After ruling the pages it would be well to make a cut-out index or to fasten index tabs down the right-hand side of the pages, so that, for example, one could see at a glance what page to turn to when making the entries for clothing.

The pages so far described will care for the cash expenditures of the family. But the family may also want to know the value of the farm products used in the household. A page similar to Figure 77 could be used for this record, heading the columns fruit and vegetables, meat, milk, fuel, and ice, according to the items furnished by the farm. The amount of each should be entered when used, and prices obtained perhaps once a month or so. When figuring the total income and the total expenditures for the year, it gives a better picture of the family living if the total value of the products furnished by the farm are included under total income received and under total expenditures.

Housing

Date	Item	Interest on mortgage		Repairs and improvements		Taxes and fire insurance		Total	
	Estimate for month								

FIG. 77.—Form for recording housing expenditures

A Simple Record to Keep

A record of expenditures in this form is simple to keep. All the expenditures for one class of items are listed together. This classification is essential, for after all the reason for keeping a record of expenditures is not only to see what has been spent and what has been received in return for the money, but to see whether the family is having as many as possible of its needs and desires satisfied. This can be learned only by studying the different kinds of expenditures in relation to each other. The family must be able to see what they have spent on food, clothes, recreation, and so on, in order to determine whether or not they are getting their money's worth and are making the wisest division of their income among their many needs.

CHASE G. WOODHOUSE.

EXPLORER for Alien Plants Runs Many Risks in Far Lands

In a broad sense the agricultural explorer is as old as history. Man, when dissatisfied with his diet of wild roots, berries, and seed, casts about for something better, something more to his taste. He became an explorer, a plant hunter. Our modern agricultural explorer, however, is a creature of the last quarter of a century. He came into being in the

United States Department of Agriculture. He is a man who goes out into the little-known parts of foreign countries seeking new crop plants that he may send back as immigrants to the United States. It is a fascinating job filled with romance and adventure not without danger, but often rewarded with the realization that something has been accomplished for the good of the human race.

Let us follow one of these explorers and see how he works. We find him first in the department at Washington consulting with crop specialists, and familiarizing himself with the details of quarantine laws and regulations so as to safeguard the country against the possible introduction of dangerous pests along with his crop plants. We also find him assembling stores of packing material, labels, and tags for identification, cameras and photographic supplies, and camp equipment. Later we observe him arranging for passports, letters of credit, letters of introduction to foreign scientists and foreign workers in order that he may obtain their help. Finally he will be found bringing together all possible information regarding the crops to which he will pay special attention in his travels abroad.

Broad Training Necessary

These things presuppose broad training in agriculture and horticulture, knowledge of foreign languages, botany, and plant geography. A prerequisite knowledge of how to collect, handle, and pack living plant material is needed so as to have it reach the Department of Agriculture alive. A dead plant immigrant is of no use to anyone, except possibly the specialist who may find a live bug upon it.

FIG. 78.—An agricultural explorer starting on a trip into strange regions

Next we find our agricultural explorer at a little outpost of civilization 500 miles or more in the interior, say, of China. He has run the gantlet of the customs officials; he has gathered about him a little band of native helpers; he has his caravan, and his great adventure is about to begin, for to-morrow he starts into the unknown and unexplored mountains in search of pears and chestnuts that may help his countrymen fight the dreaded fire blight of the pear and the chestnut-bark disease. (Fig. 78.)

After weary days of travel and not a few exciting adventures, he comes to the pear and chestnut country, where he collects seed. In the midst of this work his camp is raided by bandits and he himself is stood up to be shot; but fortune favors him, and he escapes with his life and his beloved pear and chestnut seed. Weeks and months are spent in cleaning, packing, and getting the seed to an outpost

where he must risk the uncertain mail service of the country. (Fig. 79.) At last he sees his treasured packages off on a little river boat or possibly by camel pack, and then he is ready for the next task; and so on through the years, until the lines of his travels on a map of China are almost as numerous and tortuous as the lines of her principal rivers.

Many Tasks for Explorers

There are many other kinds of agricultural explorers. Some take short journeys and others take longer ones. Some plant explorers strike directly into the wilds, and some select a strategic point near a city or town where the country round about is strictly agricultural and where the crops may be carefully studied in the hope of finding new cereals, sorghums, soy beans, forage crops, and shade, windbreak, and ornamental trees and shrubs.

The harvesting and packing for shipment of dry seed is not the most difficult of the explorer's tasks. It is living material, like scions and cuttings, that taxes his skill. Always there is the specter of some new pest that he may unconsciously pass along with the things he thinks worth while. He realizes that he must send his plants in clean or run the risk of some beloved plant being sacrificed for the good of the country. Fortunately, with careful inspection and quarantining as carried on in Washington, most plant immigrants can be saved. Often it may be just a single bud or a small cutting, but that is enough to set the wheels of propagation going.

FIG. 79.—Outward bound with a collection of rare seeds and plants

The story of the agricultural explorer's accomplishments since he first came into being in this department a little over 25 years ago is manifest all over the United States in hundreds of plant immigrants that have made good. It was early found that in order to systematize the work, it would be necessary to identify and inventory all plant immigrants. We must know where they come from, when they were discovered, and who discovered them. We must know also what diseases or insects were brought in with them, if any, and how such diseases or insects were treated on arrival; that is, whether it was necessary to fumigate or treat with fungicides. As this is written, our last inventory number is 74,685. That is the size of our plant immigrant family and it is growing at the rate of about 4,000 numbers a year.

On turning back the pages of our inventories, we find a few old numbers representing a group of Russian wheats sent in by one of the agricultural explorers more than 20 years ago. These same

durum wheats have builded a new cereal empire in the Northwest, the annual money value of which would go far toward taking care of the department's entire yearly budget of something over $44,000,000 for regular work.

But the agricultural explorer must leave the money values and crop yields of his finds to those expert in such matters. He looks beyond the horizon, seeking other regions to explore, for he knows that every new worth-while crop plant brought to his country may mean added health, wealth, comfort, and pleasure to our people.

B. T. GALLOWAY.

FAMILY Living Among Poorer Farm People Studied Statistically

Some of the poorer farming sections of the United States are presenting problems of increasing interest to American agriculture. Among the most important of these problems are the contributions made by farm families of these sections to commercial agriculture, and the kind of living they get from farming and from other sources.

Three hundred such families were studied in southeastern Ohio for the year ended March 31, 1927. Three localities were included which are typical of much of the hill land drained by the Ohio River and its tributaries—one each in Vinton, Jackson, and Meigs Counties. The topography grades from rolling to very steep and is often rocky. The land is only fairly productive, and is comparatively low priced. Aside from "through" routes, the greater part of which are now being built, roads are hilly and unimproved and railroad points and trading centers are reached with difficulty, especially during the winter and spring.

Work on State and county roads, in brick and tile factories, in the coal mines and oil fields, and at sawmills, furnishes part-time employment for many of the men and boys who live on the farms. Occasionally store-keeping, school-teaching, or county office work supply a considerable part of the family income. Some of the farmers have given up commercial farm operations to work in the industries and trades and are using their farms primarily as places to live.

Approximately one in five of the farms which were in operation a generation ago are now used as places to live, and their production is limited to milk, meat, eggs, garden crops, and other supplies for home use. The rest of the land lies idle except as rented to neighboring farmers, primarily for pasture.

Abandoned Farm Homes

About one in four of the farmhouses of a generation ago have been abandoned. Some have been removed. The land lies idle for the most part. About 60 per cent of the farms of a generation ago are retained for farming and are included in this study.

Information was obtained by the survey method from typical farm families within the localities. There was an average of 3.9 persons per family, excluding relatives, hired helpers, and others, and 4.3 persons including these. The average size of farm was 130 acres, with $4,214 worth of capital invested by the farm operator. Only 6 of the operators were tenants.