for the sugar refining company, Holden met Eugene D. Funk, who had just inherited a large farm near Bloomington, Illinois. Never at a loss for a plan of action, Holden convinced Funk to organize his new farm as a corn-breeding laboratory and agreed to join him in the work. This collaboration produced the Funk Brothers Seed Corn Company, with P. G. Holden directing extension activities. Holden thus returned to corn culture, his first love, and now spent most of his time on the road describing the superiority of the Funk brothers' yellow dent corn to midwestern farmers.

Early in 1902, Holden visited Iowa to give a short course for the Funk company. In the audience was Iowa State College President W. M. Beardshear, who was so impressed with Holden's performance that he immediately offered him a faculty position. The visitor from Illinois parried a bit, for his few years in private industry had raised his income beyond the $2,000 Beardshear could promise. The college president was determined to have him, however, and with the help of "Uncle Henry" Wallace of *Wallaces' Farmer* and the Iowa Grain Dealers Association, Beardshear raised another $600 from private sources, enough to satisfy Holden's salary demands.

Beardshear, Wallace, and the others got more for their money than an itinerant lecturer. Agricultural education, Beardshear knew, needed individuals like Holden to bring the innovations of the college laboratory to the Iowa farmer. Holden had experience in both scientific research and practical applications, rare in a time before the county agent and the extension service. And Holden, despite his dashing style and showmanship, was not a huckster but a *bona fide* educator with a teaching philosophy that spoke directly to the condition of the Iowa farmer and to the role of the state college his taxes supported. "I had a strong feeling that every person who lives in the state is in reality a pupil or student of the college and that the college must see to it that every one receives some direct help from the college," Holden explained. There was, he continued, "only one way by which this could be done and that was by taking the college to the people. Go to the people, and help them where they are, as they are, under their own conditions with their own problems."

Holden took Ames and Iowa by storm. At the college, his courses in farm crops quickly became student favorites. Rarely had students encountered a teacher with such a convincing combination of scientific theory and practical information. His showmanship did him no harm either. As one student recalled, Holden was "a man who could stand in front of his audience and tell immediately whether he should say ten, a hundred, a thousand, or a million and make it sound like a hell of a lot." From the start he gave frequent lectures outside the classroom in addition to meeting his academic responsibilities. Away from Ames he faced a tougher audience, but in time he captured this one too. Henry A.

Wallace, grandson of Uncle Henry, knew Holden and summarized the professor's aims as follows: "first, arouse in farm folk a desire for improvement; second, test all seed corn ear by ear to make sure it will grow one hundred percent; third, get Reid yellow dent corn into the hands of as many farmers as possible and thus carry the message of better farming, better living, and better corn not merely to one hundred, one thousand, ten thousand, or even one hundred thousand farmers, but to all the farmers in the central Corn Belt."

In 1903, soon after his arrival in Ames, Holden travelled to Orange City to discuss seed selection and cultivation with an audience of farmers from northwestern Iowa. A few of his listeners disputed his claims, insisting that results produced at the Ames experiment station could not be duplicated in the state's northwestern counties. Holden took their doubts as a challenge, and quickly organized an experiment station on the Sioux County Farm near Orange City.

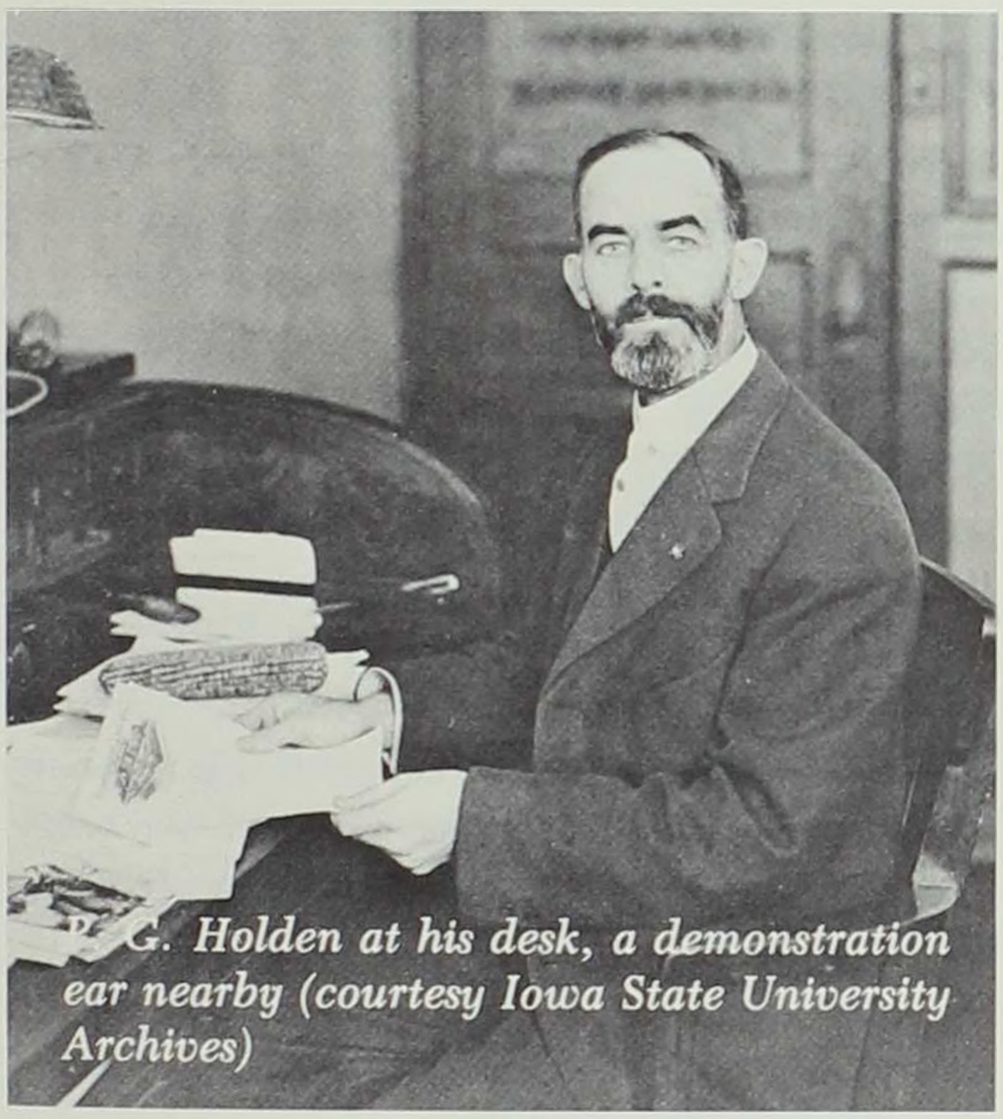
The Sioux County experimental plot was the first of the many demonstration farms and corn shows organized by Holden to teach improved cultivation methods to Iowa farmers. As always, Holden emphasized sound selection of seed corn and encouraged farmers to develop better strains of corn on their own. By way of example, he bought six hundred bushels of Reid's yellow dent corn from the Funk brothers and distributed the seed around the state. The results were excellent, though representatives of some Iowa seed companies and seed-producing counties decried the "Illinois import."

Buoyed by the success of the demonstration plots, Holden moved forward with a new plan to bring the college to the people of Iowa. In the winter of 1903-1904, he began consultations with railroad men, grain dealers, and his friend Henry Wallace to inaugurate a travelling exhibit that would bring the modern science of corn culture to the attention of the state's planters. Ever the showman, Holden dubbed his exhibit the "Seed Corn Gospel Train." It contained three coaches and a baggage car, fully equipped with lecture charts, displays, and a speaker's platform — all of this underwritten by the beneficence of the Rock Island Railroad, *Wallaces' Farmer*, the Iowa Grain Dealers Association, and the Central Iowa Grain Company.

On April 18, 1904, the first Corn Gospel Train began a three-day tour of northwestern Iowa, travelling on Rock Island tracks from Gowrie to Ruthven, then switching to Chicago, Milwaukee & St. Paul tracks in the direction of Estherville. The train made fifty stops in all, with good crowds at all of them. At some stops, the cars could not contain the crowds and windows had to be opened so that listeners forced to remain outside could hear the lectures. All told, three thousand people heard the gospel of seed corn according to P. G. Holden on the train's inaugural tour. The message was direct and to the point. Holden explained to farmers where to look for the best seed corn, how to test it, and various ways to secure a full stand of three stalks to the hill.

Note on Sources

This essay is based primarily on information contained in Everett G. Ritland, "The Educational Activities of P. G. Holden in Iowa" (M.S. thesis, Iowa State College of Agriculture and Mechanic Arts, 1941). To the authors' knowledge, Ritland's biography is the only scholarly study of Perry Greeley Holden and remains the principal source of information on the Corn Gospel Trains as well. Other sources consulted include: Jacob A. Swisher, "The Corn Gospel Trains," *Palimpsest*, 28 (November 1947), 321-333; Earle D. Ross, *Iowa Agriculture: An Historical Survey* (Iowa City, 1951); Richard Crabb, *The Hybrid-Corn Makers: Prophets of Plenty* (New Brunswick, New Jersey, 1947); and Henry A. Wallace and William L. Brown, *Corn and Its Early Fathers* (East Lansing, Michigan, 1956). Joseph Kastner, "The Conundrum of Corn," *American Heritage*, 31 (August/September 1980), is an excellent general introduction to the topic. The authors also wish to thank Toby Fishbein, archivist at the Iowa State University Library, for her help in obtaining photographs of P. G. Holden and the Corn Gospel Trains.



P. G. Holden at his desk, a demonstration ear nearby (courtesy Iowa State University Archives)

This short lecture was followed by a demonstration of a germination box. Taking six kernels of corn from each ear of seed corn — two from the butt, two from the tip, and two from the middle — Holden instructed farmers in the proper method of placing the seeds in the germination box. He concluded with a brief summary of standards for judging the quality of the seeds after germination. The corn that tested out best was the corn to plant. Lecturers aboard the train also provided specifications for testing equipment and left the farmer with very clear directions for beginning scientific testing of his own seed corn.

Subsequent excursions expanded the scope of Holden's gospel trains to include such topics as crop rotation, manure handling, and hog raising, but seed corn remained the principal concern. For three years, from 1904 through 1906, the trains careered the state, eventually traveling eleven thousand miles in ninety-seven of the state's ninety-nine counties. Holden and his assistants spent a total of sixty-seven days on board, gave more than a thousand lectures, and distributed twenty-seven thousand technical bulletins. An estimated 145,700 people heard them speak. Through it all, Holden retained the ebullient charm that had first attracted Beardshear and Wallace. Iowa State College trustee J. B. Hungerford later recalled that "Holden's work showed him to be a live wire, a man of pep. More of the lecturer than the scientist, he had the faculty of imparting enthusiasm to his hearers and enlisted their interest like a true crusader." Everett J. Ritland, Holden's biographer, explained Holden's success as that of a man who "taught the simple things and taught them convincingly." Meeting the farmer in his own community, Holden "resorted to the farmer's vernacular to be effective."

Of course, not everyone in Iowa was taken by Holden's showmanship. The people of Page County, home of prominent seed corn growers Henry Field and Carl Armstrong, were particularly reluctant to embrace the new gospel of corn, since it seemed to favor Funk's yellow dent, an Illinois product, over the varieties produced locally. Iowa newspapers exaggerated the problem here by exploiting what they termed a rift between Holden and Field. Prior to the Corn Gospel Train's arrival in Field's hometown of Shenandoah in the spring of 1904, the Shenandoah *Sentinel* reported that "people hereabouts were mad. They had reason to be," since it looked like Holden was using his position as department head at the State College to advance Funk's corn at the expense of Henry Field's corn. Des Moines papers quoted Holden — incorrectly, to be sure — as saying that he was coming to Shenandoah "to beard the lion in his den," and repeated false rumors that Holden was "armed and prepared for trouble."

P. G. Holden hardly needed a gun to have his way with an audience, and the crowd that heard him in Shenandoah in May 1904 proved to be no exception. Somewhat apologetically, the *Sentinel* admitted afterward

that Holden "had come as a friend" and showed himself to be "a courteous gentleman . . . so absorbed in the corn question that he had no time to quarrel." The paper regretted that more people had not come down to the train to listen to Holden's talk, which contained information "of interest and importance to every corn grower."

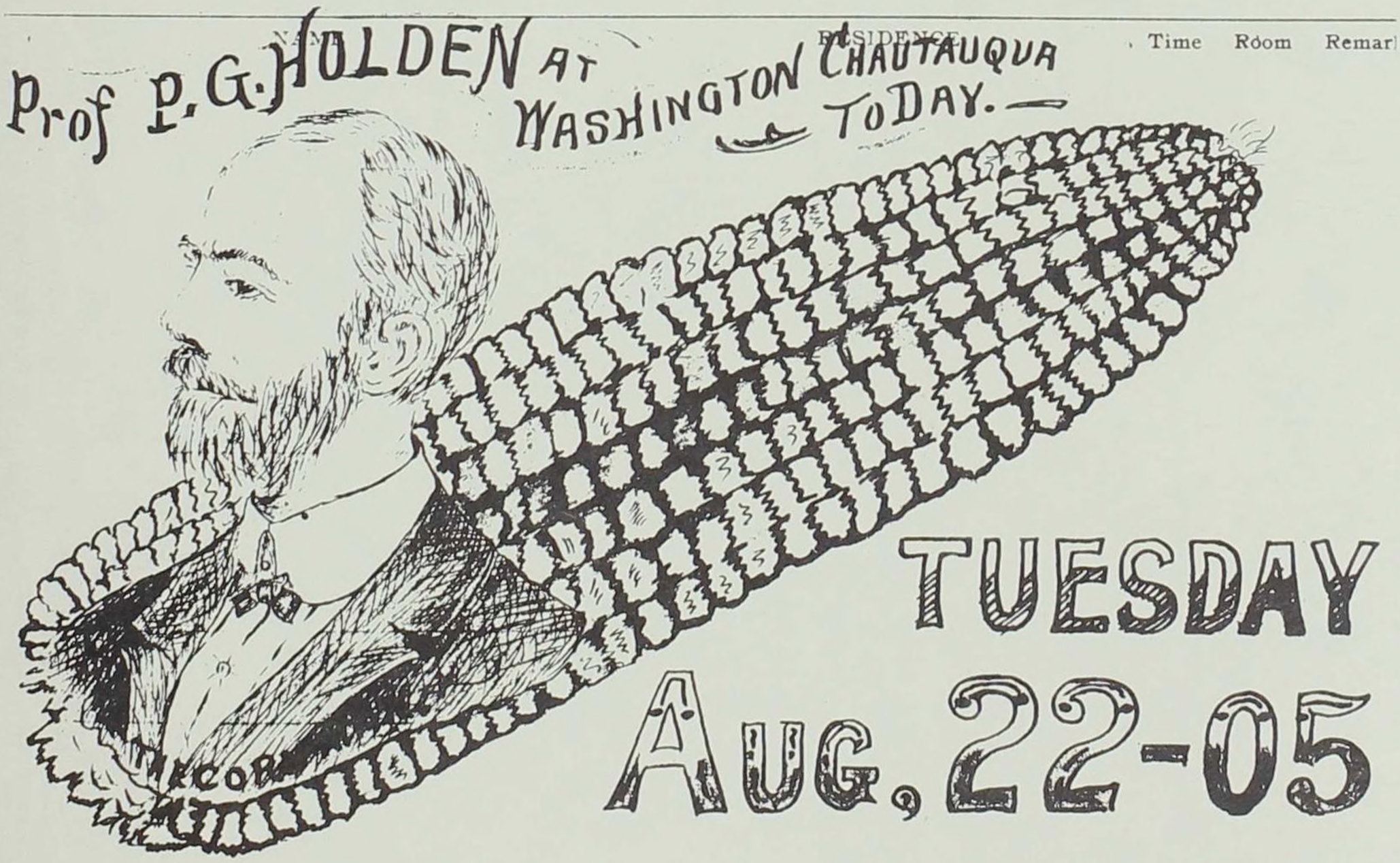
No doubt Holden's spellbinding oratory did much to make the Corn Gospel Trains a success in Iowa. His easy manner assured listeners that he was one of them, not some ivory-tower intellectual. Few men of his time did more to bridge the gap between scientific discoveries and their practical application on the farm. He was an opportunist, too, a publicity-seeker, but no matter. "The great purpose of education is to enable one to do more and to do it better," Holden insisted, and he held firmly to that belief throughout his career. Uncle Henry Wallace, a Holden supporter from the start, claimed that the seed-corn evangelist "probably stirred the imagination of farm boys from 1902 to 1912 more than anyone else who lived in Iowa at that time."

By the time the last Gospel Train ran in 1906, Holden had already undertaken several new projects to bring agricultural education to the people of Iowa. At Red Oak in 1905, he gave the first in a long series of short courses, most of them conducted by professors sent from Ames by Holden to discuss their specialties with general audiences. Hundreds attended the sessions during the winter months in towns all over the state, including Spencer, Storm Lake, Cedar Rapids, and Newton. The short course idea drew a strong response from the state's people. Once they understood that Holden and his staff at Ames sincerely cared about their problems, they deluged the State College with specific inquiries. In the winter of 1906-1907, thirty-seven thousand inquiries arrived in the mailboxes of Holden's staff members in Ames. Such demonstrations of public interest are rare, and Holden knew how to turn this one to his advantage. He had long campaigned for a formal extension service to conduct off-campus educational activities on a regular basis. Having witnessed the success of the Corn Gospel Trains, the various short courses, and the flood of mail to Holden's office, the state's leading opinion-makers voiced their support for the professor's grand proposal. Backed by the Iowa Grain Dealers Association, the *Des Moines Register*, and *Wallaces' Farmer*, Holden drafted the original bill outlining his proposed agency and submitted it to the Iowa General Assembly. In substantially revised form, the bill passed both houses of the legislature as the Extension Act of 1906. Holden's appointment later that year as the Extension Department's first superintendent surprised no one.

In its first six years, the Extension Department exhibited all the characteristics of a Holden enterprise. Initially budgeted at $15,000 per year, the department's staff reached ten thousand Iowans with short courses, farm demonstration plots, corn judging contests, youth programs, and bulletins and press releases in its first year of work. By 1909, the department's budget had risen to $32,000, enough for Holden's staff to draw 167,000 men, women, and children into its activities. As always, Holden upheld the principle of learning by doing; his staff shared his distrust of textbook learning and relied instead on charts, photos, tables, and — most important — the laboratory method. By the time Holden left Iowa in 1912 to help the International Harvester Company form its own extension service, the Iowa Extension Department had become part of the day-to-day world of the state's rural population.

Ironically, the same scientific spirit that motivated P. G. Holden's educational efforts eventually undermined the credibility of the

corn gospel he espoused. In time, certainly by the time he left Iowa, Holden and his disciples began to receive criticism for vulgarizing scientific discovery. The corn show, a showcase for Holden's method of seed selection, came under attack for being a mere beauty pageant, unrelated to the Iowa farmer's real concern for yield and resilience. A study conducted at Ames by H. D. Hughes in 1910 proved that no relationship existed between performance in the corn show and performance in the field. The findings of Hughes and, subsequently, others — including young Henry A. Wallace — led to new methods of cultivation that enabled farmers to increase yields and exercise greater control over the height, moisture content, and shelling percentage of their corn. The nostalgia of the Corn Gospel Train could not compete with the demonstrated efficacy of the new techniques. In a few years, the science of hybridization — the principal threat to good seed corn cultivation, according to Holden — became the basis of the twentieth-century agricultural revolution. Yet even the hybrid pioneers granted Holden his place in the history of Iowa farming. His promotional activities provided important insights into the nature of open-pollinated corn, helped arouse public consciousness about new agricultural techniques, and created a positive atmosphere where the forthcoming scientific discoveries could blossom and win acceptance. □



(above) In August 1905, P. G. Holden brought the Corn Gospel Train to Brighton, Iowa. Holden apparently spent the night at Brighton's Midland Hotel, where desk clerk Adrian W. Auld sketched a likeness in the Midland's guest register. (SHSI)