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VOCATIONAL AGRICULTURE DEPARTMENT FACILITIES

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Many vocational agriculture departments are operating under the handicap of greatly inadequate facilities to carry out a complete program of instruction. Very often even the classroom and laboratory facilities are substandard, but the outstanding deficiency is in the complete lack of space for farm shop instruction. In consideration of the rapid increase in farm mechanization in the past several years, up to one third of the time in vocational agriculture might well be spent in farm mechanics training. Such training requires good farm shop facilities.

The accompanying design is developed as a suggested minimum layout for a high school vocational agriculture department. Its purpose is to give guidance to persons charged with the responsibility of planning a local high school agriculture department, which will adequately serve the community. It is the responsibility of the local Board of Education and the Superintendent of Schools, with the advice of the agriculture instructor and the architect, to determine a design which will be functional and which the Board of Education is willing and able to finance. Any such group will find reasons to make many minor, and, in some cases, major changes in this floor plan. All equipment placement in the plan is merely suggested and should be individually planned for the best functional results. While it is entirely within the prerogative of planners to change door and window spacing and size and arrangement of rooms, it is to be remembered that functional value is of greatest importance.

The plan calls for an overall space of 100′ x 42′ and provides necessary classroom, laboratory, office, shop, and storage space. It may be planned as a separate building or as the wing of the main school plant. In general, the plan will meet present and anticipated future needs in most communities.

I. The Classroom—24′x31′-6″x12′

This room is designed to accommodate from twenty to thirty students, which is the maximum a teacher in a good vocational class can service. The classroom is 24′ wide, 31′ 6″ long, and 12′ high. It should have hardwood floors. As much natural light as possible should be provided. The window sills should be about 36″ from the floor and sufficient artificial light should be supplied to meet minimum standards. The inside and outside rows of lights should operate on separate switches.

The following is suggested equipment which should be provided in this room. The numbers correspond to those in the floor plan:

1. The Teacher's Combined Classroom and Demonstration Desk

The teacher's classroom and demonstration desk should be 3′ x 6′ x 36″ with a built-in, acid-proof, laboratory and demonstration type sink with running water. The top should be finished with acid resistant material. Storage space for some teaching material may be provided in the lower part of the desk.

2. Students' Tables and Chairs

The tables should be 2′ x 5′ x 30″ high of sturdy construction with hard surface tops. They should contain no drawers or storage space. This size of table is planned to seat two persons. If the tables are 30″ wide instead of 24″, three persons can be seated at one table, making it possible to accommodate thirty Agriculture I students at the ten tables indicated in the plan. Chairs should be of sturdy, posture type construction. Folding chairs are unsatisfactory.

3. Shelves

The chief purpose of this shelf area is for storage of reference books, F.F.A. library books, teaching materials, and the like. The lower 36″ of the shelf may be 18″ wide and provided with cabinet doors. A part of this section would be used for storage of teaching materials, such as grain and head samples. The portion in which this and similar material is stored should be of rodent-proof construction. In the other portion of this lower shelf, space should be provided for storing charts on hangers. The upper shelves would be of standard book shelf width (10″ to 12″).

4. Bulletin File

(a) There are two types of bulletin files which seem to be most popular among agriculture teachers. One of these is constructed of tiers of tilted glass fronts on hardwood supports forming

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a number of pockets of slightly larger than bulletin size, approximately 6½" x 9½". The pockets are about 2½" to 3" deep at the bottom and 6" deep at the top. The advantage of this type of file is that the desired bulletin is easily selected without reference to a special filing list. The chief disadvantage is that the pockets are difficult to keep clean and the contents orderly.

(b) Another popular type of file is the metal shelf. This file provides a number of metal shelves of slightly larger than bulletin size placed horizontally between supports. Saw kerfs about 2" apart in the supports make it possible to adjust the spaces between shelves to accommodate the number of bulletins to be filed. Nine to ten such columns of shelves, about 4' high will adequately accommodate the supply of bulletins usually found in an agriculture department. The chief advantage of this type of storage is its compactness. The chief disadvantage is the necessity to refer to a catalog in order to find the desired bulletin.

5. Slate Blackboard

The blackboard space should be provided on the wall at the front of the room. The bottom of the board should be 36" from the floor. The board itself should be 8' to 10' long and 4' high with one foot of cork bulletin board material along the top.

6. Cork Bulletin Board

The bottom of this board should be 36" from the floor and the board should be 4' high and wide enough to fit the space between the entry door and the corner as indicated in the drawing.

The small storage room, which is 7' x 3', provided off the rear of the classroom is designed to accommodate visual aids material such as projection machine, films, film strips, slides, and the like. The necessary shelves and cabinets should be provided and the room should be adequately lighted. If no door is provided, cabinets should be fitted with locks.

II. Laboratory—8'x16'x12'

The laboratory is designed to provide for some storage as well as for the usual functions of an agriculture laboratory. Here the milk, soil and seed testing and other testing and experimental work will take place. The size of this room will vary with the needs of the community. For example, in departments where considerable seed testing is done, a larger laboratory will probably be required. An acid-proof floor is desirable. If the floor is of wood, it is recommended that the area immediately in front of the counter on which the milk testing equipment is installed be treated with an acid resistant finish. It is very important that this room be especially well lighted and ventilated.

The following is suggested equipment which should be provided in the room. The numbers correspond to those in the floor plan:

1. Milk Tester—A standard, twenty-four bottle, electric driven, milk tester should be provided. This machine should be permanently attached to the counter.

2. Laboratory Sink—30" x 20" x 5½" deep—This sink should be acid-proof and installed flush with the surface of the counter. It should be equipped with hot and cold running water and a drain stopper.

3. Laboratory Counter—16' x 24" x 36" high—This counter should be of sturdy construction with a heavy acid-proof or acid resistant top. All of the space below this counter should be fitted with cabinet type doors enclosing shelves to be used for storing testing equipment. At least two electrical wall outlets should be provided immediately above the counter level.

4. Counter—10' x 24" x 36" high—This counter should have a construction similar to the one on the opposite side of the room except that the storage portion below the top should be constructed rodent-proof. The open shelf about 8" deep and extending four or five feet above the counter level will provide additional storage space for such items as seeds, stored in glass containers, laboratory specimens, and other similar materials.

III. Entry—7'x8'x12'

The entry is placed within the main body of the building for reasons of appearance and the fact that such construction avoids drafts and makes it easier to keep the building clean. It is so located that students may con-

SUGGESTED MINIMUM HIGH SCHOOL VOCATIONAL AGRICULTURE DEPARTMENT

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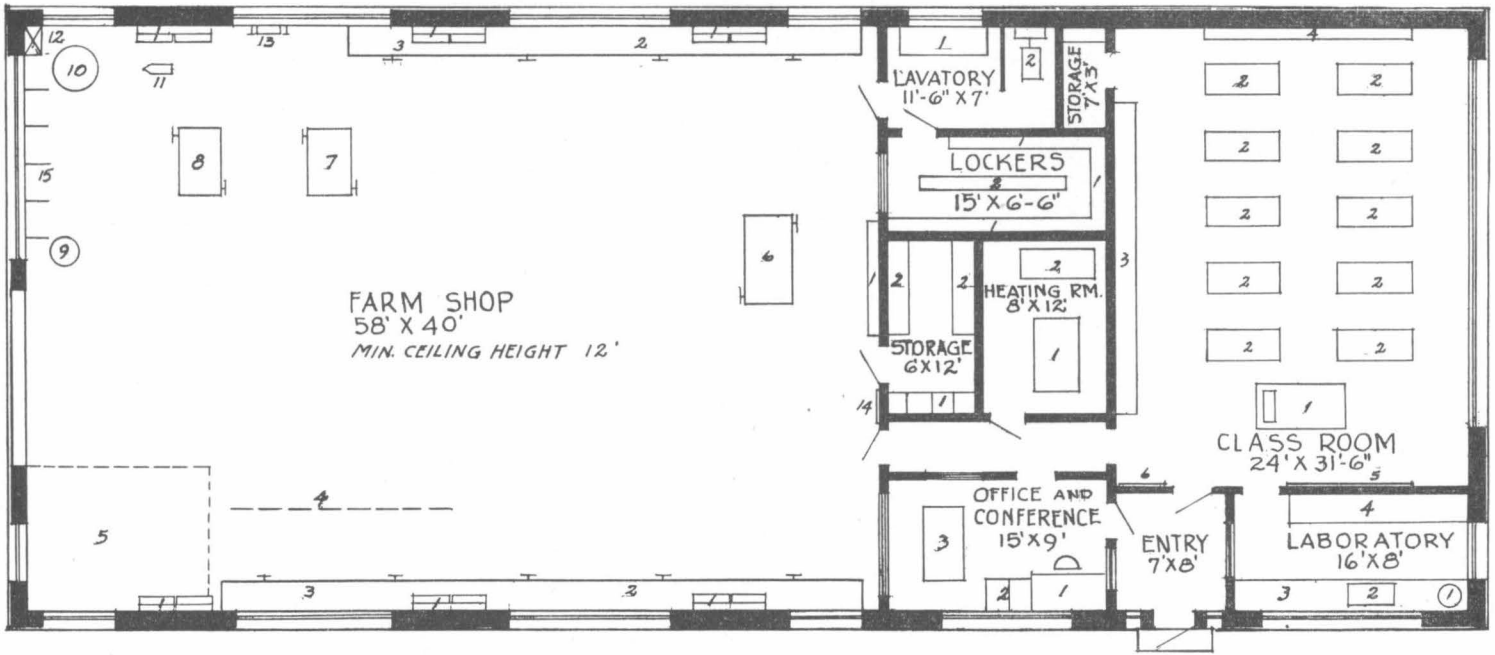

Outside Dimensions
42' x 100'

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veniently enter the classroom or laboratory. The agriculture instructor's office may also be entered directly from the entry. This arrangement is important because it invites out-of-school patrons to make more frequent and better use of the facilities of the agriculture department by providing a convenient and direct entry to the instructor's office. The floor should be of tile or similar, easily cleaned, durable, material. It should be on the same level as the floors in the adjoining rooms. The doors should have glass panels in the upper one-half.

IV. Office and Conference Room—9'x15'x12'

An agriculture department should be so arranged as to provide service not only to the four grades of high school but also to the out-of-school youth, the adult farmers and the businessmen of the community. In order that a community agricultural education program of this nature may be adequately coordinated, it is neessary to provide office space. In this plan, the office space is large enough to accommodate small conference groups such as advisory committees, F.F.A. officers meetings and the like. The windows on the inside walls of this room are so arranged that the instructor may see as much as possible of the entire department from his office. The window leading to the shop should be double in order to eliminate as much of the shop sound as possible. The floor in this room should be of standard wood construction.

The following is suggested equipment which should be provided in this room. The numbers correspond to those in the floor plan:

1. Instructor's Desk—The instructor's desk should be of the executive type, about 3' x 5' x 30" high. One of the desk drawers should be a file drawer.

2. File Cabinets—Most agriculture departments require two four-drawer filing cabinets for adequate storage of necessary reports, subject matter information, and the like. Many instructors prefer one letter size and one legal size file. Each of the four drawer steel cabinets should be fitted with locks.

3. Conference Table—This table should be at least 5' long, 3' wide, and 30" high.

4. Chairs—Appropriate for the instructor and the conference groups.

V. Heating Room—8'x12'x12'

In this plan, a space is provided for a heating room. This space would be utilized for storage where a central heating plant provides the necessary heat for the department. The floor should be of concrete and the walls and ceiling concrete plaster to make the room as completely fire-proof as possible. If the room is used as a heating room, no storage of any knd should be permitted.

The following is suggested equipment which should be provided in this room. The numbers correspond to those in the floor plan:

1. Furnace—The furnace should be an oil or gas burner, forced hot air type of such capacity as to keep the temperature of all rooms, except the entry, shop, and shop storage room at 68 to 72 degrees Fahrenheit and the remaining rooms at least 60 degrees Fahrenheit.

2. Fuel Oil Tank—This tank is needed only when an oil burner furnace is used, and should be of about 250 gallon capacity. The tank should be fitted with a pipe that will permit filling the tank from the outside.

VI. Shop Storage Room—6'x12'x12'

The floor in this room may be of concrete or wood. The room will be used to store lumber, small individual student's projects, supplies, such as nails, screws, bolts, and other hardware, paints, paint brushes, and similar materials requiring storage inexcessible except by permission of the instructor.

The following is suggested equipment which should be provided in this room. The numbers correspond to those in the floor plan:

1. Upright Lumber Storage Racks—In order to conserve space, it is recommended that all lumber be stored in an upright position. The racks consist of rows of metal or wood supports spaced at 2' intervals vertically, and projecting about 18" from the wall. These rows of supports should be spaced at 16" to 18" intervals horizontally along the wall.

2. Storage Shelves and Bins—These shelves and bins should be built to accommodate items of the nature indicated in the descriptive paragraph of the use of this room. The shelves should extend at least 18" from the wall. It is recommended that the lower 36" be fitted with doors that can be locked. The upper section of the shelving should be opened. Shelves should be spaced at distances varying from 2' to 12" and should extend to the ceiling.

   (a) Lug Boxes—These are boxes 16" wide, 24" long, x 12" high of ¾" plywood with hand holes in the ends. Six or eight of these may be used to store parts of machines being repaired.

(Continued in October issue)