## *What do students learn at this school?*

We try to teach them most of the skills required for the efficient operation of a tropical American farm. And in the classroom we try to teach them the fundamental principles on which tropical agriculture is based, plus English, plus simple applied mathematics, for we find that the majority of our students, even those who have had some secondary education, are insufficiently prepared in the practical applications of mathematics. The situation in this last respect might be exemplified by the following anecdote—not apocryphal though scarcely typical:

Juan Ramirez came from El Salvador. In his first talk with members of the staff, the following question was put to him: "Juan, you look like a bright boy. Now tell us, if four oranges cost five centavos, what will a dozen cost"? Juan thought a minute, then replied: "That requires some calculation."

The acquisition of practical skills is the major objective. A student who has learned to milk a cow, to make good butter and cheese, to feed pigs properly, to run a tractor, to protect his soil from erosion by planting on contours, to graft and prune a fruit tree, and to grow potatoes, will never forget how to do these things as long as he lives. But the day after he has passed his examination he may forget the theoretical difference between field capacity and the wilting point of soils.

Students are up at 5:30 every morning (except Sunday) and out for their *prácticas* or field work at 6:30. Almost no labor is hired on the farm. The boys do the necessary work in all departments, in line with the philosophy usually called "learning by doing". If a boy asks why he has to hoe weeds in the corn patch we say, "In future years, when you are managing a farm, how are you going to know how much work one of your laborers ought to accomplish in a day if you have not tried it yourself?" One day a student came to the Director and said, "I have made butter for three days. Now I want to do something else." The answer was, "You are going to make butter for a month, then you won't forget how to make good butter."

Students return to their dormitories from their *prácticas* at 11:00 o'clock, wash up, and have lunch. Most of them usually take the customary tropical siesta; then at 1:00 o'clock, five days a week, they go to their classes, where they have four periods of instruction ending at 4:00 o'clock. They are then free to play games—baseball, soccer, basketball — to use the swimming pool or pursue their own devices until 6:00 when they have supper. They are required to be in their quarters, studying, from 7:00 o'clock until 8:45. Lights must be out at 9:00.

During the first year all students are assigned to the horticultural department, where they

learn to plant and grow vegetables, propagate and care for fruit trees (such as citrus, mangos and avocados), and where they get some experience in soil management, including the use of green manures and cover crops. In the afternoons, classroom work centers around the study of biology, mathematics and English. There are two orientation courses, one in general agriculture, the other in animal husbandry.

During the second year all students work during mornings in the field crops department where they plant and cultivate corn, sugar cane, rice, sweet potatoes, sorghums, pigeon peas, sesame, cotton, and the like. Classroom work includes courses in elementary chemistry and physics (just enough for a farmer's needs), mathematics, English, soils and fertilizers, certain phases of animal husbandry, agronomy and horticulture, and forestry. We consider our brief course in the latter subject of great importance, for the forests of tropical America constitute one of its greatest natural resources, which can be conserved and utilized profitably, or destroyed if not protected from fire and ruthless exploitation.

Practical training during the third year is in the animal husbandry department. Here students learn to handle the dairy herd, including the use of the silo, for which we predict a great future in tropical America. (And thereby hangs another tale. Old don Procopio, when he heard we were filling our silo for the first time, came over to see what it was all about. He stood in contemplative calm for some minutes, watching the ensilage cutter blow chopped kaffir corn into the trench, and then retired with the remark: "Well, I knew you gringos were queer people, but I don't understand how you can eat that stuff!") They learn to milk cows, to use the pasteurizer, and to make good butter and cheese. They receive adequate training in the care and feeding of hogs and the curing of ham and bacon. They learn to care for horses. They spend some time in the poultry section. They receive training in simple veterinary medicine and they do all the butchering (about 30 steers per month) for the school dining hall, learning to cut meat properly.

Having found that most of our students, during the first and second years, learn to read English fairly well, but that many are hesitant about speaking the language, we added a course in conversational English to the classroom work of the third year. Other subjects studied are farm management, dairying, swine, poultry, and simple agricultural engineering.

The class in English conversation has been a great success. The students like it. Not only do they acquire more facility in speaking the language, but they discuss agricultural matters, reviewing many of the things they have learned during their first two years. And we try to make the discussions interesting. On one occasion the teacher posed the following problem: "You are cast up, all alone, on an uninhabited island in the Caribbean. You can take with you one crop plant, one fruit tree, and one animal. What will they be?"

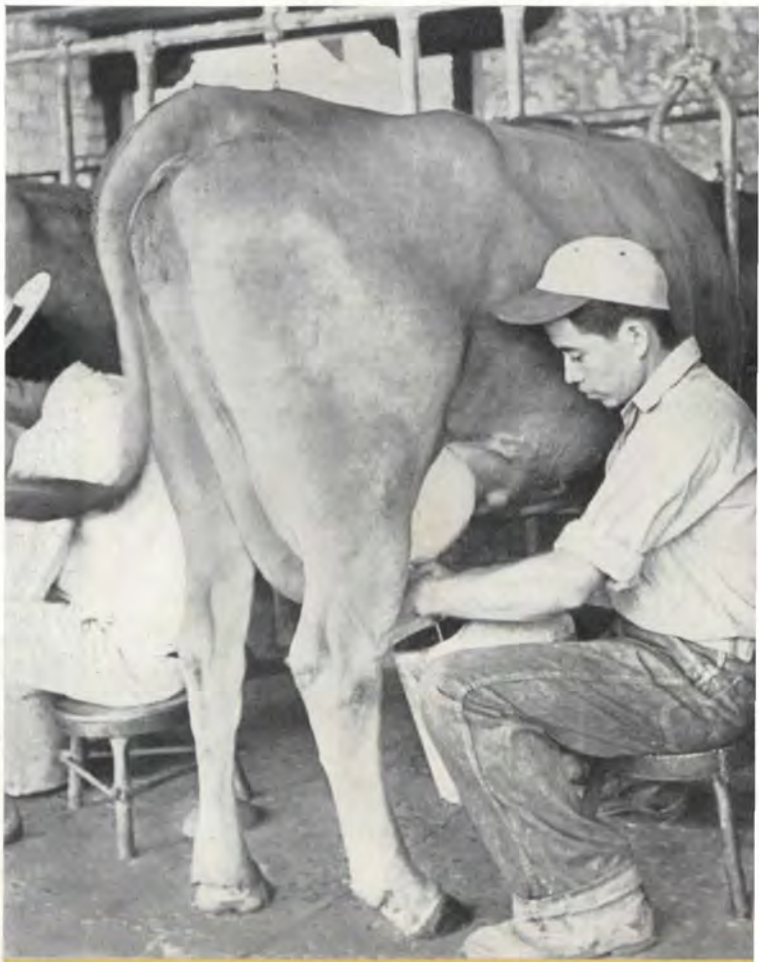
Julian Menendez was the first to be called upon. "Well," he said, "I will take the corn plant, because corn is the basis of our Central American diet. And for the fruit tree, I will take an orange, because I like oranges and the fruit will supply me with vitamins. And since I will be on an

island, and can catch all the fish I want, I won't need any meat, so for the animal I will take a woman, so I won't be lonesome."

When a student has satisfactorily finished the three year course he gets a diploma certifying that he is a graduate of this school. We do not give a title or degree of any sort, because it is obviously impossible to do so on the basis of five or six years of primary schooling (several Central American republics do not have more than this) and three years of vocational training. The graduate is prepared to go back to his farm and do a better job, or to work for his government as an extension agent among small farmers, or to serve as an assistant on a large farm. What he is *not* prepared to do is to take over immediately the management of an extensive agricultural property, and this has occasionally led to misunderstanding and disappointment. Farm owners should not expect, in Latin America or elsewhere, that a young man just out of school should be prepared to organize work on a large scale and handle labor skillfully. These things cannot be taught in school. They come with experience.

On numerous occasions we have been gratified to receive letters from our graduates, who said in effect: "I have a good job and I am not afraid of it, because at the school I learned to do with my own hands the things I am required to supervise here."

**The favorite breed of chickens is the Rhode Island Red.**



**Learning to milk a cow properly and handle the milk hygienically are basic in the education of every student.**

Favorite musical instrument is the Central American marimba.

The school's modern swimming pool provides one of the favorite sources of recreation.

Students are told about the destructive effects of fires and shown how to protect damaged forests so that natural regeneration will take place.

## *What have been the most difficult problems encountered at the school?*

First and foremost, the difficulty inherent in bringing together the sort of staff we feel we must have if we are to give students the sound practical training we visualized from the start. So fas as concerns such classroom subjects as English and mathematics the job is easy. But the rest is not. To teach and train the boys in such branches as dairying, swine and poultry husbandry, the growing of field crops, fruits and vegetables, we have to find men with plenty of tropical experience in their respective fields; men who speak Spanish fluently; men who not only know how to teach but who have a keen and sympathetic interest in the students.

To assemble our staff we have drawn upon numerous countries: The United States, Colombia, Costa Rica, Guatemala, El Salvador, Honduras and Nicaragua. Among the younger teachers are several of our own graduates who were sent to the United States for a year of specialized training after they had completed their courses at the school.

When 160 growing youths from as many as twelve different countries are gathered together on one campus it is obvious that a few problems are bound to be encountered. But they have been fewer than we expected. There have never been any quarrels arising from strained relations which might exist at the moment between two of the countries represented in the student body. Problems of discipline have been those which are normal in any school anywhere.

Quite naturally, it has not been easy to satisfy the dietetic habits of boys with such varying backgrounds. Students from Guatemala are accustomed to eat black beans. The boys from Honduras like red beans. The boys from Costa Rica, again, like black beans and think there should be a law against those of any other color. Students from Colombia are accustomed to eat potatoes; the Central Americans prefer rice. Only on one point is there universal agreement: meat, and lots of it!

Professor Robert S. Harris of the Laboratory of Nutritional Biochemistry at Massachusetts Institute of Technology made a study of the foodstuffs which went into our dining hall during a period of two weeks, and found that the students consumed a good deal more meat than they really needed; that they had plenty of carbohydrates; and that they did not like spinach. This seems to be a pretty normal situation.

It might be mentioned right here that the students produce the majority of the foodstuffs they consume. All pork, poultry, milk and milk products are thus provided. While it is impossible for the school to produce sufficient corn and beans (to do so would require so much of the students' time that they could not be given adequate training in other matters) it does produce all the rice used in the dining hall, the *panela* or brown sugar, sweet potatoes, yuca or cassava, plantains, oranges, grapefruit, mangos, avocados, and numerous other items, including an abundance of vegetables at all times of the year.

Horsemanship is something every student loves. There is ample time for sports — basketball, baseball, soccer and others.

Healthy boys do not require much medical attention, but it is there when they need it.

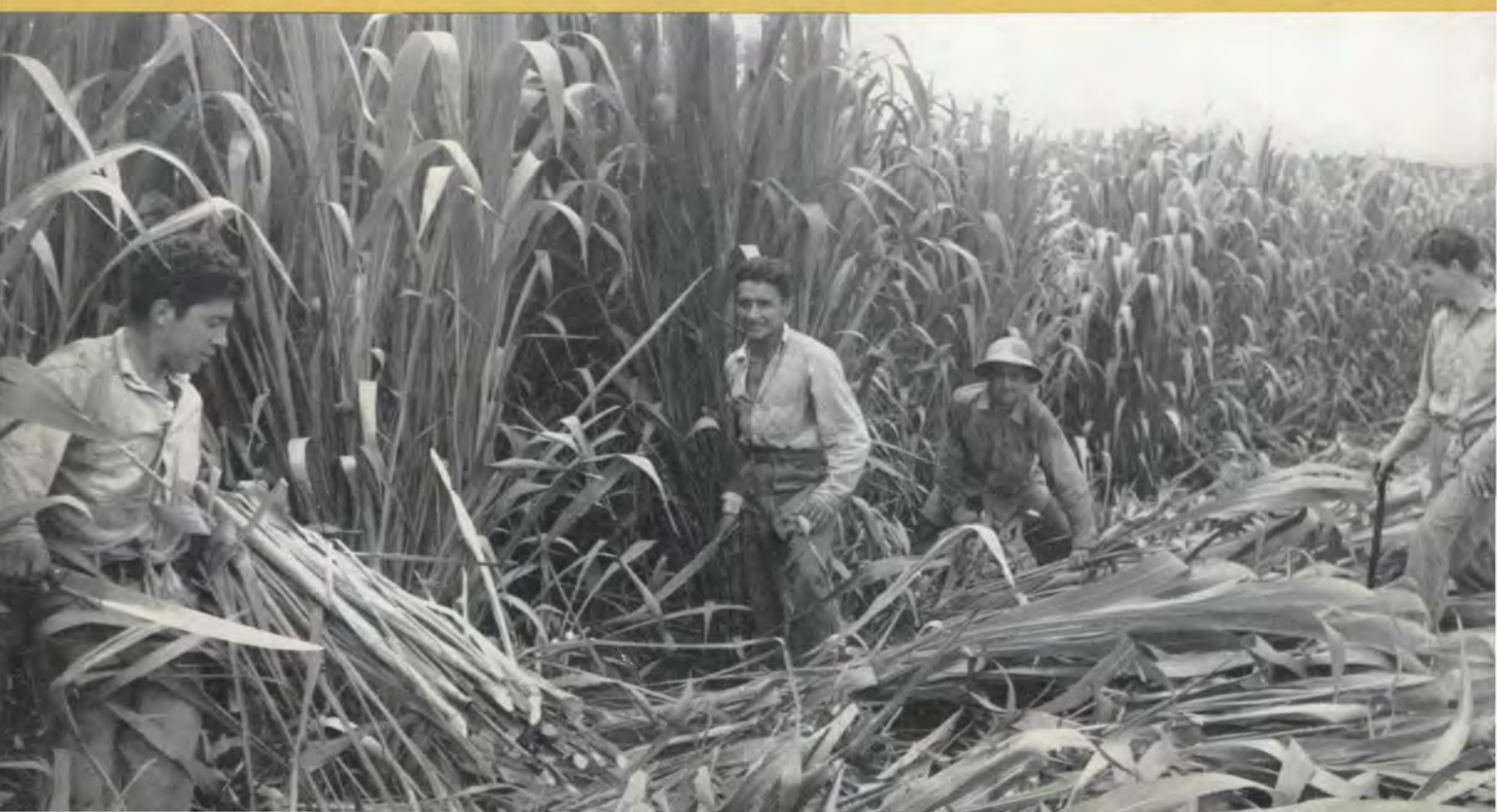
## *Why is so much emphasis placed upon experimentation with new crops and new varieties of standard crops?*

Many tropical countries depend too much upon one crop—for example, Cuba with its sugar cane—and in many others little has yet been done to increase production of standard crops through the development of varieties which yield more heavily or are resistant to pests and diseases.

Among the small farmers of tropical America experience has shown that the most effective approach to agricultural improvement is through the distribution of seeds of a new and more productive variety of corn, or cuttings of a new variety of sugar cane which is resistant to disease, or planting material of some new crop which will bring in some cash when bananas blow down or sugar is in the doldrums or coffee sells way below its true market value.

While the school is not, *in sensu strictu,* an experiment station, it carries on extensive trials of new crops and new varieties of standard crops for three reasons: first, to interest the boys in the possibilities of crop improvement; second, to provide planting material which can be taken home by them or distributed to agriculturists throughout tropical America; and third, to supply its own needs with products of best quality in the largest obtainable quantity per unit of land.

**Guatamala grass is a forage crop relatively little-known but highly productive.**



In the horticultural department experiments are conducted with new varieties of such crops as lettuce, tomatoes, and beans; while ample nurseries provide practice in the propagation of fruit trees by grafting.

## *Do many students show strong preference for any particular branch of agriculture?*

The majority are more interested in animal husbandry than in any other field. Dairying and the manufacture of dairy products are probably the most popular subjects in the school. Next come field crops, and last of all, horticulture.

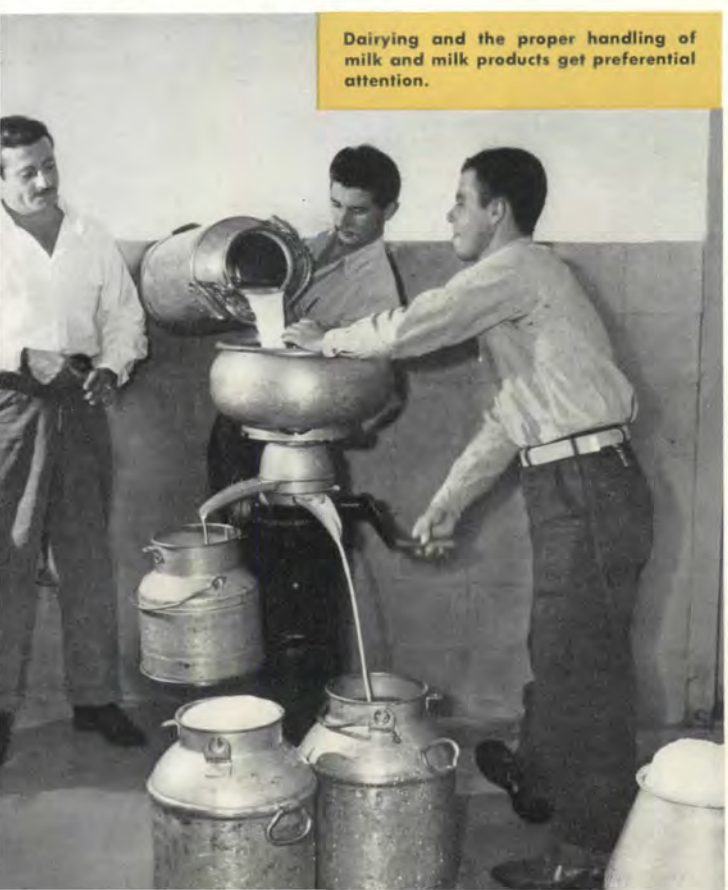
This is probably a wholesome situation. Throughout most parts of tropical America there is a scarcity of milk and dairy products. The intelligent dairyman can make money — more money than the small farmer who raises steers for the market. In Guatemala and Honduras, for example, beef sells for 10 to 20 cents per pound, while good butter brings 75 cents to a dollar.

Field crops such as corn, beans and sugar cane occupy important places in the tropical economy and it is natural that many of the students should take a strong interest in them. Fruit growing, on the other hand, is still of relatively little importance, so far as commercial orcharding is concerned. Production of vegetables for the market does not offer many attractions.

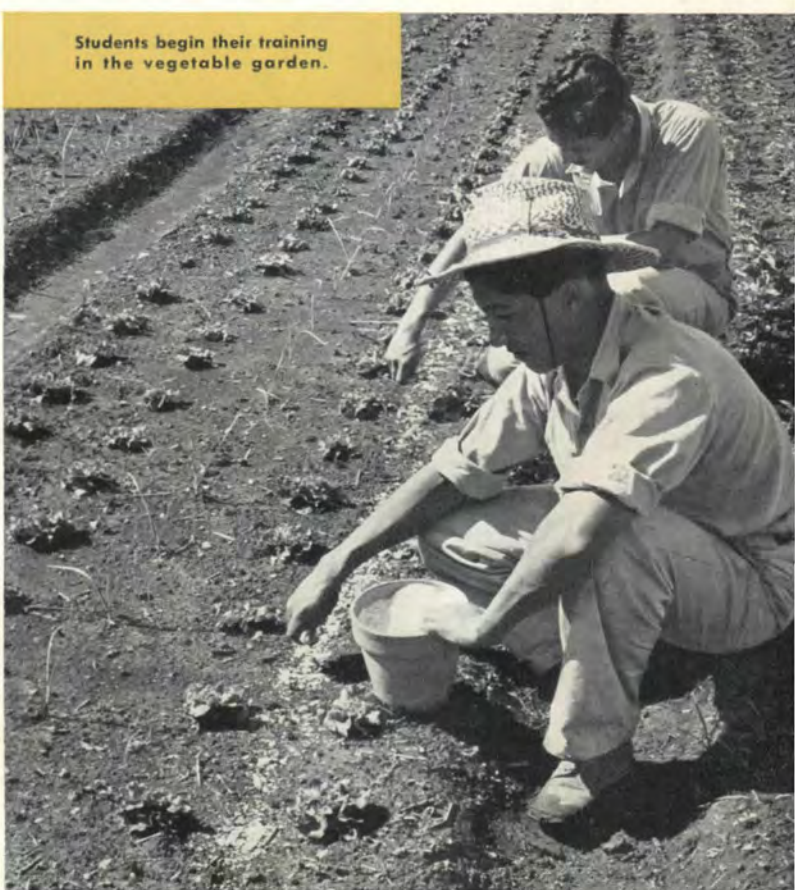
It is a major objective of the school, however, to provide training in the propagation and care of fruit trees, and in the production of a wide range of vegetables in the hope that graduates will take a keen interest in the home garden.

Students butcher thirty steers per month to meet the requirements

Filling the two silos is an annual and popular event.



Dairying and the proper handling of milk and milk products get preferential attention.



Students begin their training in the vegetable garden.

## *What becomes of the students after graduation?*

Obviously this is the most important question of all, for "by their fruits ye shall know them".

Many years must pass before it will be possible accurately to evaluate the results of the training given at Escuela Agricola Panamericana. Consider the first five groups which have gone out from Zemurray Hall—the classes of 1946, 1947, 1948, 1949 and 1950: wearing their class rings, received from the hands of Doris Zemurray Stone, affectionately called by students "Godmother of the school", these 229 boys have looked forward to the future with confidence and enthusiasm. What are they doing today?

More than 90 percent of them are directly engaged in agricultural work—a record of which the school is proud.

Perhaps this high percentage is due in part to the fact that there are so many openings in tropical America for trained agriculturists. For—notwithstanding early expectations to the contrary—the majority of our graduates look about immediately for jobs. We had thought that boys who came from farms would go back to their farms, where, by doing a better job they would not only help themselves but influence their neighbors. This has been the case in some instances, but not in the majority.

**The forests of tropical America constitute one of its greatest natural resources. This group of students is being shown how to calculate the number of board feet in one**

And from those who returned to the family farm we have sometimes received letters along these lines: "I have been home for a year now. I have tried to do things the way I learned to do them at the school. But papa will not back me up."

Graduates of the first two or three classes who sought employment usually found it without much difficulty on large agricultural properties—though not on farms of the United Fruit Company, since from the start it has been the policy not to employ graduates of the school; that would defeat our purpose. The only exceptions have been where there was work of specialized nature to be done, which would redound to the benefit of the public.

More recently a trend has developed which promises greatly to increase the usefulness of the school in the development of tropical American agriculture. This is the organization of extension work by numerous Latin American governments. The republic of Panama was the first to realize that the training given students at Escuela Agricola Panamericana was exactly the right kind to prepare them for working among small farmers as extension agents. Our graduates talk on the right level. And they can actually demonstrate how to do the things they are talking about.

This unexpected development has been a source of great satisfaction to our Board of Directors, inasmuch as every graduate who steps into this field of endeavor is able to influence one hundred or more farmers, instead of the two or three which he might have influenced had he returned to his own farm. Graduates are now to be found in this sort of work in a number of countries—Guatemala, El Salvador, Honduras, Costa Rica, Panama, Ecuador, Peru and Venezuela.

## *What of the future?*
## *Does experience to date suggest any important changes in the program?*

Numerous changes have been suggested by visitors: that the student body should be increased; that a domestic science branch for girls should be added; that the school should be put on a full professional level, and so on.

Vocational training cannot be put upon a mass production basis. Success depends upon close relationship between teacher and student. Numerous educators, experienced in the field of vocational training have warned us against expansion. Our own experience has convinced us that they are right.

In our opinion a domestic science school for girls should be a separate institution.

Professional training, crowned by the granting of a degree equivalent to B. S. A., is not the objective of this school and experience does not indicate that it should become the objective. From the start, the Board of Directors and the Regents of Escuela Agricola Panamericana have felt that relatively abundant opportunities exist for those young men who desire to pursue a strictly professional career in agriculture—that is, to become specialists in some branch. Few educational opportunities exist for those—and their number is legion—who need and desire sound practical training based upon the fundamental principles of modern agricultural science.

We have the profound conviction, therefore, that we should continue along the lines laid down by Samuel Zemurray in 1943, adjusting ourselves to trends which cannot now be foreseen, but holding fast to the motto of the school, *Labor Omnia Vincit*.

**Doris Stone, Regent, and Wilson Popenoe, Director, officiate at graduation exercises.**

# Escuela Agrícola Panamericana

Por Cuanto

THARRHE MIRANDA

*Ha terminado satisfactoriamente los tres años de estudio y hecho la práctica reglamentaria en todos los departamentos de esta Institución.*

Por Tanto

*Y para que le sirva de constancia, se le extiende el presente*

# Diploma

*Dado en Tegucigalpa, D. C. República de Honduras, el* 5 *del mes de* DIC. *de 19* 69

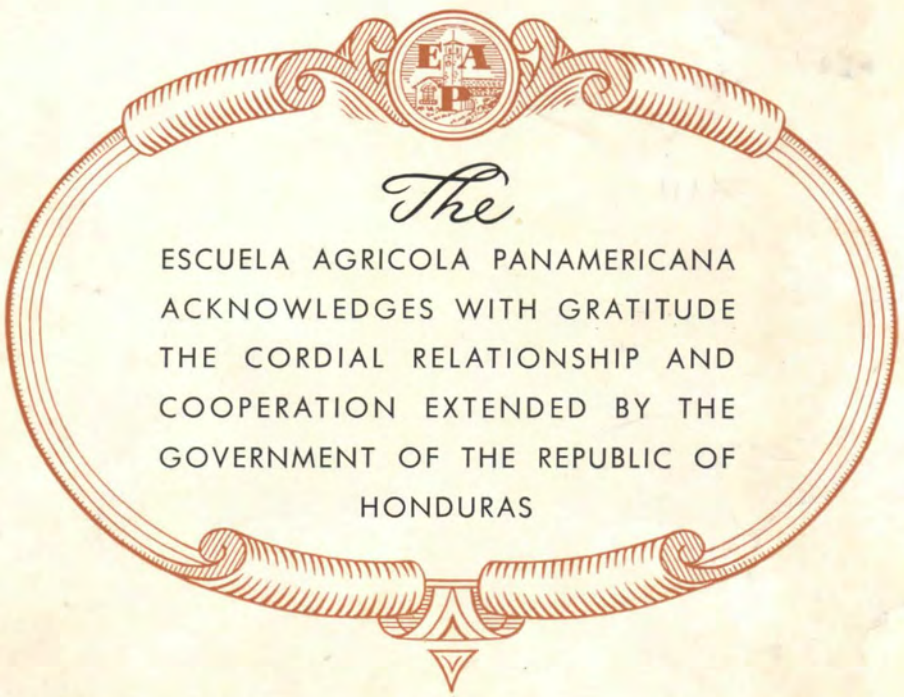
*Por La Junta de Regentes*

*Subdirector*

*Director*

*Secretario*

The pine-clad mountains of Honduras overlook the fertile valley of the Rio Yeguare in which lies Escuela Agricola Panamericana.




**Photography principally by Margaret Hogaboom, also Muriel Ries, Louis O. Williams, Amado Pelen, David D. Zingg.**

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