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PAPERS

Organization and characters of primary agricultural professional training at the beginning of the 20th century: the Aprendizados Agrícolas[1]

Organização e personagens da formação profissional agrícola primária no início do século XX: os Aprendizados Agrícolas

Organización y caracteres de la formación profesional primaria agrícola a principios del siglo XX: los Aprendizados Agrícolas

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Abstract

In the first decades of the 20th century, following the promulgation of Law nº 8.319 of 1910, the Federal Government sought to structure professional agricultural education at a national level, creating Aprendizados Agrícolas, institutions created to develop the policy. primary agriculture. In this article, based on laws, decrees, ministerial reports, and directors of Aprendizados Agrícolas, the structure of the courses and the clientele of these institutions are discussed, in addition to the amount of enrollment, approval, and failure rates, and other elements that help to understand these formative objects located between 1910 and 1934, the latter being the year in which the agricultural sector was reorganized according to decree nº 24.115.

Keywords: AprendizadosAgrícolas; Agricultural Education; Training; Educational institutions.

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Resumo

Nas primeiras décadas do século XX, a partir da promulgação da Lei nº 8.319 de 1910, o Governo Federal buscou estruturar o ensino profissional agrícola em nível nacional, para tanto criou os Aprendizados Agrícolas, instituições destinadas a desenvolver a política educacional para o ensino agrícola primário. Neste artigo, a partir de leis, decretos, relatórios ministeriais e de diretores dos Aprendizados Agrícolas, é discutida a estrutura dos cursos e a clientela destas instituições, além, da quantidade de matrícula, taxas de aprovação e reprovação e outros elementos que ajudam a compreender os seus objetivos formativos entre os anos de 1910 e 1934, ano em que houve um reordenamento do ensino agrícola através do decreto nº 24.115.

Palavras-chave: Aprendizados Agrícolas, ensino agrícola, formação, instituições de ensino.

Resumen

En las primeras décadas del siglo XX, tras la promulgación de la Ley nº 8.319 de 1910, el Gobierno Federal buscó estructurar la educación agrícola profesional a nivel nacional, creando Aprendizados Agrícolas, instituciones creadas para desarrollar la política. agricultura primaria. En este artículo, con base en leyes, decretos, informes ministeriales y directores de Aprendizados Agrícolas, se analiza la estructura de los cursos y la clientela de estas instituciones, además del monto de matrículas, índices de aprobación y fracaso, y otros elementos que ayudan a entender estos objetos formativos que se ubican entre las edades de 1910 y 1934, también en el año en que fue necesario reorganizar el sector agrícola según el decreto nº 24.115.

Palabras clave: Aprendizados Agrícolas; Educación Agrícola; Capacitación; Instituciones educativas.

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Introduction

At the beginning of the 20th century, the Federal Government sought to structure agricultural education at the national level through Law No. 8,319 of 1910, creating Agricultural Apprenticeships as institutions responsible for primary agricultural training.

Based on laws, decrees, ministerial reports, and reports from directors of agricultural apprenticeship programs, this article proposes an understanding of the organization of courses, teaching methods, training provided, and the people who made up these institutions. Our research is grounded in the principles of New Cultural History, particularly the perspective of Roger Chartier (1990). Chartier suggests studying the ways subjects adopt social practices and representations, shifting the analytical focus to the social and cultural applications of discourses and institutions.

Thus, we assume that Agricultural Apprenticeships should not be viewed solely as technical instruments of professional training but also as symbolic spaces for constructing subjectivities and imposing social norms and values.

Between 1910 and 1946, agricultural apprenticeships were primarily responsible for developing primary agricultural education policies, until the Organic Law on Agricultural Education was enacted. Throughout this text, we will explore the first operational phase of these institutions (NERY, 2010) between 1910 and 1934, when elementary agricultural education reform took place through Decree No. 24,115.

Preparatory, adaptation, and vocational/regular: Courses offered by Apprenticeships

Apprenticeships did not consist solely of strictly productive activities. In fact, even the productive activities essentially had pedagogical purposes, in line with these establishments' teaching method of "doing to learn."

All agricultural apprenticeships offered primary courses, called preparatory courses in some institutions. These courses aimed to prepare students seeking enrollment in the establishments who lacked the minimum knowledge required for regular (vocational) courses. In other words, most apprenticeship clients were people who had never attended school and could not read or write. This is not surprising, however, since approximately 65% of the Brazilian population aged 15 and over was illiterate in 1920 (PINTO, BRANT, SAMPAIO, & PASCOM, 2000).

This meant that apprenticeship programs had to offer primary school courses to provide at least a minimum level of preparation for those who would go on to fill regular course spots. In fact, attendance in primary school courses was at least twice as high as in regular courses.

For example, at the Barbacena Apprenticeship School in 1913, 64 students attended the daytime primary course, 41 attended the nighttime primary course, and only 17 were in the regular course. This means that approximately 13.93% of students were in the course that was the school's core activity.

Over the years, this situation did not change much. For instance, in 1931, the AA in Barbacena had 60 students enrolled in the preparatory course, 72 in the three-year adaptation course, and only 18 in the professional course. This corresponded to 12% of the institution's total student body.

Seeking to solve the problem of its clientele's lack of preparation, the Barbacena AA reorganized its teaching structure. They created a professional course for crop managers. In other words, students who completed the course would receive a degree in crop management instead of a certificate in agricultural work. They replaced the primary course with the adaptation course and adopted the preparatory course.

In the preparatory course, students received instruction in Portuguese and arithmetic to serve as a foundation for the adaptation course. Students who did not perform well in these basic subjects would not be admitted to the adaptation course. This was justified due to the high failure rate in the primary courses.

Examining the results of the exams taken at the Satuba AA in 1926 illustrates the poor quality of education of those who sought the apprenticeship courses.

Chart 1 - Results of primary school exams taken in the Satuba Administrative District in 1926

Year	Series	Qualified students	Disqualified students
1º	1ª	5	6
	2ª	6	5
2º	1ª	7	5
	2ª	5	4
3º	1ª	2	2
	2ª	0	3

Source: BRASIL-RMAIC, 1926, p. 103.

According to this chart, 25 of the 50 students who took exams during their three years of primary school did not obtain the average grade required to advance to the next grade. This means that 50% of the students failed.

This was one reason for the low enrollment in regular vocational courses, as most students did not earn the required average grade to enroll. In the case of the AA in Satuba in 1926, no student qualified for the regular course.

In addition to the lack of students in regular courses due to insufficient qualifications at the primary level, many principals complained that students dropped out of the institution after completing primary education. This occurred in the AAs in São Luiz das Missões, Juazeiro, and Satuba, for example. In the latter case, students dropped out before completing primary education, as stated in the 1923 ministerial report.

> In general, students leave school after acquiring some knowledge. To date, only 15 students have completed primary school with satisfactory results. Thirty-one dropped out just before completing it, 51 only completed secondary school, and 75 left immediately after completing elementary school (Brazil-RMAIC, 1923, p. 68).

Most people who sought agricultural apprenticeships wanted to learn the basics of reading, writing, and basic math, not new agricultural techniques. In other words, they sought these institutions primarily for the courses that would help them achieve their training goals.

Thus, all agricultural apprenticeships sought to develop agricultural practices for students in primary courses. Using the AA of Satuba as an example, it proceeded as follows:

> Students receive five hours of practical instruction daily, including workshops and training in farming, fruit growing, horticulture, and gardening. This ensures that even if students do not complete the regular apprenticeship course, they are still qualified to perform various agricultural tasks (BRAZIL-RMAIC, 1923, p. 68).
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Compounding this problem was low student attendance. Of those enrolled, 10% to 20% had unsatisfactory attendance, often resulting in their exclusion. This was particularly true in day schools, where students had to commute daily from home.

In addition to day schools, some apprenticeships were organized as boarding schools, while others were mixed systems with students enrolled in both.

The organization of teaching and the number of apprenticeship students

The physical and organizational structures of the establishments varied according to their location and capacity. The institutions operated under three types of regimes: boarding schools, day schools, and mixed schools.

In boarding schools, attendance remained stable with few dropouts. In these schools, dismissals occurred as many students did not adapt to the system, which was marked by corporal discipline and "total" control of time and space. Students had set times for waking up, going to sleep, and moving about the establishment according to the activity schedule. Additionally, great care was taken with the hygiene of the facilities and students to prevent infectious diseases from spreading.

Hygiene measures in the establishments and among the students were essential to preventing the spread of disease in the apprenticeship programs, especially in programs with numerous boarders and in regions where water accumulation facilitated the onset of diseases such as malaria. For example, in the AAs of Juazeiro, Acre, and Satuba, cases of malaria were common due to their locations in regions prone to flooding and swampy areas. In 1919, the AA of Juazeiro experienced numerous malaria cases due to flooding caused by the overflow of the São Francisco River. In 1920, the Satuba AA recorded five cases of malaria, as did the Acre AA in 1928. Thanks to the institutions' infirmaries and doctors, who provided care to the entire community, only one death was recorded between 1910 and 1934 in the Juazeiro AA.

However, the most common diseases were flu outbreaks. When these were poorly monitored, they worsened into pneumonia, as occurred in the Barbacena AA in 1919. These outbreaks also disrupted the school year and postponed exams. In 1926, for example, 20 students fell ill on the eve of their final exams at the AA in Juazeiro.

Other diseases also disrupted the school year. For example, in 1926, smallpox delayed the start of classes at the AA in Juazeiro by five months. Some schools, such as the AA in Barbacena in 1929, began vaccinating their students against smallpox. The institution's doctor, Tyndaro G. Freire d'Aguiar, administered the "Jennerian[2]" vaccine to 150 boarding students.

[2] The smallpox vaccine, which appeared at the end of the 18th century (1797), was the result of Jenner's observation of people acquiring protection against smallpox when they came into contact with cowpox, a similar disease that affects cattle. Jenner obtained a product from the pustule developed in the cow that he called a vaccine ("from the cow"), which, when inoculated in humans, caused eruptions similar to smallpox to appear at the site of inoculation. The "lymph" or "variolic pus" from these eruptions was then removed and used for new inoculations. This created a chain of immunization among humans, with cowpox acting as the initial immunizing agent and humans producing and disseminating the vaccine. This vaccine became known as the 'Jennerian vaccine' or 'humanized vaccine' (FERNANDES, 1999, pp. 30–31)."

The choice between boarding school, day boarding, and day school depended on the location of the institution and its accommodations. For example, the AA in Satuba, located in a region far from population centers with a small child population in the surrounding area, opted for a boarding school system.

The same can be said of the AA in Acre, which highlights the importance of vocational education for children in the region.

> As the only professional educational establishment in the territory, it is destined to provide essential services to the populations of surrounding farms, large and small. It will facilitate boarding school education for numerous children from these regions who are currently completely deprived of even the most basic instruction (BRASIL-RMAIC, 1927, p. 39).

The decision to adopt a boarding school system at the Barbacena AA was due to the decline in enrollment observed during its first four years of operation. In fact, the 1914 ministerial report contains the following conclusion:

> Student attendance was very low in the first semester. This was attributed to two causes: low enrollment in 1914 and the adoption of a semi-boarding system. These factors resulted in a decline in the prosperity that the establishment had achieved (BRASIL-RMAIC, 1916, p. 16).

The boarding school was initially created as an experiment with 20 students. Given the demand, the number of students increased annually to 40, then 80, then 100, and finally 150, which was considered the maximum number that the establishment could support.

Joaquim Tavares da Conceição (2012) asserts that the increased demand for boarding schools is due to the socioeconomic status of their clientele. Given conditions of poverty, the possibility of having food, clothing, and a place to sleep attracted many parents of students. At the Barbacena Agricultural School, for instance, 99 students were waiting to enroll in the boarding program. Of those students, 20 were children of farmers or agricultural industry professionals, 27 were orphans, and 52 came from other unmentioned backgrounds (BRASIL-RMAIC, 1929).

However, most of the agricultural apprenticeships created between 1910 and 1934 adopted a mixed system of boarding and day schools. The ratio of boarders to day students in these establishments ranged from two to one, as in the case of the São Luiz das Missões Agricultural Apprenticeship, to more than ten to one, as in the case of the Bahia Agricultural Apprenticeship (Brazil-RMAIC, 1913-1931).

The prevalence of the mixed system often stemmed from a lack of infrastructure to accommodate more boarders. For example, the AA in Bahia operated in the same building as the Agricultural School of Bahia. Thus, enrollment numbers were invariably low, except for the AA in Barbacena, as seen in the chart below.

Chart 2 - Number of students per school between 1912 and 1931

Year	Regime	Apprenticeships										
		Barbacena	SLMissões	Bahia/ Barreiras	S.Simão	Tubarão	Guimarães	Juazeiro	Satuba	Igarapé-açu	Acre	Total
1912	Internship	---	20	43	---	---	---		---	---		63
	Externship	---	12	---	---	---	---		---	---		12
1913	Internship	---	22	26	---	---	---		---	---		48
	Externship	122	10	6	---	---	---		56	---		194
1914	Internship	---	22	24	---	---	---		---	---		46
	Externship	118	12	8	---	---	---		62	---		200
1915	Internship	---	23	30					22			75
	Externship	50	6	10					---			66
1916	Internship	---	21	30					38			89
	Externship	50	5	10					---			65
1917	Internship	63	20	37					50			170
	Externship	---	37	3					10			50
1919	Internship	100	---	41				85	50			276
	Externship	22	---	3				---	1			26
1920	Internship	100	28	---				100	50			278
	Externship	43	10	---				18	---			71
1922	Internship	100	25	40				64	50			279
	Externship	8	21	6				22	---			57
1923	Internship	150	26	40				55	45			316
	Externship	48	29	6				27	---			110
1924	Internship	150	35	40				62	50			337
	Externship	10	29	7				22	---			68
1925	Internship	150		36				73	50			309
	Externship	13		7				---	---			20
1926	Internship	150		36				61	50			297
	Externship	12		---				5	---			17
1927	Internship	150		---				54			26	230
	Externship	26		---				2			---	28
1928	Internship	150		50				50			50	300
	Externship	19		29				---			3	51
1929	Internship	150		---				49			---	199
	Externship	19		---				---			---	19
1930	Internship	150		---							---	150
	Externship	22		---							---	22
1931	Internship	150		51							50	251
	Externship	---		7							11	18

Source: BRASIL-RMAIC, 1912-1931.

According to this chart, even apprenticeship programs that opted for the boarding system tried to accept external students due to high enrollment demand, which exceeded the boarding school's capacity. In fact, a 1916 ministerial report points out that 16 students were waiting to enroll at the Bahia AA but were not accepted due to a lack of vacancies. The same occurred at the Barbacena AA when 108 students applied and 67 were accepted, leaving 41 out due to lack of space.

Some establishments, such as the Juazeiro and Acre AAs, attributed the refusal to enroll to a legal provision in Law 8.319. This law established the Federal Agricultural Apprenticeships and set a maximum capacity of 50 students for boarding schools. Faced with this legal impediment, the Juazeiro and Acre AAs requested an increase in the number of boarders, as had been allowed for the Barbacena AA.

As for the Barreiras AA, the lack of structural conditions to receive a larger number of students was also a noteworthy issue.

> However, the lack of a suitable building for the model boarding school is becoming increasingly apparent. The number of admission requests continues to be high, not only from Bahia but also from Goiás (BRASIL-RMAIC, 1927, p. 46).

Despite the legal and structural issues, the number of boarding students was consistently higher than the number of external students, except in 1913 and 1914. However, the AA in São Luiz das Missões stood out, having nearly as many boarders as external students. This may have been due to the institution's location in a populated area, which made commuting easier and reduced the need for boarding schools.

Nevertheless, despite being located in an area conducive to maintaining the boarding school system, the São Luiz das Missões AA lacked sufficient accommodations for a larger number of boarding students. In fact, the 1914 ministerial report contains the following statement:

> Last year, 34 students enrolled in the apprenticeship courses: 22 interns and 12 externs. Despite the request of many candidates, it was not possible to admit more interns due to a complete lack of accommodation (BRASIL-RMAIC, 1914, p. 12).

Regarding the number of boarders, the Juazeiro AA is notable, with an average of 22 students in this system between 1920 and 1924. Many of these students were women, making it the only establishment of its kind with a coeducational system and boarding schools for both sexes. It is noteworthy that the AA in Juazeiro used coeducational teaching, as there was much debate, even in urban centers, about the benefits and harms of having men and women study together, especially when it came to adolescents, as was the case with the Apprenticeships.

Figure 1 - Boys and girls in a civic activity at the AA in Juazeiro

Source: IGHB, 1920.

This picture shows men in a prominent position in the foreground, with the military instructor in the center, while the women in the background are accompanied by a professor.

Throughout the 19th century and the first decades of the 20th century, coeducation was a much-debated topic, as it was believed that the objectives of women's education differed from those of men's education. It was thought that women's education should emphasize elements that would make them good housewives and mothers, an idea reflected by intellectuals such as Rui Barbosa. However, according to the Apprenticeship regulations, coeducation would only take place in primary education. In vocational courses, men and women would be prepared differently, leaving them to learn in agricultural industries.

It appears that the experience of the Juazeiro AA did not last many years. After 1924, no references to the presence of women in the establishment can be found. However, it is worth noting that during the six years that women were present at the establishment, their number was close to that of men.

Chart 3 - Number of women and men enrolled at the Juazeiro AA between 1919 and 1924

Year	Regime	No. of women	No. of men	Total
1919	Internship	35	50	85
	Externship	----	----	----
1920	Internship	50	50	100
	Externship	18	----	18
1922	Internship	34	30	64
	Externship	10	12	22
1923	Internship	24	31	55
	Externship	12	15	27
1924	Internship	15	47	62
	Externship	14	8	22

Source: BRASIL-RMAIC, 1919, 1920, 1922, 1923, 1924.

According to the above chart, the Juazeiro AA had 212 women and 243 men enrolled between 1919 and 1924. In percentage terms, this corresponds to 46.59% female and 53.41% male, respectively. These figures suggest that the Juazeiro AA reserved approximately the same number of places for men and women.

More surprising is that the Juazeiro AA had both male and female boarding schools, which was unusual for the time. In fact, institutions that maintained boarding schools at the beginning of the 20th century catered to only one gender. Examples include the gender-specific Children's shelters, Professional Institutes, Agricultural Patronages, Houses of Educators and Artisans, and Sailors' Apprentice Schools, among others.

Regarding federal agricultural education institutions, boarding schools for both sexes were adopted only in the second half of the 20th century. For example, the Benjamin Constant Agricultural School[3] in the state of Sergipe only adopted female boarding schools in 1964 (Conceição, 2007; Nascimento, 2003)

Returning to the analysis in Chart 2, it should be noted that, in 1913 and 1914, when there was a significant number of external students, the Barbacena and Satuba AAs offered evening courses primarily for adults already employed in rural areas. In those two years, the Barbacena AA had a class of 41 students. In contrast, the Satuba AA began its activities exclusively with evening classes. In 1913, it had 56 students, 35 of whom were rural workers from the establishment itself and 21 from surrounding properties. This number increased to 62 in 1914; however, the average attendance was only 31 students (50% of the total enrollment).

In addition to the Barbacena and Satuba AAs, the Guimarães AA ran an evening course for adults during its brief existence (1912–1915). However, we could not find any references to the number of students it accommodated. The course was provided for in the general regulations for agricultural apprenticeships and sought to qualify the regional workforce. As it was an evening course, however, students did not carry out any practical agricultural activities. The goal was to teach them how to work the land more efficiently, as well as to educate this large group of workers.

As we saw with the Satuba AA, evening courses for adults also served to train the same workforce that worked in the apprenticeships. These workers would serve as role models for the younger students, who were the main clientele of these institutions. Thus, when students encountered literate workers who used technical-scientific procedures daily, they would develop the same need through observation and example.

The teaching structure of agricultural apprenticeships

As previously mentioned, the pedagogy adopted at the apprenticeships was based on the principle of "doing to learn," reflecting a practical, active, and modern approach for the time. Although vocational education was the "flagship" of the Apprenticeships, most students were enrolled in the primary course, which was also called the adaptation course in some establishments, such as the Barbacena AA. In 1923, when the AAs had the highest number of students, a total of 426, approximately 376 were enrolled in primary education, i.e., over 88% of those enrolled. This indicates that many students arriving at the Apprenticeships were illiterate.

[3] The Benjamin Constant Agricultural School was created in 1924 by the president of the state of Sergipe, Maurício Graccho Cardoso, as an Agricultural Patronage. It was federalized and transformed into an Agricultural Apprenticeship in 1934, undergoing various names and changes to its administrative-pedagogical structure over the years, until it was transformed in 2008 into the Federal Institute of Education, Science and Technology of Sergipe - São Cristóvão Campus. However, throughout this “journey” it maintained its boarding school, being one of the only agricultural institutions in the country to maintain a boarding school for both sexes.

The primary course was taught with regular (professional) education in mind. In other words, professors tried to link the content to the knowledge needed for agricultural practice when teaching it. This approach aimed to make the content more relevant to students' everyday lives.

The subjects taught in the first and second years of the adaptation course at the Barbacena AA were Portuguese, arithmetic, geography, and geometry. In the third year, the number of subjects increased significantly with the addition of the chorography of Brazil, the history of Brazil, moral and civic instruction, economic geography, and notions of chemistry, notions of physics, notions of zoology, and notions of botany.

In their final year, students began studying subjects that would be fundamental to the regular course, such as physics, chemistry, botany, and zoology. Contrary to what one might think, the third year did not have the highest number of failures, despite the substantial addition of subjects and the complex nature of the activities. The highest number of failures occurred in the first and second years. For example, in 1927, three of the seven students who took the exam in the first year of the primary course at the Barbacena AA failed. In the second year, 23 of the 36 enrolled students failed. In the third year, seven of the 24 students failed.

Unlike at the Barbacena AA, the São Luiz das Missões AA's primary course included drawing at the upper level (third year) instead of geometry. At the middle level (second year), students took History of Brazil, Botany, and Cosmography. Despite differences in the organization of the primary school curriculum, all apprenticeships were similar in one respect: a lack of students in the regular (professional) course.

Due to low attendance in the regular courses, whether because of the low level of education of the students or the number of failures and dropouts in the primary course, all the apprenticeships placed students in occupations related to the establishments' productive activities (workshops, agricultural practices, rural industries, etc.).

Consequently, primary school students engaged in more practical work than those in the regular course. In the case of the Barbacena AA in 1915, primary school pupils carried out much more practical work than those in the regular course.

Chart 4 - Practical work carried out by students at the Barbacena Agricultural Academy in 1915

Month	Regular Course	Primary School	Total
January	10	26	36
February	6	21	27
March	4	19	23
April	4	20	24
May	4	17	21
July	7	9	16
August	7	18	25
September	6	21	27
October	6	21	27
November	6	19	25
December	6	18	24

Source: BRASIL-RMAIC, 1915, p. 8.

There are no records for June because, in this apprenticeship, vacations took place in June, and there were exams for grade changes. In other apprenticeships, such as the AA in Barreiras, vacations took place between July and August, when the region's crops were dormant. The lack of a unified calendar, as previously mentioned, aligns with the legislation that established Agricultural Apprenticeships, which aimed to organize the activities of the establishments while considering regional peculiarities.

Regarding the participation of primary school students in practical activities related to the establishment's daily life, the 1926 ministerial report states that the following was adopted at the Satuba AA:

> On working days, the students participated in all the work and services of the establishment as usual, for three hours in the morning and two in the afternoon. This included the blacksmithing, carpentry, and ceramics workshops, as well as the vegetable garden, orchard, plant nurseries, and processing of agricultural products. They also helped with cooking and cleaning the main building and its outbuildings (BRASIL-RMAIC, 1926, p. 103).

Thus, regardless of whether they were enrolled in the regular course, the students were exposed to modern agricultural techniques through their daily participation in field activities. They also participated in all the work related to the daily operations of the establishment, including maintaining its cleanliness and preparing food.

This procedure adopted by all the apprenticeships meant that students passing through the institutions internalized, albeit in an embryonic way, the discourse of the modern rather than the traditional and the scientific instead of common sense. This was yet another mark of the civilizing process imposed by the agricultural apprenticeships, which sought to not only change how people related to the land— that is, how they acted— but also how they thought. According to Elias (1994), this response is part of the process of psychogenesis.

The care taken with the establishment, the hygiene of spaces and bodies, and participation in preparing one's own food were in line with pragmatist thinking and one of its basic principles: self-government. The same can be said of the initiative to give students plots of land on which to grow their crops, teaching them to live with and overcome difficulties on their own.

In order for students to develop self-government, they needed the "tools," or technical and scientific knowledge, to carry out their actions in the “correct” way by practicing rational procedures for dealing with the land. Students were not merely given concepts; they were made to apply them. This followed the same logic as Dewey's pragmatic-instrumentalist thinking.

> To be able to attribute meaning to concepts, a person must be able to apply them to existence. It is through action that this application is made possible. In addition, the modification of existence that results from this application constitutes the true meaning of concepts (DEWEY, 2008, p. 120).

Following this logic, the most significant number of activities carried out by students in primary or regular school were related to pedagogical-productive practices in agricultural work, rural industries, workshops (blacksmithing, carpentry, leatherworking, etc.), and animal husbandry, among others. In other words, these activities were based on concepts established by agricultural sciences and involved the execution of technical-agricultural activities.

Regarding educational-productive activities, horticulture and fruit cultivation stood out. Many crops were grown in horticulture, including peas, cabbage, beans, asparagus, beets, radishes, carrots, onions, cauliflower, sweet peppers, lettuce, spring onions, jackfruit, okra, eggplants, garlic, artichokes, chicory, peppers, celery, tomatoes, chard, cucumbers, cassava, and potatoes. Almost all the produce from the vegetable garden was consumed within the institutions, and there was rarely any surplus to sell. The students participated in choosing the seeds, preparing the soil and beds, sowing the seeds, weeding daily, fertilizing, applying remedies to eradicate ants, harvesting, and preparing food for consumption.

The work in fruit growing was similar but included tree pruning, grafting techniques, irrigation, transplanting, and pest control for each type of crop. Fungicides, formicides, and chemical fertilizers were applied to increase productivity. The types of fruit trees planted by the apprenticeships varied widely and included mango, cashew, almond, orange, and plum trees, among others. Some apprenticeships stood out due to the productivity of their fruit trees. For example, the Bahia apprenticeship produced bananas, and the Juazeiro and Barbacena apprenticeships produced grapes. Mango production stood out in the Juazeiro apprenticeship, and plum production stood out in the Barbacena apprenticeship.

Some AAs conducted experiments. For example, the Bahia AA planted vines and wheat in 1919 but did not produce any results. According to the person in charge, this was due to the climate and soil conditions for the vines and the poor quality of the wheat seeds. Similar to the AA in Bahia, the AA in Barbacena also conducted unsuccessful experiments, such as importing fruit trees from the United States that struggled to acclimate. Another apprenticeship, in Juazeiro, did not achieve positive results with sugarcane and mulberry crops. These experiments were carried out in small areas to test the crops' ability to adapt to the region's climate and soil.

It is worth highlighting that the Juazeiro AA attempted to cultivate a crop that is typically found in regions with colder climates: the mulberry tree. The purpose of this was not to produce mulberries, but rather to use the leaves to feed silkworms (Bombyx mori), with a view to developing sericulture at the establishment.

Another agricultural practice widely carried out on the farms was gardening. This involved growing flowers and ornamental plants to beautify the farms and producing seedlings and seeds to be distributed to regional farmers. The gardening services at some farms deserved special attention. For example, during its establishment phase, the Barbacena AA received assistance from the Belgian landscaper Arsène Putmans in preparing its gardens, which were intended to serve as spaces for both agricultural learning and recreation. Similarly, the ministerial report of 1929 stated that at the Barreiras AA,

> The garden of the Apprenticeship is being completely renovated and enlarged by the addition of a Dutch-style park, where the students will find comfort, recreation, and, above all, an opportunity to practice gardening and arboriculture (BRASIL-RMAIC, 1929, p. 35).

This was perhaps the only space in the apprenticeship program that was used for both technical and professional training and students' leisure time. It was also a "calling card" for the establishments because it was located in front of the central building. Therefore, special care was taken to make a "good impression" on visitors.

In fact, even though the 1926 flood destroyed most of the Juazeiro AA's crops and left the orchard in terrible condition, the 1927 ministerial report stated that the gardens were in excellent condition.

> On the other hand, the Apprenticeship's gardens are in excellent condition. The students, under the direction of an employee, participate in grafting, cleaning, pruning, and tidying up the plants and beds. A large harvest of roses, dahlias, and other fine flowers is produced, and the seedlings are highly sought after by the city's inhabitants (BRASIL-RMAIC, 1927, p. 43).

Gardening wasn't one of the main tasks carried out during apprenticeships, which focused more on aesthetics than professional training. However, gardening was essential for promoting a positive image of the institutions. In the case of the Barbacena AA, there were so many rose growers in the region that the town became known as the "city of roses." Among the apprenticeships, the one in Barbacena stood out for cultivating different species of flowers and ornamental plants, such as carnations, roses, star of the north, violets, angelica, palms, chrysanthemums, and dahlias.

In addition to diversifying agricultural activities in horticulture, fruit growing, and gardening, some activities were designed to generate income for the apprenticeships. For example, the apprenticeship in Bahia experimented with tobacco to determine the most profitable variety. Two types were chosen: Bahian tobacco (Nicotiana macrophylla) and Cuban tobacco (Nicotiana tabacum). The students were tasked with:

> In order for the students to have an accurate idea of the best variety of tobacco and thus be able to prefer it in the event of industrial exploitation, the services of cutting, weighing, and processing the harvested leaves were distributed among the classes (BRASIL-RMAIC, 1922, p. 44).

Through this activity, the students learned through experience, according to the principles of the intuitive method, that Bahian tobacco had 36.95% more raw material ready for consumption than Cuban tobacco. This was achieved with the same number of plants and fewer leaves, demonstrating the superior quality of the product.

The AA in Satuba cultivated different types of sugarcane to find the varieties that best adapted to the region's soil and produced the most sucrose. Other apprenticeships in Barbacena and Juazeiro made efforts to develop viticulture. The Juazeiro apprenticeship, in particular, sought to adapt known agricultural techniques to the region's unique soil and climate conditions.

> The vineyard continues to be developed, adopting the trellis system[4] as the most convenient means; in this way the harmful effects of the almost uninterrupted irradiation are modified and the soil's humidity is better-retained (BRASIL-RMAIC, 1927, p. 43).

Despite the differences in the types of crops grown, the apprenticeships had common problems with water supply, which each solved in its own way, with the participation of the students in maintaining the supply system, especially the one used to irrigate the crops.

The AA in Satuba, for example, drilled two artesian wells and water tanks in 1913 to collect the water that would be used to supply the institution and systematically irrigate crops (BRASIL-RMAIC, 1913). In the same year, the Guimarães AA proceeded as follows:

[4] The trellis system is also called pergola or bower and is the most popular in Brazil, where the plants join their branches and the plantation looks like a set of cans. The vegetative canopy is horizontal and dry pruning is mixed or spurred. The grape-growing area is approximately 1.80 meters above the ground (available at <www.cnpuv.embrapa.br>, accessed on February 2, 2024).

> The water for supplying the Apprenticeship and irrigating the crops will be provided by a high-pressure pump with a capacity of 500 liters per hour, mounted on the bank of the Capitua stream, and by a windmill on the bank of the Paquetá stream, and all the necessary equipment for these installations has been acquired (BRASIL-RMAIC, 1913, p. 18).

In the case of the São Luiz das Missões AA, the problem was solved by constructing an algibe[5] with a capacity of over 150 barrels to collect rainwater. The Barbacena AA installed a 42,000-liter water tank solely for irrigating the park lawns surrounding the institution's buildings. However, the solution obtained at the AA in Juazeiro caused a great deal of financial expense for the institution.

> The problem of irrigation is of no small concern to the board of the Apprenticeship, since the preservation of orchards, vineyards, etc. depends on water, which is transported from a distance of almost 600 meters, using two cubic meters of green wood daily as fuel, which, at $6 each, greatly increases the expense (BRASIL-RMAIC, 1924, p. 212-213).

To help set up and maintain the irrigation system for the apprenticeship crops, the students, especially those in the regular program were directly involved. They also performed drainage and surveying work to prepare the land for the different crops.

To help develop the agricultural activities of the apprenticeships, the students monitored the work carried out at meteorological stations located in some of these establishments. The Agricultural School (AA) in Satuba, for example, has had such a facility since 1913, in accordance with the instructions of the Meteorology and Astronomy Directorate. One year prior, the Barbacena AA established this service.

> The weather station, installed in April 1912, began its work in July of the same year without interruption, noting the punctuality and accuracy of the observations made, summaries of which, as well as being published there, are sent monthly to the Meteorology Directorate (BRASIL-RMAIC, 1914, p. 11).

Other establishments, such as the AA in São Luiz das Missões, built on work carried out by other institutions. In this case, it was the Porto Alegre School of Engineering. However, the 1916 ministerial report noted the absence of a meteorological station at the institution's headquarters, hindering the progress of agricultural experiments.

The weather station's function was to analyze precipitation, temperature, and sunshine. Starting in 1920, some weather stations began measuring wind speed, relative humidity, and atmospheric pressure. These measurements were all essential for determining the optimal time to plant a particular crop and the feasibility of acclimatizing others.

Through their interaction with the weather stations' work, students learned the importance of applying scientific knowledge to achieve optimal crop yields. Thus, planting and harvesting would no longer be based on religious traditions, such as planting corn on St. Joseph's Day, but rather on rational, scientific principles.

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[5] Algibe, a reservoir for rainwater or river water; cistern; water chest (available at <http://michaelis.uol.com.br>, accessed 02 Feb. 2024).

Other important spaces for introducing students to scientific discourse were the chemistry and physics laboratories, where various practical tasks were carried out to improve agricultural activities. However, despite being required by the law that established the apprenticeships, some institutions lacked these spaces. This was the case for the São Luiz das Missões and Acre apprenticeship programs. The head of the latter institution stated: "The lack of duly installed physics and chemistry labs makes it very difficult for professors to give presentations that cannot produce usable results without practical demonstrations" (BRASIL-RMAIC, 1927, p. 40).

This situation hindered the development and application of the intuitive method, i.e., learning through experience and action rather than learning about things. Agricultural museums were other spaces that contributed to this, subsidizing natural history and botany classes.

Some establishments didn't have such facilities either, but they still tried to fill the gap by exploring the area of the Apprenticeship itself and its surroundings. The AA in Acre, for example, although it didn't have an agricultural museum, tried to use its area to demonstrate to its students, using the intuitive method and the lesson of things to get the best results in terms of student learning. In this sense, the Apprenticeship classes were conducted as follows:

> The lessons on natural history, especially botany, were well understood due to intuitive teaching methods carried out in the fields and woods of the apprenticeship program. Lessons on these subjects were given to students of the preparatory course, with a focus on explaining meteorological phenomena and other topics related to agriculture in general and the agricultural environment of Acre in particular (BRASIL-RMAIC, 1927, p. 40).

This way of conducting classes, with the adoption of the intuitive method and its vulgarized form, the lessons of things, was not a privilege of the AA in Acre. The ministerial reports contain several passages on the use of intuitive teaching in other similar institutions, showing that, in terms of teaching methods, these institutions followed the most modern methods used in urban centers, especially in the School Groups. Considering this, the idea that has spread over the years that the countryside was lagging the urban centers, a lag that was above all economic, but which also involved mentality, must be tempered, especially if we look at the teaching processes used in both spaces.

Another section in which there was a lot of activity was zootechnics, through which students were introduced to proper animal care practices, taking care of hygiene, feeding, disease control, and, above all, production. The animals were used as food, as raw materials for the leather workshop, as a driving force for plowing the land and transporting materials, and, above all, for marketing and genetic improvement of breeds from the surrounding area.

Regarding the objective of improving the breeds of animals in the region, the work carried out by the Satuba and São Luiz das Missões AAs is worth highlighting. The latter, in 1917, reports:

> The red-polled bull has provided us with cows that are half or quarter Zebu. These cows are easy to fatten, resistant to disease, great for work, and excellent milk producers. This explains why breeders easily accepted them and why they are widely dispersed throughout the municipality (BRASIL-RMAIC, 1917, p. 30).

Local producers were interested in animals with these characteristics — high milk productivity, disease resistance, and suitability for work — since diseases commonly made animals unfit for production and work.

Disease susceptibility didn't only affect cattle. In fact, there are several records in the apprenticeships of the loss of pigs and poultry due to disease. One of the students' main activities was detecting animals with possible diseases and separating them from the rest so they wouldn't compromise the entire herd.

The apprenticeship program had a wide variety of animals, so the students were exposed to production methods that were uncommon in the region. The breeding stock was separated from the rest to improve the genetics of the region's animals, as previously mentioned. In 1917, the São Luiz das Missões AA had six animals for this purpose: a stallion, a donkey, two bulls, and two pigs.

All the apprenticeships had animals for breeding, work, and production and consumption within the establishments. The zoo technical section mainly consisted of cattle, horses, donkeys, sheep, goats, and chickens. However, some apprenticeships carried out other activities. For example, those in Barreiras and Satuba raised ducks and pigeons in the poultry section. Satuba had the most developed zoo technical section, with 248 animals in 1923.

> The apprenticeship includes the following animals: Cattle: 15 draft oxen, 17 cows, one bull, one wither, seven calves, and 12 heifers with 1/4 blood of the Swiss breed; one bull, two heifers, and one cow with 7/8 blood of the Dutch breed. Equines: one draft horse, two stallions, seven mares, six foals with half Arab blood, one mare and nine foals with quarter Arab blood, one stallion, three mares, two foals with half Percheron blood, and seven foals and one filly with quarter Percheron blood. Mules: one donkey and two draft mules.
> Sheep: three rams and 17 ewes with half Romney Marsh blood.
> Poultry: 67 chickens of the Orpington white and yellow, Leghorn white, Plymouth Rock, Carijó, and Rhode Island Red breeds; three pairs of Pekin ducks; and 55 pairs of pigeons (BRASIL-RMAIC, 1923, p. 68).

Some activities in the animal husbandry section provided raw materials for another important component of the apprenticeship program: agricultural industries. For example, milk was extracted for internal consumption in the establishments' meals and for producing cheese and butter in the agricultural industries section.

Another activity in the zootechnics section with direct student participation and production geared entirely toward the agricultural industries was beekeeping. In this regard, the AA in Satuba is noteworthy, as it systematically increased beekeeping productivity. However, they sometimes encountered natural problems, such as competition between different types of bees.

> The Arapuá bee, the terrible natural enemy of Italian bees, has been persecuting and consequently weakening the few remaining families since the apiary was set up. Despite the care given to the apiary, the Arapuá bee destroyed the last harvest (BRASIL-RMAIC, 1926, p. 104).

In addition to raw materials from animal husbandry, rural industries primarily used products from agricultural activities. The most common services performed by apprentices in rural industries were rice husking, corn threshing, cotton ginning, and cassava flour production. By 1913, the AA in Igarapé-Açu had facilities for processing these products. Local producers also demanded these services, generating income for the institutions.

To market products from rural industries, some institutions, such as the AA in Barreiras, distributed them free of charge to authorities and traders to publicize and test their quality.

> There is great interest in studying the possibility of selling the products that the Apprenticeship already produces in the industrial sector, such as: Gouda, Cavalo, Prato, Parmesan, and Mineiro cheeses; guava, marmalade, candied sweets, wine, and grape vinegar. These products have already been manufactured and distributed to traders and wealthy individuals in the municipalities of Barreiras, Angical, Barra, and Juazeiro. They have sent letters to the Board of Directors advising that these products be produced in large quantities (BRASIL-RMAIC, 1931, p. 168).

In the case of the Barbacena AA, this service was consolidated over the years and became one of the institution's primary educational and productive activities. In other words, rural industry was as important as agricultural work in the vocational training provided. The canning factory was particularly notable in this regard, as the students produced various flavors of jams, jellies, marmalades, and juices there. All the canning factory's production was based on fruit harvested at the apprenticeship.

Students' participation in rural industries was significant because they could interact with the agricultural production chain. They applied inputs such as limestone, herbicides, fungicides, fertilizers, machinery, and agricultural implements. They also played the role of farmers by planting and harvesting. They processed products by pre-benefitting, processing, or transforming them. Finally, they marketed these products directly to consumers or other traders. As the 1920 ministerial report on the Barbacena Agricultural Apprenticeship states, "The factory's products, made with the help of the students, provide them with a valuable practical lesson" (BRASIL-RMAIC, 1920, p. 183).

From the teaching structure of the Agricultural Apprenticeships, the integration of their activities stands out, as the workshops carried out their services with a view to improving the structure of the institutions and developing educational-productive activities. The primary purpose of agricultural activities was vocational training, and they functioned as pedagogical-productive practices, but they also served to supply the institutions with food, both for people and animals; for marketing, which became income and raw material for rural industries. The same can be said of the animals in the zootechnics section. The rural industries, on the other hand, used the raw materials from the agricultural activities and the zoo technical section to add value to them, and they were used for marketing and internal consumption by the students and staff.

In addition to these activities, the apprenticeships had other training activities, such as physical education, military exercises, and scouting.

Moral Formation and Care of the Body in Apprenticeships

In addition to the primary education curriculum, which included farming, animal husbandry, and rural industries, the apprenticeships included gymnastics classes and military exercises. However, the reports did not mention the type of gymnastics practiced or the activities carried out in the military exercises. It is possible, though, to infer from other works (Vago, 2002; Nery, 2006; Santana, 2008) that the most widely used gymnastics method during the first three decades of the 20th century was the Swedish method. This method consisted of simple or compound movements of the trunk, limbs, and head. The goal was to make the body flexible, correct postural defects, and increase strength and endurance. It also aimed to educate the organs responsible for circulation and breathing. According to Moreno (2003, p. 58), the purpose of the Swedish method was "to develop health and transform the human body into a docile and courageous instrument, always at the disposal of the moral will."

Further evidence that the method used was Swedish comes from the fact that the only images found of this activity in an apprenticeship are from the Juazeiro establishment, where men and women participated in Swedish gymnastics classes in different shifts.

Figure 2 - Girls in Swedish Gymnastics class at the AA in Juazeiro

Source: IGHB, 1920.

As for military exercises, they were characterized by evolutions, marches, and formations. These exercises brought the values of discipline, orderliness, and respect for hierarchy, among others, into the apprenticeships. It is worth noting that this was a common activity in boarding schools with a predominantly male student body. Initially, it was the military and the normalists who were responsible for teaching physical education in schools.

In 1928, in addition to physical education, the AA in Barbacena also carried out scouting activities. Scouting is a movement that began in England in 1907 with the founding of the Boy Scouts of Great Britain by Robert Baden-Powell. From the beginning, it was intended for young people and aimed to instill ethical values based on community spirit, exercising freedom responsibly, and improving one's personality. Brazilians first encountered Scouting through military personnel who were in England on official missions.

According to Nascimento (2008), the first text on scouting published in Brazil was written by Lieutenant Eduardo Henrique Weaver in 1909. Weaver and his commanders landed in Rio de Janeiro in 1910 wearing scout uniforms. Months later, they founded the Centro de Boys Scouts do Brasil. Ana Clara Bortoleto Nery (2003) states that scouting was first adopted in a public school in 1917 in the Federal District and was taught by education inspectors. The author states that there was a close relationship between scouting and the activities developed

by the National Defense League (LDN). Throughout the 1930s and early 1940s, the relationship between the Scouts and the school system was widely debated as a means of passing on the precepts of the military institution to students (Horta, 1994).

Jorge Carvalho do Nascimento (2008) states that, analyses of scouting in Brazilian historiography view it as a strictly patriotic, civic-military movement that militarizes childhood. However, they fail to recognize it as a practice that incorporates values, behaviors, and habits centered on self-government.

Nascimento understands Scouting as part of active pedagogy, which was present in educational reforms in different European and American countries in the early 20th century. He also points out that, despite being founded by an English general, Scouting was steeped in the precepts of North American pragmatism.

> The pragmatic elements in Lord Baden-Powell's discourse enabled him to propose interaction between individuals and their environments. The scout movement's educational approach directed everything towards the individual and competence. The aim was to form men and women capable of creating and doing things, not just repeating them (NASCIMENTO, 2008, p. 205).

The educational values present in Scout pedagogy could also be seen in apprenticeships, as these programs aimed to develop technical and scientific skills for more efficient land use and related activities. Both apprenticeships and Scouting sought to train a "new man," a man of action.

Regarding the adoption of Scouting in the Barbacena AA in 1928, it was consistent with the educational reform proposed by Francisco Campos, the Secretary of the Interior in the Antonio Carlos government. Campos suggested creating Scout Groups alongside School Groups (Nascimento, 2008). This policy gained prominence between 1926 and 1930 thanks to the efforts of Antonio Pereira da Silva. He traveled throughout Minas Gerais, founding scout groups and arriving in Barbacena in 1927. There, he founded a group and the Barbacena Scout Association.

Thus, the adoption of Scouting in the Barbacena AA in 1928 aligned with the statewide policy implemented the previous year.

Scouting, gymnastics, and military exercises were supplementary activities to the training provided by the apprenticeships and were intended to transform habits, conduct, and moral values, as well as strengthen the body.

The training provided by apprenticeships and the fate of their graduates

The "educational web" that made up the training provided by the Apprenticeships included primary education, agricultural practices, animal husbandry, rural industries, professional workshops, gymnastics, military exercises, and Scouting. This created a differentiating factor for those who attended these establishments, broadening their professional horizons — especially for those who completed the professional training course.

I am trying to temper the assertion made by researcher Sônia Regina de Mendonça that the AAs reinforced social immobility and only served the interests of dominant agrarian groups.

> Despite their small number, the importance of the apprenticeships lay in spreading the principles of "agricultural teaching" as instruments of the material and symbolic power of the dominant agrarian groups over rural workers. By placing knowledge presided over by the notion of

> "progress" at the disposal of rural workers, the opposition between "modern" and "archaic" agriculture was naturalized, as was the subordination of the latter to the former. Both were devoid of class content. Additionally, the apprenticeships confined their participants to a state of immobility akin to labor nurseries, where local farmers recruited teams for seasonal tasks on their properties free of charge (Mendonça, 2006, pp. 4–5).

At the end of the regular course, students received a certificate that varied depending on the establishment. At the Barbacena Agricultural Academy (AA), it was a certificate of completion for the crop management course. At the Juazeiro AA, it was a certificate of completion for the special agronomy course. In most AAs, however, students received a certificate of practical ability in agricultural work. Few students completed their studies, though. As mentioned above, only the Barbacena AA managed to graduate a double-digit number of students in 1927: 11 in total.

The difficulty of completing the program made certification even more significant, increasing the degree of differentiation between certified students, who had technical and scientific knowledge, and uncertified students, who had traditional, non-scientific practices. Completing studies at the AAs also enabled students to pursue further education or employment at institutions associated with the Ministry of Agriculture, Industry, and Commerce (MAIC), as stipulated by law. With this in mind, the students who completed the professional course at the Barbacena AA in 1930 and 1931 had the following destinations:

> In June 1930, six students completed the Professional or Crop Manager Course. Of those students, only one received a Crop Manager diploma, while the other five received a certificate of practical ability in agricultural work. Three of the certificate holders are employed in private farming, one is serving as a class leader for fieldwork in an apprenticeship program, one is continuing his professional studies outside the establishment, and one is running a farm he owns.
> In June 1931, nine students finished the same course. Two obtained the Head of Crops diploma, and seven obtained the certificate of practical ability in agricultural work. Five of the latter work for themselves or private individuals, applying the knowledge they obtained at the apprenticeship. One serves at the agricultural apprenticeship in Barreiras, Bahia, as a pomiculturist, and one runs a dairy factory in the municipality of Palmira, Minas Gerais. The two students who graduated as heads of crops are studying agronomy (BRASIL-RMA, 1931, pp. 163-164).

Students from various apprenticeships worked in a wide variety of agricultural jobs in different state and federal government departments. These included the Agricultural Inspectorate of the 10th District in the state of Sergipe, the Cotton Service in the state of Bahia, the Agricultural Inspection and Promotion Service in the state of Paraíba, and the Secretary of Agriculture in the state of Espírito Santo, among others.

Students were often employed at the establishment itself to serve as examples for others, encouraging them to aim for the same position. Placing graduates as employees of the apprenticeship program symbolized the program's ability to provide students with opportunities for social advancement.

The federal government's encouragement of land acquisition by school graduates also motivated students to complete the regular course. According to the agricultural education legislation, students from agricultural education institutions had priority in acquiring public land. This resulted in many graduates acquiring their land and becoming small farmers.

These "benefits" for those who completed the vocational course at the Agricultural Apprenticeship program increased demand for enrollment at the establishments. However, due to a lack of infrastructure to accommodate a larger student body, many were denied admission. The training provided by the apprenticeships offered good prospects for the students, as previously mentioned, and for the government, which saw this policy as a way to settle people in rural areas and reduce immigration to urban centers.

As previously mentioned, the Barbacena AA stands out for the number of students who graduate from its vocational program. Between 1910 and 1923, 11 graduates of this apprenticeship acquired their land and became small farmers (BRASIL-RMAIC, 1923). This puts some analyses about the Apprenticeships as "labor nurseries" into perspective because, by acquiring their land, the graduates became "owners" of their workforce. Encouraging graduates to buy land reflects the pragmatic ideals of self-government and self-initiative that made up the teaching at these establishments.

However, 10 graduates were employed on farms or in agricultural industries. Notably, three of these graduates held prominent positions: two were farm administrators, and one was the head of a sweet factory. This confirms that the knowledge acquired in the apprenticeships was a factor of professional differentiation.

Final considerations

Law No. 8,319 organized all levels of education, establishing primary agricultural education institutions called Agricultural Apprenticeships. These institutions were intended to primarily educate the children of small farmers and rural workers, teaching them modern agricultural techniques that would foster new relationships between "man and land," thus embodying a civilizing ideal. In addition to catering to young people between the ages of 14 and 16, the apprenticeships offered adult education courses to train workers already employed in rural areas. The Apprenticeships also provided technical support to farmers in their regions, distributing plant seedlings, seeds, agricultural machinery, and breeding animals, among other tools, to boost local crops.

The apprenticeships also offered short courses on specific aspects of farm management and provided students with certifications corresponding to the skills they had learned. Another peculiarity of these agricultural educational institutions was that they offered vocational training courses for women in rural industries such as butter and cheese making, jam and jelly production, and other activities that benefit to agricultural products.

The apprenticeships also offered primary courses designed to teach the fundamentals of reading, writing, and mathematics to students, many of whom were illiterate. Notably, women attended these courses alongside men, which was uncommon at the time, as seen in the Agricultural Apprenticeship in Juazeiro.

Despite the importance of apprenticeships in the technical training of agricultural workers, these institutions lost ground in developing primary agricultural education policies between 1910 and 1934. Of the eight establishments created by 1914, only two operated uninterruptedly for 24 years: São Simão (SP); Barbacena (MG); Satuba (AL); São Luiz das Missões (RS); Tubarão (SC); Igarapé-Açu (PA); Bahia (BA); and Guimarães (MA). The apprenticeships in Barbacena, MG, and Bahia, which was later transferred to Barreiras, were the only ones to operate uninterruptedly for 24 years. It was common for the federal government

to reduce the resources allocated to these institutions during budgetary difficulties, sometimes closing them down entirely.

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