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# EDUCATIVE AND ECONOMIC POSSIBILITIES OF SCHOOL-DIRECTED HOME GARDENING IN RICHMOND INDIANA

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# LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR.
BUREAU OF EDUCATION,
*Washington, February 6, 1917.*

SIR: In April, 1916, at the request of school authorities in Indiana, I assigned J. L. Randall, one of the Bureau of Education specialists in school and home gardening, to make a careful study of the possibilities of home gardening directed by the public schools in the city of Richmond, Ind. This study was made in cooperation with the Indiana vocational education survey, and special attention was given to the possible economic results as well as to its educative values. I am transmitting the report of this study for publication as a bulletin of the Bureau of Education.

Respectfully submitted.

P. P. CLAXTON,
*Commissioner.*

The SECRETARY OF THE INTERIOR.

# EDUCATIVE AND ECONOMIC POSSIBILITIES OF SCHOOL-DIRECTED HOME GARDENING IN RICHMOND, IND.

*Aim and scope.*—The purpose of this study was to collect facts and figures on the cost of vegetable foods to city families, the possibilities of raising much of this food in the city, and the educational value of garden training to the people, especially the children, of the city of Richmond.

## WAYNE COUNTY AND RICHMOND.

*County and city.*—Since Richmond is the marketing, shipping, and industrial center of an agricultural county, the economic relations of city and county are closely interwoven. By the 1910 census figures between 90 and 95 per cent of the land area of Wayne County is in farms, and the average value of this land is from $50 to $75 per acre (this value has increased very rapidly in the last five years). The State of Indiana is divided into seven divisions, according to land values, and Wayne County is placed in the fourth division. In comparison with the other 91 counties, Wayne stands thirty-fourth in the value of farm property, twelfth in population, twenty-fourth in the production of potatoes, and forty-fourth in the production of other vegetables. A comparison of amounts and values of the agricultural products of the county demonstrates that the majority of the farmers are engaged in general farming. Near the city there are a few specialized farms growing vegetables and berries for the city market, but the small number prevents oversupply and consequent low prices even in the periods of marketing short-season crops.

## THE CITY OF RICHMOND.

*Growth of the city.*—The growth of the city has been gradual. At no one time does there seem to have been a rapid increase in population, with consequent high lot values. In topography the land both in and near the corporate limits of the city is level, which, with low values per front foot, has reacted in the laying out of comparatively large building lots. The size of lots ranges from 40 by 160 feet to 70 by 165 feet, and many home grounds are much larger. Lots completely covered or nearly covered by buildings are only to be found where the back parts of corner lots have been sold for the building

of houses facing on cross streets. A large proportion of the families live in single houses. By the 1910 census there were 5,533 dwellings for the accommodation of 5,874 families, or only 341 cases of families living in apartment houses or with other families. In the last five years the number of families has increased to 6,607, and from the number of building permits issued dwellings seem to have increased at about the same rate as has the number of families, but a larger percentage of flats has been erected. The figures on dwellings and families correspond very well with the estimated growth in population of between two and three thousand over 22,324, as given in the 1910 census.

*Architectural styles.*—The architecture of the homes is, in the main, very plain. With the exception of two small sections, straight-line building has been the rule. In the older and better parts of the city this has resulted in rather substantial-looking homes, placed on an average of 35 feet from the curb, thus leaving a good space for lawns, which are well kept in most cases. Many shade trees have been planted, but little attention has been given to breaking the box-like lines of the older square house without porch or the more modern house (Pl. 1, fig. *A*) by the planting of vines and shrubbery.

## PRODUCTION AND DISTRIBUTION OF GARDEN PRODUCTS.

In any consideration of the economic value which the home garden may have to city families, the place of production, methods of purchase, and cost of vegetables and small fruits need to be studied. Question blanks were filled out by 11 grocers and 58 housewives. The grocers' reports are summarized as follows: 65 per cent of the fresh vegetables sold through their stores during the year are secured from farmers, and 35 per cent through commission houses. In the total sale of vegetables to the people of the city, the grocers sell from 70 to 75 per cent; the farmers' market, 20 to 25 per cent; and hucksters, 5 to 10 per cent. The cost of fresh and canned vegetables to a family of five persons is estimated by the storekeeper at between 25 and 40 cents per day, or a total cost of from $91.25 to $146 per year. The grocers were unanimous in stating that the consumption of canned vegetables had increased very rapidly during the last few years, and, on the average, estimated that from 40 to 50 per cent of all vegetable foods used in the city are now purchased in cans. One store proprietor illustrated this increase by stating that seven years ago a saleswoman for a prominent brand spent two weeks in selling between two and three hundred dollars' worth of canned goods to housewives, whereas, in the same length of time this year, between three and four thousand dollars' worth was disposed of.

Forty-seven housewives reported that of the vegetables purchased for use in their homes, 68 per cent came from the grocery store, 24

per cent from the farmers' market, and 8 per cent from the huckster. Reports which were received from 50 families, with a total of 230 individuals, give the daily cost of fresh vegetables alone as 4.6 cents per person, or a total of $83.95 for a family of five for one year. The cost of canned vegetables as given by the housekeepers is much lower than the grocers' estimate, and exactly half of that spent for fresh vegetables, or for 47 families containing 213 people the daily cost per individual was 2.3 cents, or a yearly cost for five people of $41.97.

The figures on small fruits (including strawberries) as received from grocers and housewives are much less definite. They agree, however, in stating that from 75 to 80 per cent of the year's sale of berries is sold to the consumer through the grocery stores; that fully 90 per cent of the berries used are purchased during the 10 weeks to 3 months that local berries are on the market; and that the amount of canned berries consumed in the average home is small. Forty-six housekeepers, representing families containing 209 persons, report a daily average cost per person, during the 10 weeks that local berries are on the market, of 3.7 cents, or a total cost for a family of five for 70 days of $12.95. Taking the housewives' figures as a basis, a family of five persons spends on an average $138.87 per year for canned and fresh vegetables and fresh berries.[1] The canning of fruits and vegetables in the home has decreased, not over 5 to 10 per cent of the amount consumed being home canned.

The price of vegetable and small-fruit foods to the city family depends largely on the competition between grocers. From the standpoint for which it was intended, the farmers' market seems to be largely a failure. On the one hand, the city purchasers claim that prices are not less than at the stores, and, on the other, a large number of farmers consider it more profitable to sell the produce all at once and spend the extra time in farm work. City ordinances permit the selling of farm produce to the homes without a huckstering license, but, again, the element of the value of the farmer's time enters, and very few take advantage of this method of selling.

*Cultivation and irrigation.*—The soil in the city back yards and vacant lots is almost without exception well adapted to vegetable gardening. There are a few filled lots, but the number is exceedingly small. In most seasons the rainfall is sufficient for the maturing of crops if the water is conserved by cultivation. In extremely dry spells back-yard gardens may be watered without extra cost, as the city water company makes its charge per front foot without regard to the depth of the lot. In the cases of vacant-lot gardens, there would be an extra cost for the use of water.

[1] When compared with other investigations, the above annual vegetable costs, as given by grocers and housewives, seem abnormally high.

## GARDEN PROMOTION OF RECENT YEARS.

*Charity organizations and schools.*—Several organizations have fostered family gardening, and two of the elementary schools have conducted school gardens. The high-school classes in botany purchase seeds through the school, and the students are encouraged to make home gardens. Previous to the last garden season, one social workers' club, or committee of such club, was instrumental in obtaining vacant lots for the use of families who wished to conduct gardens. A few volunteer workers gave freely of their time, and good results were accomplished. Last season this work was conducted by the Central Bureau of Charities. In all, 46 applications for garden land were received, and gardens were found for 22 families. No accurate record of the productive result of these gardens was kept, but considering the limited time that could be given to the supervision of the work by the secretary of the central bureau it was considered a success. So far as can be learned, gardening for its economical results or educational value has not become the duty of the workers under any permanent organization, such as the school board or Central Bureau of Charities. While no attempt should be made to detract from the value of what has been done, the work has lacked definiteness by not having been put on a sound financial basis and under the direction of trained and practical garden leaders.

## THE NINE ELEMENTARY SCHOOLS.

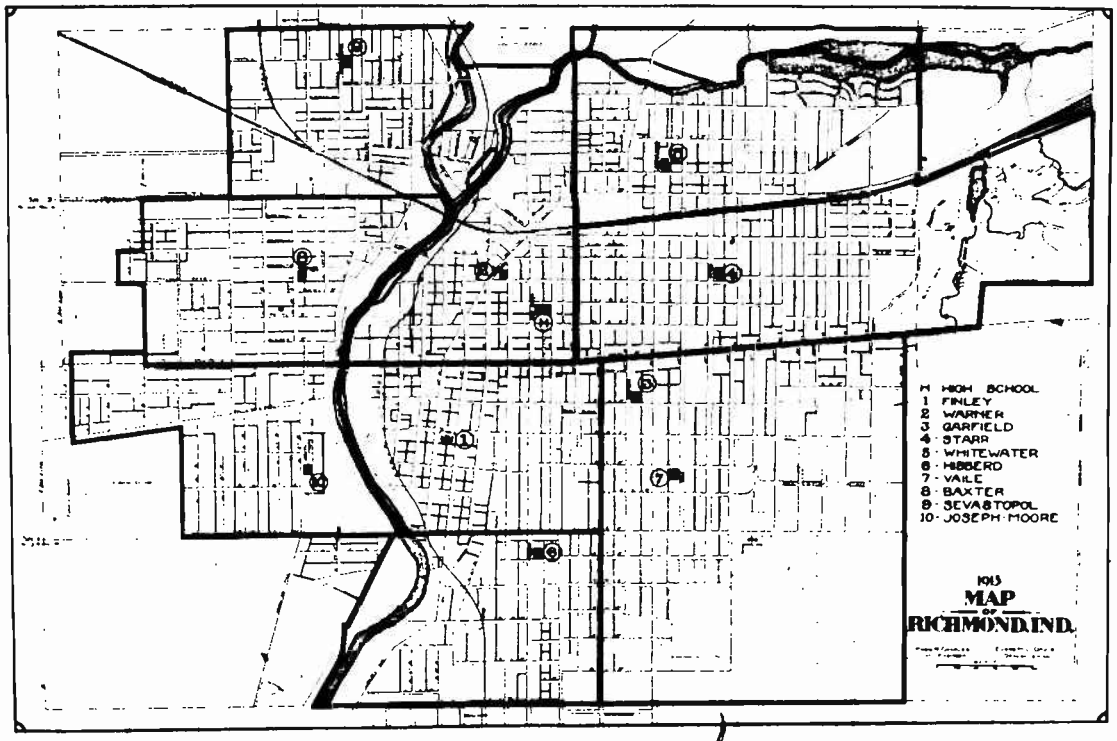
(See Tables 1, 2, and 3.)

The elementary school districts form convenient divisions for the study of conditions in different parts of the city. In the main, these districts are remarkably uniform in size (Pl. 2), when it is considered that the boundaries are marked by the principal business streets, the railroad lines, and the Whitewater River. In the character of homes, the size of lots, and the living conditions of the people, there are marked variations which merit separate discussion for each district and school.

*Finley District.*—The Finley school district includes a part of the oldest and most closely built section of the city. The houses are built on smaller lots than is common in other districts. Seventy per cent of the people rent their homes, and some of the home grounds are not well cared for. In other homes well-kept lawns are to be found, and in these homes every square foot of back-yard space is often used for the cultivation of a kitchen garden. About 12 per cent of the back yards are too small for the production of enough vegetables for the families, but large vacant areas are to be found short distances away. An examination of 10 blocks, containing 214 houses, was made and gave the following result: 26 had no garden

*A.* VINES AND SHRUBBERY WOULD IMPROVE THE APPEARANCE OF THESE HOMES

*B.* THESE BACK YARDS COULD EASILY BE GARDENS.




MAP OF RICHMOND, IND., SHOWING SCHOOL DISTRICTS

space; 62, between 400 and 1,000 square feet; and 126, more than 1,000 square feet. There were two vacant lots in the 10 blocks.

The Finley school had an enrollment of 250 pupils at the beginning of the school year, 122 of whom were in the upper three grades. Ninety-nine children made reports, of which number 5 had vacation work; 6, irregular gainful occupation; 3 were engaged in gainful after-school employment; and 31 helped with home work and the care of a garden or chickens. Lack of garden space was reported by 14 children, while the other 85 had an average of 1,051 square feet each.

*Warner District.*—The Warner school district gives a first impression of being very closely built. The building line is near the street, however, and an examination of the back yards reveals more space than would be expected in a district bordering the railroads, factories, and river. Ten blocks, containing 190 houses, were examined, with the following results: 14 had no garden space; 93, between 400 and 1,000 square feet; and 83, over 1,000 square feet. At 21 of the homes some vegetables were grown last season.

The Warner school enrollment in September was 295, with 146 pupils in the fourth, fifth, and sixth grades. Of 111 children reporting on the number of square feet of garden space in the back yard, 14 state that they have no space; 59, an average of 400 square feet; and 38, more than 1,000 square feet. For the 111 children there is an average of 1,000 square feet each. Fifteen children worked during the vacation, 3 had irregular employment, and the 3 who have regular work after school hours earn an average of $1.17 per week. The figures on summer vacation earnings were not complete; the amounts reported were small.

*Starr District.*—The Starr school district includes a large area of the oldest residential section of the city, and, judging from the school enrollment, it has the largest population. The lots, on the whole, are large in size, although there are many large residences and double houses which cover much ground. A very complete study of back-yard garden space was made in this district. The ground available in every home was measured by the aid of the insurance map of the city and these measurements verified by visits to some of the homes. Of the 1,198 lots that were examined, 137 had little garden space, 358 had from 400 to 1,000 square feet, and 703 had 1,000 or more square feet; and there were 67 vacant lots in the districts.

The Starr school had an enrollment at the beginning of the school year of 460 pupils, of whom 225 were in the three upper grades. Question forms were made out by 216 children, of whom 20 had regular vacation work, 14 worked after school, and 8 had employment for a part of the time during the summer. Twenty-seven children either

had a garden of their own or helped with the family garden. Of the 205 children who reported the amount of land in back yards usable for gardening, 14 had little or no space, 98 had an average of 400 square feet, and 93 had more than 1,000 square feet. The average space for each of the 205 children was 1,139 square feet.

*Whitewater District.*—The Whitewater school district, located on the northeast section of the city, while slightly irregular in shape, is approximately 10 blocks east and west, by 5 north and south. A large number of the houses are rented, and the lack of that pride which comes with ownership is evidenced by the unkept lawns and dilapidated outbuildings that line the alleys as regularly as do the houses the streets. Few of the houses have bathrooms or sewer-connected toilets; and the condition of back lots, outhouses, and alleys (Pl. 1, fig. *B*) shows that the city health ordinances are not being obeyed. A few of the homes are as well kept as in other parts of the city. The lots are larger than it is common to find in sections of eastern cities where the houses are built for rent. A study of the back yards of 155 homes of 10 blocks in the most congested part of the district showed that 11 had little or no space for gardening, 37 had between 400 and 1,000 square feet, 107 had 1,000 square feet or more, and there were 71 vacant lots, all of which space might be used in gardening.

In the Whitewater school 285 pupils were enrolled at the beginning of the present school year, 98 of whom were in the fourth, fifth, and sixth grades. Ninety-five of these upper-grade children, aided by teachers and parents, filled out questionnaires from which the following figures were obtained: Seventy-eight children had no definite employment during the summer vacation, 11 worked throughout the summer, the work of the other 6 being irregular. Out of 60 children, 22 reported that their homes are rented. In only 3 of the 95 back yards is there lack of garden space; 37 have an average of 400 square feet and 55 have more than 1,000 square feet. The total number of square feet given by the 95 reports is 458,135, or an average of 4,822 square feet per child.

A successful school garden has been conducted at the Whitewater school for the past three years. The garden is not continued during the vacation; only crops maturing before the close of school are planted. The value of the crop for the spring of 1914 was: Onions, $25.60; radishes, $72.05; and lettuce, $29.70.

*Hibberd District.*—The Hibberd school district is on the south-central edge of the city; to the south and east there is much vacant land laid out in city lots and farm land. Some of this land seems to be little used, and might well be turned into family garden tracts. There are also many scattered vacant lots, some of which give evidence of having been cultivated last season. A large number of

back yards are under cultivation, and the economical use of the home grounds gives evidence of the thrift of the people. One hundred and seventy-seven homes were examined in the most closely built section of the district, with the following result: Fifteen had little or no lot space adapted to gardening; 39 had 400 but less than 1,000 square feet; and 123 had 1,000 square feet or more.

The Hibberd school enrolled 295 children in September, 112 of whom were in the fourth, fifth, and sixth grades. Reports received from 103 children give the following figures: Ten had regular vacation work, 4 worked a part of the time, 5 worked after school, and 37 owned a garden or helped with the family garden. The total value of garden products as given by 13 children was $193, or an average of $14.85 each, while 12 who worked in stores or sold papers, etc., earned a total of $142.30, an average of $11.86 each. Available home garden space was given by 88 children as follows: One, no space; 43, less than 1,000 square feet; and 44, more than 1,000 square feet. The average garden space per child was 5,730 square feet.

*Vaile District.*—The Vaile school district is the largest in area in the city. In the southeastern section, however, few houses have been built. The house lots are large and the lawns well kept. Many of the back yards are in sod, and comparatively few vegetable gardens are to be found. Just at the south of the district new lot plans have been laid out, and there is much idle vacant space that might be used for gardening.

The Vaile school had 280 pupils enrolled at the beginning of school in the fall. One hundred thirty-seven pupils were in the upper three grades. Questionnaires were signed by 135 pupils, but in many cases the information was incomplete, and a few parents (the only cases in the elementary schools) objected to giving the information sought. Only two pupils report regular vacation work, and five earned money a part of the time. In reply to questions on land available for gardening, many answered that they did not have any space, as back yards that were in sod were not considered available. Of 64 children who gave the amount of usable land, 3 lived in houses without lots, 36 had from 400 to 1,000 square feet, and 25 over 1,000 square feet. The average number of square feet per child was 2,510.

*Baxter District.*—The Baxter school district is in the central section, on the west side of the city. The large vacant tracts and farm lands are, therefore, all to the west. Near the end of the two bridges leading to the business part of the city most of the building lots are occupied by houses. These lots are all large, and practically all of the homes have available garden space in the back yards.

The Baxter school attendance in September was 285, with 147 enrolled in the three upper grades. One hundred and thirty-three reported on vacation employment as follows: Nine had definite work,

10 part-time employment, and 6 after-school employment. Six of the children who had their own gardens made an average profit of $10. One hundred and ten children measured the available garden space at home: One had no land for gardening, 54 had less than 1,000 square feet, and 55 had a larger amount. The average number of square feet per child was 1,617.

*Sevastopol District.*—The Sevastopol school district, on the northwest corner of the city, is joined on two sides by open farming land, and there are large tracts in the district which are vacant. About 40 per cent of the homes have gardens, and a few vacant tracts are used for cultivation. Many single lots are unused, all of which are large enough for a family garden if intensive garden methods were used. A detailed examination of available garden land in any section of this district was deemed unnecessary, as without question there is enough space available for all who wish to use their own lot or to obtain the use of vacant areas.

The Sevastopol school enrolled 235 children at the commencement of the school year. One hundred and one pupils were in the three upper grades. Several other children have entered since that time, as questionnaires were filled out by 104 children. Sixteen children report definite work from which money is earned during the summer vacation; 9, irregular employment, and 8 have after-school employment. Gardens are owned by 6 of the pupils, and 8 others help with the family garden. Space available for gardening on the home lot was reported as follows: 2 have no land, 13 have 400 to 1,000 square feet, and 64 have 1,000 square feet or more. Eighty-five children had an average of 4,116 square feet each.

*Joseph Moore District.*—The Joseph Moore school district, considering its area, has the smallest population of any district of the city. With few exceptions, the building lots are large, and there are many vacant tracts of land. An examination of the plat map of the city clearly demonstrated that it was unnecessary to make a detailed study of land available for home and vacant-lot gardening. Back-yard gardens are to be found at many of the homes, and vacant tracts show evidence of having been cultivated last season. The area used for the production of food for the homes of this community could easily be more than doubled.

The Joseph Moore school might well be called a city school in a rural district. The city limit is reached at the south edge of the school grounds, and from that point the land is all in farms, several of which extend into the corporation. The total enrollment of children in the school at the beginning of the school year was 105, of which number 35 were in the three upper grades. Reports received from 34 of the children demonstrated that some garden activities and work on near-by farms furnished more employment for older

children than is to be found in other parts of the city. Twenty-eight of the children claim some vacation occupation, although in the case of 22 the work was indefinite and irregular. The 6 boys who report regular work earned an average of $24 each for the vacation period.

Less than 1,000 square feet of garden space in the home lot is reported in only four cases. Thirty-two of the children have an average of 2,873 feet per child, and of the other two, one has 4 and the other 17½ acres.

TABLE 1.—*Vacant lot and back-yard garden space in five districts.*

| School districts. | Houses. | Little or no garden space. | 400 square feet. | 1,000 square feet or over. | Vacant lots. |
|---|---|---|---|---|---|
| Finley, 10 blocks | 214 | 26 | 62 | 126 | 2 |
| Warner, 10 blocks | 190 | 14 | 93 | 83 | 1 |
| Starr, all houses | 1,198 | 137 | 358 | 703 | 67 |
| Whitewater, 10 blocks | 155 | 11 | 37 | 107 | 71 |
| Hibberd, 10 blocks | 177 | 15 | 39 | 123 | 16 |
| Total | 1,934 | 203 | 589 | 1,142 | 157 |

TABLE 2.—*Occupation of elementary school children in vacation and after school.*

| Schools. | Children. | In vacation. | | | Have regular employment after school. |
|---|---|---|---|---|---|
| | | Helped with the home garden. | Have regular employment. | Have irregular employment. | |
| Finley | 99 | 31 | 5 | 6 | 3 |
| Warner | 111 | 11 | 15 | 3 | 3 |
| Starr | 216 | 27 | 20 | 8 | 14 |
| Whitewater | 95 | 12 | 11 | 6 | 6 |
| Hibberd | 103 | 37 | 10 | 4 | 5 |
| Valle | 135 | 12 | 2 | 5 | 0 |
| Baxter | 133 | 6 | 9 | 10 | 6 |
| Sevastopol | 104 | 14 | 16 | 9 | 8 |
| Joseph Moore | 34 | 11 | 6 | 22 | 0 |
| Total | 1,030 | 161 | 94 | 73 | 45 |

TABLE 3.—*Available home garden space reported by the elementary school children.*

| Schools. | Children. | Little or no space. | Average of 400 square feet. | 1,000 square feet or over. | Value of garden produce at 10 cents per square foot. |
|---|---|---|---|---|---|
| Finley | 99 | 14 | 0 | 85 | $8,500 |
| Warner | 111 | 14 | 59 | 38 | 6,160 |
| Starr | 205 | 14 | 98 | 93 | 13,220 |
| Whitewater | 95 | 3 | 37 | 55 | 6,980 |
| Hibberd | 88 | 1 | 13 | 44 | 6,120 |
| Valle | 64 | 3 | 36 | 25 | 3,940 |
| Baxter | 110 | 1 | 54 | 55 | 7,660 |
| Sevastopol | 83 | 2 | 17 | 64 | 7,080 |
| Joseph Moore | 34 | 0 | 4 | 30 | 3,160 |
| Total | 889 | 52 | 348 | 489 | 62,820 |

*The Garfield School.*—All of the pupils of the seventh and eighth grades of the city are enrolled in the Garfield School. Coming from all parts of the city, the reports on garden space by these pupils serve as a cross check on those received from the elementary schools. When school opened in September, 590 pupils were enrolled. Information in regard to the out-of-school activities and home-garden space was furnished by 271 boys and 245 girls. One hundred and twenty-six boys worked during the summer vacation selling papers, in stores, and similar occupations; 61 were employed after school hours or on Saturday; and 36 helped at home with the care of a garden or chickens. The average income from the boys having regular occupations was $36.85. Only 4 of the girls were employed outside of the home, and 11 helped with the home gardens.

A survey of the occupations before and after school of the pupils of this school was made by the principal a short time ago, which gave results as follows: Of 297 boys, 34 worked before school, 142 had home duties; after school, 69 worked and 147 had home duties; of 257 girls, none worked before school, 111 had home duties, and 36 had special lessons; after school, 4 worked, 172 had home duties, and 111 had special lessons or worked on school subjects. A special record was also made of the desire of the parents and children in regard to the home work of the pupils, as follows: Of the parents, 163 favored having the children employed, 128 opposed, and 164 were indifferent; of the children, 309 favored having employment, 133 opposed, and 112 were indifferent.

Reports on home-garden space were made by all of the children, as follows: 45, little or no space; 206, an average of 400 square feet; and 265 more than 1,000 square feet.

## THE HIGH SCHOOL.

No attempt was made to make a complete study of the gardening activities and summer occupations of high-school students. Questionnaires were distributed to the freshman botany class and to those who took botany last year. Sixty-two blanks were returned by the members of the present class, but the number received from the previous class was too small on which to base conclusions in regard to the number of gardens cultivated as a result of the sale of seeds and class instruction. Of the 62 reports that were tabulated, 5 students owned gardens, 10 helped with family gardens, and a total of 36 families had a vegetable garden. Sixteen pupils had regular vacation work from which money was earned; 7, part-time work; and 38 claimed some regular home duties. Three of the students had little or no space for a home garden, 38 had less than 1,000 square feet, and 21 had over 1,000 square feet. The average space that could be gardened by each pupil was 1,825 square feet.

About 70 students from farm homes near the city are enrolled in the Richmond High School each year. In the course of study of the school no provision has been made for the teaching of subjects that have a special bearing on country life.

## COUNTRY SCHOOL CHILDREN.

In order to make a comparison of the out-of-school duties of city and country children, a half day was spent with the county superintendent of schools, visiting schools in the country districts. The early closing of the schools of the country prevented making this part of the study as extensive as was desired. Two schools were visited, one a typical two-room country school building to which all the children came from farm homes; the other, an eight-room village school.[1] The same questions used in the Richmond schools were asked, and answers recorded from 112 pupils. Of these, 103 had definite home duties for which they were responsible each day; 16 had their own farm projects of which they kept record and had any profit which might be made; and 3 worked outside the home to earn money.

## JUVENILE COURT RECORDS AND TRUANCY.

A careful study was made of the juvenile court records since September, 1907. In the 202 cases recorded 185 children were brought from Richmond, 6 from Cambridge City, 4 from Hagerstown, 3 from Greens Fork, 2 from Fountain City, 1 from Boston, and 1 from Wayne Township. In 45 of the cases the children were from babyhood to 6 years of age; 24 were between the ages of 7 and 9, inclusive; 113 between 10 and 14; and 29 were 16 years of age or over. Of the cases that were between birth and the ninth year the cause of appearance in court rested largely with the parents; between 10 and 14 mischief was the principal complaint; and in the case of the older children mischief and sex immorality were the leading causes.

Complete records of truancy were obtainable only for the 1914–15 school year. The office of truant officer for the city was separated from the county during the present school year, and records were not yet compiled. The distribution of the truancy cases for 1914–15 was as follows: Richmond, 461; Cambridge City, Hagerstown, Fountain City, and Boston, 6; and from farms, 5.

## LEAVING SCHOOL TO WORK.

By the records of working permits and employers' reports there were 79 boys and 69 girls under 17 years of age employed in Richmond on March 1, 1916. Eleven of these children left school while

[1] In the latter school all children not living on farms were excluded.

in the fifth grade; 40 in the sixth, 38 in the seventh, 87 in the eighth, 10 in the first year of the high school, and 8 in the second high-school year. The following reasons were given for leaving school: 76, economic necessity; 34 wanted to work; 13 did not like school: and 28 for varying reasons. The fact that 29 of the children left school before the age at which they could be employed under the State law seems to indicate that they gave up their studies because the school subjects had ceased to be of interest or that they had failed to receive promotion. The majority of those holding working permits attended Indiana schools, 57 were born in Richmond, 48 in other parts of the State, 38 in other States, and 3 are of foreign birth. One hundred and thirteen of the children attended the Richmond public schools; 20 Richmond parochial schools; and 13 came to the city from schools elsewhere.

*Industrial conditions and charity.*—During the past three years several of the larger manufacturers of the city have either moved to other places or discontinued business. The resulting shortage of work has caused financial stress in a large number of families. The Central Bureau of Charities was called to aid 784 family units last year—about double that receiving help in normal times. Some of those who were out of work moved to other cities, and a few secured places as farm laborers or became tenant farmers.

During the years 1893–1897, when there was a shortage of work all over the country, a large number of Richmond people were unable to find work, and to provide the necessities of life obtained work on farms. Young men who had come to the city from farm homes returned, and others became farm laborers and tenants. The return of prosperity and resumption of business brought only a small part of these people back to the city, and many are now prosperous farmers of Wayne County.

## CITY BEAUTY AND CIVIC PRIDE.

There are many expensive homes in the city of Richmond, but, with few exceptions, they lack completeness because of the absence of vines and shrubbery. A large number of homes were examined to determine what had been done in the way of planting perennials to decorate the houses; about 10 per cent of the houses were well planted; 40 per cent had a few shrubs and vines; and 60 per cent had no planting. When the trees are in leaf this defect is somewhat covered by the many street shade trees and by well-kept lawns. The prevailing type of architecture (Pl. 1, fig. *A*) particularly needs additional adornment. The most common shrubs now used in the landscaping of the homes are lilacs, syringas, and spireas, but show lack of intelligent care, and have been allowed to grow to tall, ungraceful bushes with small tufts of green at the tops. The advantage coming

A. AN ALLEY IN THE RESIDENTIAL SECTION OF RICHMOND, IND.

B. BACK YARDS IN THE WHITEWATER SCHOOL DISTRICT.

A. RICHMOND, IND., AS SEEN FROM THE RAILROAD

B. ANOTHER VIEW FROM THE RAILROAD

from the use of evergreen shrubs under Richmond climatic conditions seems not generally to be appreciated. A knowledge of home beautification on the part of the people might easily double the city's beauty and increase property values. The statement of one Richmond real estate dealer on this point should be convincing. He says: "A home with a well-decorated exterior is half sold."

The plan of laying out as many alleys as streets has both advantages and disadvantages. In these alleys are buildings of all sizes, colors, and conditions of repair (Pl. 3, fig. *A*). The presence of the alley offers the excuse and easily leads to the habit of dumping everything not needed in the house or yard over the back fence. In some sections of the city (Pl. 4, figs. *A* and *B*) the alleys are a disgrace to the town and a menace to public health.

Glen Miller Park is a credit to the city, but its location is such that the people of the central and western part of the town have to go too long distances to visit it often. The central landscape feature of the city seems to have been overlooked. The Whitewater River valley holds great scenic possibilities and has the advantage of being located where it can be seen each day by many residents and all strangers who visit the city.

## SUMMARY OF FINDINGS.

*Homes.*—Although located in the center of a farming region, the prices paid for vegetables are comparatively high. Prices are standardized by present methods of selling. Considering the low average labor income, the amount spent for vegetable foods is large, averaging $138.87 for a family of five persons. About 30 per cent of the families have home or vacant-lot vegetable gardens, but the methods of planting and cultivation are not intensive, and the money value of the product is small. Of all the homes in the city, less than 10 per cent lack space on which to make a practical kitchen garden; 30 per cent have enough land to produce all the vegetables for the family during the productive season of the garden; and in 60 per cent there is enough to produce fresh and canned vegetables and berries for the entire year, and, in many cases, to have a surplus to sell. There is enough vacant ground so that all of those who are without land could secure enough for a family garden. In most cases the use of vacant lots can be secured free of charge, but when it has to be rented the price of $1 per lot is so small that it would have little effect in decreasing the profits.

*Schools.*—The school year in Richmond is nine months in length and the school day five hours. The children are out of school nearly half of the week days of the entire year, and three-fourths of the days

of the garden season. On school days less than half of the daylight hours are spent in the classroom. All of the children of the city might have occupations two hours per day on school days and four on Saturdays, holidays, and in the summer vacation, and yet have enough time left for play, reading, music, and other special studies. At the present time only 9.1 per cent of the elementary school children have regular productive occupation during vacation, 7 per cent irregular employment, and 4.4 per cent after-school hours. In the Garfield School 19 per cent are engaged in earning money before and after school, and 25 per cent during the vacation. Of the high-school students reporting, only one-fourth have vacation occupation.

Of 889 children in the elementary schools reporting on home-garden space, 6 per cent were without home lots, 39 per cent had an average of 400 square feet, and 55 per cent had 1,000 or more square feet.

In several cities where home gardening was conducted under the direction of the public schools the children were able to produce a net profit of 10 cents per square foot.[1] The children of the nine elementary schools of Richmond should be able, on the basis of the number of square feet reported (see Table 3), to earn from their gardens a total of $62,820, or an average per child of $70.66. The home-garden income from the 516 reporting from the Garfield school would be $34,740, or an average per child of $67.32.

In some cases the same land has been reported on by two children of the same family, one attending an elementary school and the other the Garfield school. These cases will, however, be offset by the large vacant tracts of which no account has been made, and while the figures may seem large, there is little doubt that each public-school child of garden age may produce enough to reduce the cost of vegetables in his home to half the present cost.

A comparatively large number of children leave school each year, some because they need to earn money toward the support of the home and others because school subjects do not interest them. The earnings of these children are small, and their earning powers might be much increased if a more complete education were received. The number of cases of juvenile delinquency and truancy is very much greater in the city than in the country. With each industrial depression, city families turn to the country to seek a means of livelihood. Agricultural instruction is not given in the schools, and thus the younger pupils do not become interested in the subject; older students are unable to pursue the subject vocationally, and those who,

[1] In several cities in North Carolina and Tennessee a number of children have produced 10 cents' worth of vegetables per square foot and a few have achieved even larger returns. The figure is used here to set a standard of excellence that teachers should aim to have a large number of children reach.

from financial necessity, seek the country have a small earning power and are unable to adapt themselves to country life.

The beauty of the city might be much increased if the citizens were familiar with the methods of cultivation and care of decorative plants.

## GENERAL CONCLUSION.

*Value of garden training in Richmond.*—A thorough and practical garden training would have great economic and educational value to all of the people of the city. To make the most successful gardens, knowledge and skill are necessary. Profitable gardening may result from years of experience, but the quickest and greatest returns in money and pleasure can be obtained only when experience is combined with scientific study of soil, climate, and crop production. Many people born in the city have little or no knowledge of making practical home gardens, and even those who have lived on farms have little experience in the kind of intensive gardening adapted to the city. The schools were established for the complete education of all the people; they are the logical centers for garden teaching and should be able to do such teaching more economically and permanently than any other agency.

The economical and educational value of garden education as a department of the public educational system of the city should reach all of the people. While the garden teachers would devote their attention primarily to the children, they should also act as a source of information and help to all who are interested in gardening. The following advantages should result from the establishment of such a department:

A thousand children might be employed in healthful and gainful occupation during the out-of-school hours.

All of the unused land and unproductive time of the children might be used to contribute to the wealth of the home and community.

Many children will be able to remain in school longer by contributing to the income of the home.

From regular work the children would form regular habits of industry and learn the value of money.

Many of the children are in the psychological period at which gardening is nominally playwork, and under the right system of teaching will not become burdensome to any.

Garden teaching affords the best kind of nature-study teaching.

General school subjects will be vitalized by correlation with gardening, and children who have lost interest in learning for learning's sake will renew interest by having the schools take up a subject in which it is possible to learn and earn through doing.

Real interest in school work prevents truancy.

By having regular occupation the pupils will be saved from evils caused by idleness and less liable to commit juvenile-court offenses.

Back yards and vacant lots would be cleared and cleaned and home environments improved.

The teaching of methods of planting decorative plants would increase civic pride and city beauty.

A thrifty next generation would be developed who would be proud of Richmond, the city they developed.

## RECOMMENDATIONS.[1]

Based on the facts stated in this investigation, the following recommendations are made:

*Board of education.*—The board of education of Richmond should commit itself to the plan of establishing in the public schools of the city a complete department of home gardening under the direction of the public schools within the next three years and it should be the policy of the board to demand that those who are employed to direct the gardening adapt their teaching to the needs of the people of the city. The first and principal aim should be to train many people to produce their own vegetables and small fruit foods; the second aim should be to train the people to carry out other avocational home projects which may have economic value to the people of the city; and for those students who attend the Richmond high school from the country, and for those of the city who wish to take up farming as a life work, vocational agriculture courses should be given. The central theme of the school department should be, "By the city for the benefit of the city's people."

*High school.*—(See City Plan of Organization, p. 21.) A teacher who is trained in theoretical and practical agriculture should be employed to teach in the high school and also to be the general home-garden supervisor. This teacher should be employed for 12 months, but not more than one-half his time should be given to the training of the high-school students who wish to study agriculture vocationally and the other half to training, supervising, and assisting the home-garden teachers of each school district.

[1] The recommendations here presented were somewhat modified in the local report to conform to the Indiana vocation law. For the modified version, see the Richmond (Ind.) vocational education survey report.

PLAN OF ORGANIZATION OF HOME GARDEN DEPARTMENT
IN THE PUBLIC SCHOOLS

CITY SUPERINTENDENT
OF SCHOOLS

HIGH SCHOOL TEACHER
CITY AGRICULTURAL SUPERVISOR

GARFIELD SCHOOL
HOME GARDEN TEACHER ASSISTANT SUPERVISOR

| FINLEY | WARNER | STARR | WHITEWATER | HIBBERD | VAILE | BAXTER | SEVASTOPOL | JOSEPH MOORE |
|---|---|---|---|---|---|---|---|---|
| 1 PART-TIME HOME GARDEN TEACHER | 1 PART-TIME HOME GARDEN TEACHER | 2 PART-TIME HOME GARDEN TEACHERS | 1 PART-TIME HOME GARDEN TEACHER | 1 PART-TIME HOME GARDEN TEACHER | 1 PART-TIME HOME GARDEN TEACHER | 1 PART-TIME HOME GARDEN TEACHER | 1 PART-TIME HOME GARDEN TEACHER | 1 PART-TIME HOME GARDEN TEACHER |

The selection of the high-school and supervising teacher should be made with great care, as on his ability the success of the work largely depends. The State supervisor of agricultural education should be consulted in regard to the selection of this teacher, and the work in Richmond should become one unit in the vocational and industrial educational system of the State. By receiving the approval of the high-school courses by the State board of education, two-thirds of the salary of the teacher may be received from the State funds, in accordance with the State vocational educational law.[1]

*Garfield School.*—A teacher of home gardening and profitable home-project work should be employed for 12 months to teach the pupils of the Garfield School. This teacher should require that all of his pupils carry out a profitable home project each year and draw his teaching lessons from the practical home work of the children. The teacher should be assistant city supervisor of home gardening and should be required to furnish a list of names and addresses, together with an outline of the project of each Garfield pupil living in each

[1] INDIANA SCHOOL LAW.—*Vocational education.*—SECTION 1. *Be it enacted by the General Assembly of the State of Indiana*, That the following words and phrases as used in this act shall, unless a different meaning is plainly required by the context, have the following meanings:

1. "Vocational education" shall mean any education the controlling purpose of which is to fit for profitable employment.

2. "Industrial education" shall mean that form of vocational education which fits for the trades, crafts, and wage-earning pursuits, including the occupation of girls and women carried on in stores, workshops, and other establishments.

3. "Agricultural education" shall mean that form of vocational education which fits for the occupations connected with the tillage of the soil, the care of domestic animals, forestry, and other wage-earning or productive work on the farm.

5. "Industrial, agricultural, or domestic science school or department" shall mean an organization of courses, pupils, and teachers designed to give either industrial, agricultural, or domestic science education as herein defined, under a separate director or head.

*Establishment of schools.*—SEC. 2. Any school city, town, or township may, through its board of school trustees or school commissioners or township trustees, establish vocational schools or departments for industrial, agricultural, and domestic science education in the same manner as other schools and departments are established and may maintain the same from the common-school funds or from a special tax levy not to exceed 10 cents on each $100 of taxable property, or partly from the common-school funds and partly from such tax. School cities, towns, and townships are authorized to maintain and carry on instruction in elementary domestic science, industrial, and agricultural subjects as a part of the regular course of instruction. (R. S. 1914, 6641b.)

*State maintenance.*—SEC. 14. The State, in order to aid in the maintenance of approved vocational schools or departments for industrial, agricultural, and domestic-science education, shall, as provided in this act, pay annually to school cities and towns and townships maintaining such schools and departments an amount equal to two-thirds of the sum expended for instruction in vocational and technical subjects authorized and approved by the State board of education. Such cost of instruction shall consist of the total amount raised by local taxation and expended for the teachers of approved vocational and technical subjects.

*Compulsory attendance.*—SEC. II. In case the board of education or township trustee of any city, town, or township have established approved vocational schools for the instruction of youths over 14 years of age who are engaged in regular employment, in part-time classes, and have formally accepted the provisions of this section, such board or trustee are authorized to require all youths between the ages of 14 and 16 years who are regularly employed to attend school not less than five hours per week between the hours of 8 a. m. and 5 p. m. during school term. (R. S. 1914, 6641k.)

school district to the part-time home-garden teacher of the district concerned. After school hours, on Saturday, and during the summer vacation it should be the duty of this teacher to visit the pupils' homes and in cooperation with the district part-time teacher to assist and instruct the children with their home projects.

In case there is a demand or need for vocational instruction in agriculture by children who are employed, the teaching should be done by the home garden teacher of the Garfield School. Two-thirds of the salary of the teacher may be received from State funds for this part of his work.

*The elementary schools.*—One part-time home-garden teacher should be employed in each of the elementary schools except the Starr school, in which there are over 200 children of garden age, and two teachers will be necessary. A regular grade teacher may be employed to do this work only when proof of complete and practical garden training has been given. At the present time, with one possible exception, none of the teachers in service are trained to do this work in a practical way. Three years have been given as the length of time needed to put the complete garden teaching plan into operation, in order that teachers may have time to receive training. This training may be acquired by taking summer courses at agricultural colleges, but the practical side of gardening should be taught in teachers' classes conducted after school hours by the city supervisor.

As soon as a home-garden teacher has been appointed in any elementary school, the teaching program should be so arranged that two lessons per week can be given by this teacher in each of the three upper-grade rooms. Purely agricultural textbook teaching is not to form any part of these lessons, but the material for each class period should be drawn from the pupil's home work. After school, on Saturday, and during the summer vacation the home project teacher should visit the homes of the pupils and instruct them, first, to make practical kitchen gardens; second, where space admits, to raise grapes and small fruits; and when this has been thoroughly conquered, attention may be given to the planting of decorative shrubs and vines and the complete landscaping of the home. The garden teacher will be able to visit the home gardens often, as, using the school as a center, practically all of the children live within five blocks. (Pl. 2.)

## CORRELATION CHART

ELEMENTARY SCHOOLS

FINLEY | WARNER | STARR | WHITEWATER | HIBBERD | VAILE | BAXTER | SEVASTOPOL | JOSEPH MOORE

GARFIELD SCHOOL
(Seventh and eighth grades)

HIGH SCHOOL

CITY SUPERINTENDENT
OF SCHOOLS

STATE SUPERVISOR OF
AGRICULTURAL EDUCATION

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
STATE BOARD OF EDUCATION

PURDUE UNIVERSITY

SCHOOL OF EDUCATION
STATE UNIVERSITY AND
STATE NORMAL SCHOOL

UNITED STATES DEPARTMENT
OF AGRICULTURE

UNITED STATES BUREAU
OF EDUCATION

Each of the elementary school home-garden teachers should receive the names and addresses of all Garfield school pupils and assist the home project teacher of that school by helping give instruction to these pupils. An effort should be made to interest all children who have working permits in home-project gardening, and each garden teacher should, in so far as possible, assist anyone in his district who wishes advice or information on gardening. Complete reports on the financial returns of these home projects should be made, and the work of no teacher should be considered completely successful unless the combined financial returns of the projects are larger than the salary which he receives from the board of education.

## CORRELATION CHART.

Under the foregoing plan the following list of agencies should all function in working out a complete home-gardening plan in Richmond:

Elementary Schools.—Ten part-time home-garden teachers to teach and promote gardening; two in the Starr district and one in each of the eight other districts.

Garfield School. One home-garden teacher also acting as assistant city garden supervisor.

High School.—One vocational garden teacher also acting as city garden supervisor.

City Superintendent of Schools.—General administration and correlation with other school subjects.

State Supervisor of Agricultural Education.—General supervision and advice.

State Superintendent Public Instruction and State Board of Education.—Administration of State funds under vocational educational law.

Purdue University.—Furnishing agricultural information.

School of Education, State University, and State Normal School.—Training of teachers and school organization.

United States Department of Agriculture.—General agricultural information.

United States Bureau of Education.—Home-garden organization, adapting agricultural information to school use.

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