Oregon Agricultural College
EXTENSION DIVISION

INDUSTRIAL CONTESTS FOR OREGON BOYS AND GIRLS

1913

The bulletins of the Oregon Agricultural College are sent free to all residents of Oregon who request them.
PREFATORY NOTE

This bulletin is published by the Extension Division of the Oregon Agricultural College for the purpose of giving a few brief directions to the teachers, pupils, and parents relative to the plan, method of organization and the procedure involved in the school industrial contest campaign, and to furnish simple instructions as to the best way to produce and prepare the various subjects for exhibition. These instructions refer only to the products for which prizes are offered at the State Fair. No attempt is made in the bulletin to give instructions as to the best methods of producing other articles that may be made the subject of competition at the local or county fairs.

Much of the subject-matter contained in the following pages is reprinted from the bulletin on the same general subject published last year. This must necessarily be true to a great extent relative to the instructions for the best methods of producing the articles described; because our knowledge of these does not vary greatly from year to year.

The State Fair prize list for the juvenile exhibitions included in the bulletin has been prepared in the office of the State Superintendent of Public Instruction and approved by the Secretary of the Oregon State Fair. It is published in this bulletin in order that the whole matter may be presented in compact form to the attention of those interested. The expenses involved in publishing the prize list is borne by the office of the State superintendent.

RALPH D. HETZEL,
Director of Extension.

March 31, 1913.
PURPOSE AND PROCEDURE

By R. D. Hetzel.

The appearance of this bulletin marks the opening of the second State-wide campaign for the purpose of interesting boys and girls, teachers, parents and the public at large, in the wider use of industrial training in the education of the youth of Oregon. The purpose of this effort is not only to stimulate interest in industrial education, but particularly to relate the work of the public schools more intimately to the real interests of the various communities and of the State at large. Back of all of this is a perfectly defined purpose to continue to foster the highest ideals in education. We would emphasize the utilitarian aspect of education in order to extend the influence of its highest ideals.

We want our boys and girls to learn not only in theory, but in fact, not alone from the standpoint of the idealist, but from the standpoint of the one who toils, that labor is ennobling. We want them to know that the industries, the home and the common neighborhood are designed to enlist and reward the best intellect, the highest ideals and the full strength of strong men and women.

The campaign made last year in Oregon enlisted more interest on the part of parents, patrons and the public than anything that has ever been done in connection with our public schools. As a result, children have taken a new interest in school work and education is enjoying better support in every respect than it had previously received. If the same results follow from the work of the next few years, it may safely be said that work of greater significance has never been done in Oregon.

The report of the Superintendent of Public Instruction for 1912 summarizes the results of the first year’s work in the form of statistics. These show that 88 children’s fairs were held in various parts of the State; that the value of prizes offered at these fairs amounted to $20,000, and that out of a total of 125,000 school children in the State 75,000 were exhibitors. No other state in the Union has done such a work.

The results of the work done last year and the experience of other states seem to justify the methods used in the past campaign; but a word in explanation may help to give a better understanding of the reasons for our methods. The contests are held, and prizes offered, in order to awaken the interest of our boys and girls in work that, in the past, has appeared to be too commonplace to justify any consideration. We take this method of directing the attention of our young people to the great opportunities which lie in the industries, home making and community improvement. The prizes and the contests are only means employed in order to arouse interest and enthusiasm. Enthusiasm so kindled will result, ultimately, in effort inspired by the joy of achievement only; and this in time will lead to intelligent methods, increased production, greater incomes and happier homes.

The State, by act of the last legislature, has provided for the promotion and direction of the State campaign, by authorizing the State
superintendent to employ two assistants who shall devote their energies to supervising industrial work in the schools. Last year this work was financed by private subscription. While it is proper that such support should be given by the State, it would be a misfortune if it resulted in qualifying the interest taken in the work by private individuals.

If the work is to be successful this year, it will require the fullest cooperation on the part of superintendents, teachers, parents, improvement organizations, business men, farmers—in short, of everyone who is in sympathy with training our boys and girls for the highest type of citizenship. It is too big a task for our young people to carry alone, or for the teachers to assume unaided. We beg for the children the help of the people of the State. Prizes are needed to encourage the young people; the overburdened teacher needs a helping hand in carrying on this new work; advice, information, instruction, support, active help is needed at every turn if the work is to be successful.

A WORD TO TEACHERS.

The teacher will be the greatest factor in this work. The attitude of the teacher determines, in large measure, the fate of the work in each school.

It is impossible to tell you what to do, for there is no one way. The success of the work in your school will depend largely upon your originality. The one thing to keep in mind is that every boy and every girl should become efficient in the things they will have to do when they leave the school. They must be taught that intelligence, courage and application will be rewarded as liberally in the homes and the industries as in other fields of human endeavor. Our task is to dignify the industries and elevate the homes.

We respectfully offer the following suggestions as to procedure:

1. Study this bulletin carefully and explain the work to the children.
2. Decide upon the subjects your pupils can compete in, selecting as many as possible of those for which prizes are offered at the State Fair.
3. Notify the bankers and the commercial clubs, or any other interested persons in your community, that you are prepared, and ask them to furnish the prizes.
4. Hold a contest or exhibition at your school.
5. Send the exhibits to the county contest and to the State Fair.
6. If you are unable to help the children during the vacation period, see that a proper leader is chosen to take charge of the work during that time. The State superintendent, the extension staff of the Agricultural College, the county superintendents and others will be ready to offer you encouragement and assistance.

A WORD TO THE BOYS AND GIRLS.

The work done last year by Oregon boys and girls has attracted the attention of educators and thinking people throughout the United States. The reason that the eyes of the nation turned toward Oregon was that the people recognized that the young Oregonians were engaged in a state-wide series of contests to determine who was best in doing the things that count. The contest, as was predicted, enlisted the best efforts of thousands of the brightest and strongest boys and girls in this commonwealth. The products of the work of our young people assembled and exhibited at the fairs made one of the most inspiring displays ever assembled anywhere. The vegetables, the wood work, the cooking, the sewing, and the chickens and pigs, assembled and exhibited as the result
of their thought and their work, brought forth the highest compliments that have ever been bestowed upon our young citizens.

The contests are going to be better and harder fought this year than last. Do you realize that the winners of these contests have to have brains and skill and courage? Do you realize that those who are taking part in these contests are preparing themselves for leadership in the great affairs of the world? Do you realize that this is an opportunity to get into a great service? Do you realize that the boys and girls who excel in doing these things are the ones who are considered the successful boys and girls of today and who will be the successful men and women of tomorrow?

The people of the State are more interested in this work than they were last year. The bankers, merchants, farmers, men and women everywhere are offering splendid prizes to the boys and girls who can prove that they are leaders in this great field. You will be surprised to find how much interest people will take in you if you prove that you are among the best of those who are working for better homes, better farms and more and better products for Oregon. The southern boy who raised 232 bushels of wheat on one acre, and the Oregon boy who produced over 12 bushels of potatoes from one seed potato are known and admired by thousands of people. Wake up to your opportunities and get into these contests! We shall be watching your efforts and shall expect to see your exhibit at your county fair, and also at the State Fair. We want you to help us make these contests the greatest things that have ever been done in the State. We want you to help us prove that you have brains, courage and strength. Will you do it?

Boys and girls living in the city should be as keenly interested in this work as are the country boys and girls. They will be able to enter as large a proportion of these contests as will the others. Thousands of back yards and vacant lots, now useless and unsightly, can be converted into neat, well-kept poultry yards or attractive and profitable gardens. Woodwork, cooking and sewing can be done to as good advantage in the city homes as on the farm. We should like to see you prove that you are as able to do things that count as are the boys and girls of the rural districts. We shall be looking for your exhibits at the county and State fairs.

THE OBJECT.

The object of this work is two-fold: First, by offering substantial prizes for the local, county and State contests, to stimulate the boys and girls to put forth their best efforts in the production of useful and valuable objects. Second, to instruct these boys and girls in the best methods of doing this work, and thus spread the gospel of efficiency in production.

THE PLAN.

The plan is to hold a series of contests beginning at the school and ending at the State Fair. Each teacher should encourage her pupils to enter exhibits of their work. The nature of the work is suggested by the subjects of the contests to be held at the State Fair, and any others may be added by the teacher. The best exhibits at the school fair should be entered at the county fair, or at the school industrial fair, if the county does not hold a fair or does not provide for this feature of the work. The best exhibits at the county exhibition should then be taken to the State Fair.
While it is hoped that this order of procedure may be followed, it is not necessary to the success of the work. If the county fairs are not held prior to the State Fair or if, for any other reason, individual exhibitors or the exhibitors of any school have not had an opportunity to enter their work at the county contest, they should send it to the State Fair for exhibition. While it is desirable that the best exhibits from the local and county contests are sent to the State Fair, no exhibitor will be excluded. In other words, it is not necessary to win a prize at the local contest in order to have the exhibit accepted at the State Fair.

The preparations for the local contest should be commenced early. The teachers should get the children interested and well started in the work of preparing their exhibits. They should then get in touch with the commercial clubs, the county fair officials, the business men and any other organizations or individuals who could be of assistance in promoting the contests. The commercial clubs and the bankers have been informed as to the nature of the work and will be ready to meet the teachers and the parents more than half way in carrying out the plan. There will be no difficulty in securing the hearty support of the entire community if the full significance of the work is explained.

Before school closes in the spring, the boys and girls who are preparing to enter the various contests should be organized, and the teacher, or some man or woman of the community who is interested in the work, should be appointed as leader or advisor to take charge of the work during the summer months. It is very important to select for this position the right person. The boys and girls need some one to keep up their enthusiasm and to help at every turn. It would be well to arrange for frequent meetings during the vacation period.

The major portion of the arrangements for the local contest must be carried by the local people. In this work they will be assisted, as far as possible, by the State Superintendent of Public Instruction, the Oregon Agricultural College and other agencies interested in the movement.

A NEW FEATURE.

The State superintendent has arranged for substantial prizes as awards for the best school district exhibit and for the best county exhibit of school work made at the State Fair. The rules permit the use of the same articles in the individual competitions as are included in the group exhibits. This should be such an inducement as to bring out some splendid exhibits of the work of different schools as a whole, and also give an opportunity to demonstrate the work of the counties as units. The score card and rules are so drawn as to give all schools and counties equal chances in the contest.

The school district contest as outlined in the rules would make a very desirable feature for the county school fairs. This use of the district contest is recommended to you.

THE STATE FAIR EXHIBIT.

Every boy and girl is urged to send an exhibit to the State Fair. The cost of caring for these exhibits while at the fair will be met by the State Board of Agriculture.

The State officials are anxious to get an exhibit of the products of Oregon which will show the people of the country what Oregon can do. They are especially anxious to show the people what Oregon boys and girls can do. For these reasons they have requested that the prize-winning exhibits, except the chickens, hogs and perishable matter, be
turned over to them to be used for exhibition purposes. The exhibits, however, will not be taken without the consent of the owners.

The following directions prepared by the college specialists have been assembled and printed in this bulletin for the assistance of the teachers and of the children entering the contest. We do not pretend to offer a full course of instruction in this bulletin. We wish only to call attention to a few of the things which should receive careful thought from the children who are preparing the various exhibits. In many instances the information here given may be supplemented by reference to bulletins named in the following pages. We recommend that these directions be carefully studied by everyone interested in learning how to do the best work.

GARDEN PRODUCTS.

BY A. G. BOUQUET.

CELERY.

Celery, of good clean appearance and fine flavor, is always in strong demand and there is hardly a more profitable vegetable to be grown in Oregon. Celery requires a rich soil and plenty of moisture during the summer months, and it will be practicable impossible to grow the crop without having an abundance of water.

*Seed Sowing.*—Celery is almost always grown by transplanting, the seed being sown in a very fine seed bed and afterwards being transplanted to the field. The seed is very small and should be barely covered. It should be sown some time during March and the seedlings as they grow should have protection either by glass or cloth during the months of March and April.

*First Transplanting.*—About five weeks from seed sowing the little seedlings will be large enough to be transplanted three inches apart each way. They must receive good care and watering when they are in this state and should not be checked in any way by the cold weather.

*Second Transplanting.*—When the plants are about six inches high, which will be in June, if the seed is sown in March, they should be set in the garden six inches apart in the row and the rows 2½ feet apart. The plants must be well watered before they are taken up and again after they are set in the field. They should be planted level as for a strawberry plant and not in a trench, an incorrect method which is sometimes used.

*Cultivation and Watering.*—The soil must be carefully cultivated all the summer and water applied to the plants whenever necessary by running a stream between the rows. No dirt should be thrown up to the plants, but when they are about 12 to 14 inches high the blanching should begin.

*Blanching.*—In order to get the celery plants a pure white or golden yellow the light must be excluded from them for a period of about 2½ to 3 weeks. Twelve-inch boards should be placed up alongside of the rows, one on each side, held together by stakes driven on the outside or cleats on the top. If they are left in this manner for about three weeks they will be properly blanched at the end of that period.
Varieties.—The Golden Self Blanching is the most common variety grown, and before it is taken out of the boards it should be a clear golden yellow. The White Plume is a white variety and should be a good clear white at the end of the blanching.

Preparation for Exhibition.—Following the blanching, the celery should be dug and the poor outside stalks trimmed off, the bunches then washed and afterwards tied together in bundles of either one-half dozen or one dozen.

Important things to be considered.—One or two important things to be remembered are: First, the plants must be kept growing steadily when they are young, otherwise they will run to seed later on; second, the soil must be kept stirred just as soon after watering as it is in good condition; third, all the available well rotted manure should be applied to the ground in the spring for the fertilization of the crop.

CABBAGE.

Oregon, as a state, is splendidly adapted to the growing of the finest cabbage. This is largely due to the cool, moist climatic conditions that prevail, especially in the western part of the State.

Soils.—Cabbage can be grown on a wide range of soils, the best of which are the bottom lands, swale lands or well drained clay loams. A sandy loam is most suitable for early cabbage and a heavier soil for the late crop.

Early Cabbage.—The seed should be sown the last of February in a hot-bed of 12 or 14 inches of manure and the plants afterwards transplanted to the field as indicated below.

First Transplanting.—This should be done when the little seedlings are putting out their first true leaf, being placed 2½ inches apart, and protected by glass or cloth during the cold weather.

Setting in the Field.—When the plants are about six inches high, they should be transplanted into the garden, usually about the second week in April being the proper time. Rows should be 30 inches apart and plants 16 to 18 inches in the row.

Late Cabbage.—If cabbage is to be grown for late market or exhibition, it should be maturing some time in September or October.

The Seed Bed and Seed Sowing.—A fine seed bed should be prepared in the open ground and the seed sown either broad-cast very thinly or in rows three inches or so apart, the seed being covered one-quarter of an inch. The ground should be kept well watered and stirred so as to break the soil crust.

Transplanting.—For late cabbage there will be but one transplanting and if the seed has been sown between the first and the middle of May, the plants will be ready for the garden the latter part of June or the beginning of July. They should be well watered before they are removed, and placed 24 inches apart with rows three feet apart.

Watering and Cultivating.—The plants should receive a good watering after they are set and the soil should be carefully and regularly cultivated during the dry months. The amount of water to be given to the plants will depend largely on the soil conditions.

Fertilizing.—Previous to setting the plants the cabbage soil should be well enriched with rotten manure, plowed or spaded under to a good depth. There is no better fertilizer for cabbage than well rotted cow manure.

Insect Pests.—If green plant lice bother the plants, they should be sprayed with a mixture of one part black leaf, which is a tobacco mixture, and forty parts water. The aphids should receive a dose of this
before they become too numerous and begin to do lots of harm. If the green cabbage worm eats the leaves, a coating of arsenate of lead should be given uniformly all over the plants, in the proportion of one-eighth of a pound of arsenate of lead to three gallons of water. A little resin should be added to the water to make the arsenate stick to the leaves.

Harvesting.—The cabbage should be solid if it is to be put on the exhibition table. The size should not be extreme and the plants exhibited should be as near the proper type of the variety as possible. All poor leaves and rotten leaves should be broken from the head.

Varieties.—For late varieties none are better than the Danish Ballhead, Autumn King, or the Late Flat Dutch. The Savoy cabbages are very good for winter, being hardy and easily grown.

ONIONS.

Onions in Oregon are grown to the greatest advantage on the beaver-dam or muck or peat soils, but there are many fine onions produced on rich sandy loams and bottom lands.

General Requirements.—Onion soil must be not only very rich, but it must also be exceedingly fine so that the young seedlings may grow vigorously without any hindrance in the way of clods and weeds. The onion soil should always have an abundance of moisture and where water is available it should be applied during the summer.

Methods of Growing Onions.—There are three general ways; the first by sets planted early in the spring, second, by growing the seedlings and transplanting them to the garden, third, by sowing the seed directly in the garden and thinning the seedlings to a required distance.

The Seed Bed.—The seed bed must be very fine, smooth and even and, if possible, should be hand raked so as to have it free from clods and coarse matter.

Seed Sowing.—The seed should go in the ground about the middle of March to the middle of April, or as early in the spring as the soil is in nice mellow condition. Rows should be 14 inches apart and if there is a seed sower, such as the Planet, Jr. or Iron Age, it should be used.

Weeding and Thinning.—Immediately after the seedlings are large enough to work around, weeding must begin and kept up continually so that the ground is always clean. If there is an excess of plants at various places in the garden, these can be thinned out and transplanted into those places where there are vacancies. The seedlings should be about three or four inches apart in the row.

Fertilization.—As above stated, it is hardly possible to get onion soil too rich. Early in the spring the soil should be heavily coated with well rotted manure, plowed or spaded in quite deeply.

Watering.—Where water is available it should be applied during the hot summer months, letting the water run between the rows and soaking the soil to a depth of at least six to eight inches.

Harvesting.—During the last part of August or first part of September the leaves will begin to turn brown and fall over and the bulbs will begin to “come out of the ground.” It is then time for them to be pulled and put in a windrow so that the tops cover the onions which are now to be cured. They are left 12 or 14 days, if the weather is dry and warm. At the end of this time they must be topped and stored for fall and winter use at a temperature of 33 to 35 degrees.

Varieties.—The Oregon Yellow Danvers is the most widely grown yellow variety, the Australian Brown of the brown varieties, and the Silver Skin of the white varieties.
SQUASH.

The cultivation of winter squash is very easily understood and performed. The squash is a very tender plant and is easily injured by frost. It requires a long growing season, usually from May to September.

Soil.—Any rich warm soil will grow good squashes. A sandy loam is very suitable, but a well drained soil which contains plenty of moisture during the summer should mature a good crop.

Time of Planting.—This operation will not be performed until the soil is well warmed, usually about the first or second week in May, or possibly, a little later, if the soil is well supplied with moisture.

Distance of Planting.—This will vary from 8x8 to 10x10 feet, depending upon the amount of room available.

Manuring.—A fork full of well rotted manure to each hill will greatly help the crop to make a vigorous growth. This should be well turned under and mixed with the soil.

Seed Sowing.—Plant five or six seeds evenly distributed in each hill and cover one to one and a half inches deep.

Thinning.—When the plants have about two or three pairs of leaves, the less vigorous ones should be pulled out and a stand of three left in each hill.

Cultivation.—In order to keep down weeds and furnish plenty of moisture during the summer, there must be regular cultivation every week or ten days, together with some hand hoeing in which some loose soil will be drawn up around the plants.

Harvesting.—Winter squash should be ready to be taken from the field about the middle to the latter part of September, or any time following, up to frost. Squashes are easily damaged in harvesting by being cut or bruised. Let the squashes lie in the field for a few days after being separated from the vine so that they may dry out to some extent. In separating the squashes from the vines there should be left about one inch of stem.

Storing.—The squash should be in the storage house before there is any danger of a killing frost, and in order that they may be kept for a later market or for exhibition purposes, they should be stored at a temperature of 42 to 50 degrees in dry air with proper ventilation. A cool dry cellar or any barn or building which will be frost proof will make a suitable storage house and the squash should be put on racks or shelves.

Varieties.—The Hubbard, Delicious, Boston Marrow and Golden Hubbard are amongst the most popular of the winter squashes.

Selection of Specimens.—Particular attention should be paid to the selection of squashes for exhibition. These specimens should be uniform in size, shape and color, all true to the type represented. Medium sized specimens with typical characteristics of the variety are far superior to monstrous ones which are lacking the finer points.

PUMPKINS.

Soil requirements and cultivation same as given above for squash. Varieties.—Small, Sugar Pie; large, Connecticut Field.

MUSKMELONS.

To grow melons with success there must be certain conditions conducive to the development of fine flavor and proper size.

Soils.—The warm sandy loams which are found in the proximity of the rivers of the State are good melon soils. Any good soil containing
quite a large percentage of sand when it is well enriched with a good coating of well rotted manure will produce good melons. Warm nights are also a great factor in increasing the fineness of the flavor.

**Propagation.**—There are two methods of growing the crop; first, by sowing the seed direct in the garden, and second, by sowing the seed in a mild hot-bed and later transplanting the plants to the open field. By the latter method there is a gain of about two to three weeks in the maturity of the melons.

**Seed Sowing in the Field.**—When the ground is well warmed in May the soil should be marked off 4x4 feet or 6x6 and at the intersection of the marks a hole should be dug about 12 inches deep and filled with a mixture of well rotted manure and good loam. The seed should then be sown at the rate of from six to eight to the hill and covered an inch deep.

**Growing by Transplanting.**—About the last of March or the first of April a mild hot-bed should be made up and a few seeds of the varieties desired sown in some strawberry boxes in which some soil containing a mixture of sand, well rotted manure and loam has been previously placed. All but two plants should be discarded in each box and during the second week of May these can be carefully transferred to the garden at the distances referred to above.

**Watering.**—Melon plants need an abundance of moisture in the soil for their best development, so that where water is available it should be run down on each side of the rows of plants.

**Cultivation.**—The ground should be constantly stirred during the summer time to hold the moisture and keep the soil in a mellow condition.

**Harvesting.**—Melons do not as a rule remain on the vines very long in a good condition, and must therefore be picked as soon as ripe. They should be uniform in size, color and netting when placed on the market or exhibition table. The color of the melon under the netting will readily indicate the ripeness.

**Varieties.**—The Burrell Gem and the Rocky Ford among the small melons and the Montreal Market and the Hackensack among the larger types are the ones most widely grown.

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**WATERMELONS.**

The watermelon is a very important vegetable in the southern part of the United States and is there grown to excellent advantage. It can also be grown with fair success in many parts of Oregon. It thrives best where there is no danger of frosts late in the spring and where conditions are conducive to a good steady growth during the summer. Watermelons are usually more sensitive to cold than muskmelons.

**Cultural Directions.**—These are not very dissimilar to those for growing muskmelons to which the reader should refer. Warm sandy soil is very important for growth of the plants and the early ripening of the fruit. The watermelon hills should be placed 8x8 in the garden and seeding should be kept up as for the muskmelon, and the fertilization will be similar to that already indicated for the later crop.

**Time of Marketing.**—This is a very important detail in growing melons and only by experience can one learn at what state of maturity a melon should be marketed. Regarding this matter, it would be well to heed the advice of the old negro mammy who told her grandson when he was stealing a melon to "Be shore when yo' thumps 'em dey allus sound plunk." When the melon is green it will have a sharp, metallic sound and when mature this sound is distinctly muffled and some-
what hollow. When dead ripe the sound will be similar to that when the palm of the hand is snapped with the finger.

Varieties.—Monte Cristo, Kolb Gem, and Cole’s Early are amongst the best to be grown in the State.

SWEET CORN.

This delicate and palatable vegetable is grown, very largely, for green marketing and for canning, and as such is one of the most important vegetables grown. Sweet corn, to be of the best quality and size, must grow under warm conditions of climate and soil, and in most parts of Oregon it is necessary to grow the early varieties in order to get early maturity.

Seed Sowing.—This should not be done before the ground is well warmed in the spring—the first or second week in May being average dates of planting. A good stand of plants is important and seeding should be made freely. The soil should be very carefully prepared early in the spring and leveled off as evenly as possible. If the young seedlings are to make rapid growth it is essential that the soil be in fine physical condition.

Distances of Planting.—The rows should be 36 inches apart both for hills and ‘drills. The distance between the former may be 20 to 24 inches, according to the number of plants which are left in each hill, usually three or four. If the plants are to be grown in drills they should stand from six to ten inches apart, giving ample room for the development of each plant.

Thinning.—When seedlings get to be three or four inches high the less vigorous ones in the hill should be taken out so as to give ample room for the development of those left. It is best to leave the seedlings distributed in the hills as uniformly as possible.

Cultivation.—Careful stirring of the ground must be kept up continuously to break up the soil crust and to maintain moisture. Especially is this necessary after irrigation, if this is practiced. A horse cultivator or small Planet, Jr. or Iron Age hand cultivator is useful for cultivating between the rows, followed by hand hoeing around the plants in the hills.

Fertilizing.—Rotten manure may be used to very good advantage to the extent of eight tons per acre. It should be plowed under in the spring and thoroughly harrowed so as to be well incorporated with the soil. One pint of wood ashes or one-half pound of sulphate potash may be used for every ten feet before planting if this is to be done in drills. Or a similar handful can be placed in each drill.

Suckering.—It is generally regarded necessary to remove suckers which grow around each plant in the hill. These should be broken off before they attain any size.

Marketing.—This will have to be carefully done in order to have the kernels plump and not hard. They should be uniform in size and in degree of ripeness.

Varieties.—Amongst the earliest are the Golden Bantam, Crosby, Early Minnesota and White Cory. If it is desired to have successional harvestings of this crop it will be necessary to make plantings every week or ten days up to the last part of May or the first week in June.
FLORICULTURE.

BY A. L. PECK.

ASTERS.

These flowers are best started in a hot-bed from the middle to the last of March. If this is not possible, good results can be obtained by sowing the seed in the open ground about the middle of April or after the danger of frost is past. They may be sown where they are to flower, but they will do best if transplanted to a distance of from 6x6 to 8x10 inches, according to the size of the sorts chosen.

Sow the seed in well pulverized ground ¼ inch deep and in rows about 3 inches apart. Transplant when the first pair of true leaves are well developed into good garden soil that has been enriched by a liberal application of barn yard manure. Lacking this, use bone meal at the rate of one quart to 25 or 30 sq. ft. of earth surface. Other than good cultivation and watering, no special attention need be given asters until they begin to come into bloom, when care should be taken to keep the water off the tops of the plants.

A good supply of plant food coupled with thorough cultivation will enable any young gardener to produce a satisfactory crop of bloom.

There are a number of aster diseases, but we cannot take these up in such a brief note. Suffice it to say, that a vigorous, healthy growth is the best method of warding off or avoiding these troubles.

SWEET PEAS.

Any good garden soil will produce sweet peas satisfactorily if care is taken properly to prepare it, and a good sunny spot is chosen for the plantings. This crop does not like standing water or heavy, sour clay, so considerable attention should be paid to this condition.

Selecting a sunny situation, in the fall of the year, preferably away from all buildings, turn the ground over two spades deep. If subsoil is poor keep it below and turn in a liberal amount of strawy or long manure. Leave the top spading very rough so that it will be exposed to the winter weather. The freezing and thawing will improve the condition of the soil. A good heavy application of wood ashes can be made during the winter months.

When the earth is reasonably dry and workable in the spring, spade this top again and open up a trench at least four inches deep. Plant seeds (one ounce in 15 to 20 feet) in this trench and cover with about 2 inches of earth.

After the plants are about two inches high thin them out to six inches apart. As growth takes place, a little earth should be hoed up to the plants, leaving a shallow trench alongside which will help hold or catch the water in the dry season and make irrigating much less difficult.

It should be noted that sweet peas can be sown in this State in most localities during late November and early December if so desired. The advantage of this method over the other is claimed to be in the earlier bloom and a sturdier growth of top and root, resulting in a much longer flowering period.

Where one can obtain brush it is better to use it as a support than chicken wire, because the center of the flowering mass is more open.
Good results, however, can be obtained when wire is used and the heavier, large-meshed wire is more desirable.

Keep ground well cultivated and water in the cool of the evening, lightly spraying the entire top if the days are very dry.

Above all, be sure to keep the flowers all picked, because by so doing, the flowering season can be materially lengthened.

The Spencer family of sweet peas is the most desirable, and one can find all varieties and colors under the heading in the seedman's catalog.

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DOMESTIC SCIENCE.

BY HENRIETTA W. CALVIN.

BREAD.

Bread, in some form, is the principal article of diet for most of mankind. The products of corn, oats, rye, millet, wheat, chestnuts, bananas, rice, beans and many other articles have been used by different nations as bread. To the English-speaking races bread means the food made from wheat-flour, leavened (made porous by the action of yeast) and baked.

The opinions concerning the desirable qualities of bread vary with the consumer, but in general the following qualities have been agreed upon:

QUALITIES OF GOOD BREAD.

Bread should be in flavor sweet and nutty; the odor should be the same as the flavor; the texture should be soft and tender, but not inclined to crumble; the holes should be small and very numerous; the interior of the loaf should be thoroughly baked and the exterior should be of a golden-brown upon all sides; the color of the crumb of the bread should be of a delicate, creamy white. To attain these qualities in bread it is necessary that good yeast and good flour be used, that the materials be properly handled and the product correctly baked.

YEAST.

Yeast is a microscopic plant that grows in the flour mixture as ordinary plant seed would grow in the soil. The yeast plants themselves must be strong and active and the temperature must be that which is favorable to their growth—about 75 degrees F. If made too warm they sicken and die, while if too cold their growth is retarded.

The flour in which the yeast is planted may be made from either soft or hard wheat. Good bread can be made from either kind of flour; but if hard wheat flour is used, a soft dough should be made; while if soft wheat flour is used, better bread will result if the dough is made as stiff as can be worked.

Sour bread is due to the action of other micro-organisms, which are called bacteria. The bacteria thrive at higher temperature than the yeast, so bread that once becomes too warm is apt to be sour.

Every loaf should be baked in a separate pan; because the heat can not go through into the center of the loaf and kill all of the yeast plants, and cook the starch, if there is too much bread in the pan. The loaves should always be baked an hour in a good hot oven, about 400 degrees
If the oven is right, the crust of the loaf will be a light golden brown at the end of 15 minutes.

If each girl interested in the bread contests will study the following score card and then measure up the bread that she has by this, she will gradually form a fair estimate of what a good loaf of bread should be.

**SCORE-CARD FOR JUDGING BREAD.**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baking Thoroughness</td>
<td>20</td>
</tr>
<tr>
<td>Color</td>
<td>12</td>
</tr>
<tr>
<td>(Shade 6, evenness 6)</td>
<td></td>
</tr>
<tr>
<td>Shape</td>
<td>8</td>
</tr>
<tr>
<td>Taste Sweetness</td>
<td>25</td>
</tr>
<tr>
<td>Flavor</td>
<td>15</td>
</tr>
<tr>
<td>Appearance of crumb</td>
<td></td>
</tr>
<tr>
<td>Texture Quality</td>
<td>8</td>
</tr>
<tr>
<td>Fineness</td>
<td>4</td>
</tr>
<tr>
<td>Evenness</td>
<td>5</td>
</tr>
<tr>
<td>Color</td>
<td>3</td>
</tr>
</tbody>
</table>

By addressing the Bureau of Publications, Department of Agriculture, Washington, D. C., Farmers' Bulletin No. 389 on Bread and Bread Making can be obtained without cost.

**CANNING, PRESERVING, AND JELLY MAKING.**

There are many reasons for the home canning of fruits and vegetables and for making preserves and jellies. Fruits are a necessary part of the diet every day in the year and should be on every table in some form every meal in the day. Of course fresh fruits are most palatable and attractive, but the fruit season is usually short, and if it is to be extended, we must preserve the fruit from spoiling.

When fruits and vegetables are canned the success depends upon killing all germs that would cause fermentation or decay, and then excluding air from them that no more germs can enter. That means that the fruit or vegetables to be canned must be cooked at least 30 minutes at boiling temperature to kill the micro-organisms, and that the jars, rubbers and lids must also be subjected to boiling temperature for that length of time.

The fruits or vegetables chosen for canning must be absolutely fresh and in perfect condition, if success is to be assured. The addition of sugar to canned fruit is desirable, because it preserves the flavor; it does not, however, affect the keeping quality. The large quantities of sugar used in preserved fruits assists in their preservation. No preservatives other than sugar, vinegar and species should be used.

In successful jelly making it is necessary that the fruit should be slightly under ripe, but mature enough to give a well developed flavor. The fruit should be cooked just long enough to extract the juice, then strained, measured and put to boil. No more than one quart of juice should be cooked at one time in a kettle. The cooking should be rapid and from three-fourths to an equal quantity of sugar should be added to the juices. Long, slow cooking will make a gummy, poor jelly. The addition of a little lemon juice or vinegar will sometimes assist in making jelly set.
Certain fruit juices will not make good jelly alone, but may be combined with apple juice to which their flavor will be imparted. All jellies should be strained either through a double thickness of cheese cloth or flannel. Jelly should be covered with melted paraffin immediately after being poured into glasses.

Several excellent bulletins on canning have just been issued by the U. S. Department of Agriculture. They are Farmers' Bulletin No. 522, Farmers' Bulletin No. 426 and Farmers' Bulletin No. 359. They can be obtained without charge by addressing the Division of Publications, U. S. Department of Agriculture, Washington, D. C.

DOMESTIC ART.

BY HELEN B. BROOKS.

SEWING CONTEST.

STOCKING DARN.

Material.—A stocking; darning cotton of same quality as that in the stocking; long slender darning needle, one strand of darning cotton.

Preparation of Stocking.—Free all the extended loops from broken threads and clear the hole from partially worn sections.

Shape of Darn.—In order that a darn may hold well it must begin beyond the edge of the hole. To avoid forming a ridge and causing the strain to come along the same row of loops, the darn should be kept in a diamond shape.

Method.—The work is done on the wrong side of the stocking; begin one-half inch beyond the edge at the right of the hole; the stitch taken beyond the edge of the hole should not show through. A loop is left at every turning so that when the stocking is laundered the darn will not draw. There is a line of running stitches for every row of loops in the stocking, at the edge of the hole the thread is drawn through the loop that no further raveling is possible. This first set of threads constitute the warp; they should be close together across the hole. The woof threads run at right angles to these; at the top of the darn they are begun one-half inch beyond the edge of the hole, further if necessary; across the hole they are woven in and out among the warp threads, and extend beyond as far as the first set, thus preserving the diamond shape though not making it double all the way.

Points for Judging.—Smoothness of finished darn, and the length and regularity of stitches.

WOOLEN DARN.

Material.—A four-inch square of cashmere, henrietta, serge or a suiting, ravelings of same and a fine needle. A straight tear should be made lengthwise the material in the upper left-hand corner, three-cornered or hedge tear, in the lower right-hand corner.

Method.—Either the warp or woof threads or both are broken in a tear. The object of this darn, therefore, is to replace the broken threads and reproduce the original weave.

The work is done on the wrong side as far as possible. The distance beyond the tear depends upon the material and the strain it must with-
stand. Whatever threads are broken should be replaced as closely as is needed to hold material together and to hide the frayed edges. Fine running stitches are made back and forth over the tear, leaving a loop at each turning. At the edge of the tear the stitches alternate in holding the edges down over one edge and under the opposite, etc. The stitches should be well hidden in the material.

In darning the three-cornered tear begin at the ends and work to the corner. This produces both sets of threads at the corner where both were broken, and here they should be woven in and out.

Points for Judging.—Smoothness; all stitches as well hidden as possible.

DAMASK PATCH.

Material.—A four-inch square of soft damask, a raveling of same and a fine needle.

Method.—Cut an inch-square hole in the center of the square of damask. If it is cut exactly on the thread this piece cut out may be used for the patch. The patch must be exactly the size of the hole and should match in pattern. It is held in place by a catstitch taken in the patch and in the edge of the damask. The patch is fastened in by darning. A fine running stitch, taken the same as in darning a tear in woolen cloth. The work is done on the wrong side. It extends one-fourth inch or more beyond the edge, but in crossing the edge bring one thread over the edge on one side and under the edge of the other alternately. There should be a small loop left at each turning, but they should end as irregularly as possible that all the strain will not be along one line. The corners will be made secure by crossing the warp and woof darning at these points. When complete the catstitch is removed.

Points for Judging.—Smoothness; should show as little as possible; strength.

HAND-MADE APRON.

Material.—Plain, flowered or cross-barred dimity or lawn, linen or flaxon, three-fourths to one yard. Thread number 80 or 100. A narrow lace flounce one-fourth of distance around apron. Allow twice the width of lace for corners. Lace also at end of string.

Making.—Cut any shape desired, keeping good proportion. The edge is finished by rolling on lace. Roll the raw edge to the wrong side between the thumb and first finger of the left hand, lay the rolled edge of the apron parallel to it, insert the needle under the roll letting it come through at the very edge of the roll, just opposite edge of lace that when stitch is drawn up it will not show on right side. The stitches must be taken closer than in hemming; the size of the roll should be only large enough to hide the raw edges. The lace should be held a trifle.

Band.—The band may be two inches longer than the width of top of apron. Place the band so the seam comes to the right side. There should be no gathers. The apron may be sewed to the band by using the back stitch or stitching stitch. Lay folds in the string so that it equals one-half the width of the band. Stitch the strings to the back half of the band. Now crease edge of band and hem down with a very fine stitch.

Strings.—From one and one-half inches to three inches when finished with a one-eighth inch hem. The string is twice the width of the finished band.

Points for Judging.—For all garments: Suitability of materials chosen for purpose, general effect, design and execution.
SIMPLE WASH DRESS.

HAND-MADE.

Material.—Dimity, lawn, calico or gingham.

Pattern.—Five-gored skirt, plain waist, one-piece sleeve, lace trimmed cuff; may be three-quarter length; neck, round or high.

Making Skirt.—Gores put together with back stitch, seams over-cast; straight placket for opening; no trimming.

Making Waist.—Neck, round finished with lace or embroidery, or high neck of lace. Tucks in back and front as desired. Waist buttoned at back. Buttons 1½ inches apart. Button holes made lengthwise of hem. Sleeves full length or three-quarter, finished with lace cuff or embroidery cuff. Seams of waist and sleeve, the same as skirt. Arm holes bound with bias strip. Waist and skirt sewed together with band of material or embroidery insertion.

DOMESTIC SCIENCE APRON.

MACHINE WORK.

Material.—Lawn, white muslin, cambric or linen. There should be three lengths of a 30-inch material.

Making Skirt.—The finished apron should be the length of the dress. Allow six and one-fourth inches for hem and one-fourth at top for seam. Cut two lengths after taking the back length measure. Divide one down the center. These are the two side gores. Crease the other down the center then crease again, this dividing the width into fourths. This length is to be the center gore. It is desired to make it only one-half as wide at the top as at the bottom, therefore crease from the lower corner to the outer crease at the top. Then cut on this crease. Use French seams in joining the gores, one-half inch hem at the sides. Cut the skirt down in the center front the difference between front and back lengths. Gather, using a double number 50 thread. Begin in the center of the front gore, one-fourth inch from the top and the second gathering thread one-fourth inch below the first.

Belt.—Two strips the length of the waist measure and one inch for lap and one-half inch for seams, three inches wide. Stitch the gathered skirt of the apron to one of the belt strips so that the seam comes up on the right side.

Bib.—The width would vary from five to seven inches. The depth is two-thirds of the waist length. Two and one-half inch hem at the top. Gather at bottom.

Straps.—Two strips five and one-half inches wide. The length, from the top of belt in front crossing in center back to the bottom of belt in the back three inches to the side of the center.

Stitch the straps to the side of the bib so that the seam comes to the right side. Turn the other edge over it and stitch down the whole length of the strap. The strap thus serves as a binding to the sides of the bib. The ends of the straps are finished with a button which is buttoned at the belt. The bib is stitched to the same belt strip that is attached to the skirt. The other strip is stitched on top of this for finish.
SIMPLE WASH DRESS.

MACHINE WORK.

Material.—Gingham, calico, linen, percale or figured lawn.

Pattern.—A five-gored skirt, plain waist, one-piece sleeve, no cuff; may be three-quarter length; neck square or high.

Making Skirt.—Gores put together with French seams. Straight placket for opening; no trimming.

Waist.—Neck may be square and finished with embroidery insertion or with attached collar. Tucks in back and front may be arranged as desired. Bottom of sleeve may be finished with insertion or a hem. Waist should button in back. The button holes made lengthwise the box plait which is one inch or three-quarters inch wide. The buttons to be an inch and one-half apart. The seams of the waist and sleeves are French seams. The sleeves are bound with a bias strip. The waist and skirt are sewed together and a belt stitched on top. The seam coming under the belt.

AGRONOMIC SUBJECTS.

BY H. D. SCUDDER.

FIELD CORN.

Object.—To compare improved varieties with the best local varieties for yield, quality, maturity, habits of growth, etc. Corn is grown for two purposes in Oregon—one for green feed or silage, which is called forage corn, and the other for the ripened grain. These two qualities cannot be combined in one variety, so the best varieties for each purpose should be determined.

Method.—The rows may be of any length and 3½ feet apart. Rows one and two should be the College forage corn; rows three and four, the best local variety of forage corn; rows five and six, the College grain corn; rows seven and eight, the best local variety of grain matur-
ing corn. The hills should be planted 3½ feet apart in the row, six kernels being planted in each hill in the forage varieties and four kernels in each hill of the grain varieties. The ground should be manured with well rotted manure and spaded or plowed early in the spring and cultivated or hoed to keep down the weeds until planting time, about April 25th, when the soil is warm and mellow, the kernels being placed about two inches in depth. Thereafter, throughout the summer, the ground should be cultivated or hoed to keep down the weeds and maintain a mulch for the conservation of moisture. Seed of the two College varieties sufficient to plant rows two rods long will be furnished by the Oregon Agricultural College for 20 cents to cover postage and wrapping, or larger quantities at 15 cents per quart.

Results.—About the 1st of October, when the kernels are beginning to dent, the forage corn should be cut and weighed, each row separately, while the plant is still green. The ears of the grain varieties should be husked out when ripe and before the heavy rains start, and the ears from each row weighed separately. The best ten ears of corn from each row of the grain varieties should be carefully selected and retained, their quality being judged on the basis of the score card to be furnished. A
neat record should be made of the preparation of the ground, date of planting, number of cultivations or waterings and weights of the forage corns and the number and weight of the ears of the grain corn of each variety.

Reference.—Farmer's Bulletin Nos. 409, 414, 415 and 428.

POP CORN.

Object.—To compare the yield, quality, maturity, habits of growth, etc., of two good standard varieties.

Method.—Rows 3 1/2 feet apart and any length. Rows 1 and 2 should be of the Rice type, either the White Rice type or Snowball varieties, and rows 3 and 4 of the yellow Pearl type, preferably the Queen Golden. Drop the kernels about six or eight inches apart in the row about the 10th of May. A well-drained, fertile soil should be selected. The same preparation and after treatment should be given as recommended for field corn. The best seed obtainable should be secured of a reputable seedman.

Results.—When the ears are thoroughly ripened in October, they should be gathered and the best 10 ears from each row reserved for exhibit purposes, the total weight of the corn produced by each variety being kept. After the grain has been thoroughly dried out in storage the popping quality of the two varieties may be determined. Record should be kept as for field corn.


POTATOES.

Object.—To compare two standard varieties of late potatoes against each other or against a third variety of local fame and to develop that variety which proves best in yield and quality, habits of growth, etc., through hill selection of seed.

Method.—The rows may be of any length and three feet apart with the hills 18 inches apart in the row. Rows number one and two should be the American Wonder, rows number three and four the best local variety, rows number five and six selected Burbanks. The ground should be dressed with well-rotted manure and plowed or spaded deeply in March and frequently cultivated or hoed thereafter until seeding time, about the 15th of April. The best seed obtainable of each variety should be secured of a reputable seedman. The potatoes should be cut to two good eyes, medium-sized potatoes being selected and two pieces planted to the hill about five inches deep. Several harrowings or hoeings should be given before the potatoes are up and five or six cultivations afterwards.

Results.—Dig when the vines begin to dry in the latter part of September or early October, before the fall rains if possible. Leave the potatoes from each hill together on the ground and when the two rows of each variety are all dug study the product carefully and reserve for seed all the potatoes from the six hills which have produced the largest number of medium-sized smooth, clean, well-ripened potatoes. Reserve all of the potatoes from the very best hill in each variety separately for exhibit. Get the total weight of the potatoes dug from the two rows. Dig, make selections and weigh in the same manner the other varieties. Keep a neat record of the preparation of the ground, date of planting, number of cultivations or waterings, total weight produced by each variety and notes on the difference in number and quality of the potatoes in the selected hills as compared with the average hills.

Reference.—Farmers' Bulletin No. 225.
CONSTRUCTION WORK.

BY E. P. JACKSON.

BIRD HOUSES.

Profit and pleasure may be obtained by building bird houses, thus combining nature study and manual training.

First, prepare the children by studying the most common birds, their habits, food, nesting time, where the nest is found, etc. Second, their usefulness to man as eaters of insects, adding beauty to the landscape, music to the air, etc.

The bird houses intended for either bluebirds, chickadees, or nuthatches should be ready and weathering early in March; the earlier the better. They can be made of almost anything, the only qualification being the proportion to the bird and the size and position of entrance.

If you are fortunate enough to have a supply of old shingles or weathered boards, they are the things for bird houses, as all birds except martins prefer those which seem most like nature. The scroll, saw trimmings, etc., are out of keeping with birdland. Care should be taken that there are no cracks, as the birds avoid a box not tight.

The birds most easily attracted to these houses are the following: Flicker, bluebird, chickadee, woodpecker, sparrow hawk, swallow and martin.

The English sparrow is a troublesome bird, working its way into the homes of the smaller birds unless the entrances are built too small for them to enter.

Boxes may be made for woodpeckers out of hollow limbs of the desired size. They may also be made out of six-inch lumber, four six-inch boards cut two and a half feet long (Figure 1), with the opening about two inches in diameter. For sparrow hawks the entrance may be three inches in diameter. For these houses put the opening near the top, as the sparrow hawk likes to lay her eggs at least a foot below the entrance. The woodpecker carries in no material into his nest, but uses chips in the bottom of the cavity, so it is well to put in a three or four inch layer of sawdust or cork. The cork used in packing grapes may be obtained from a fruit store, admirably serving the purpose. Place boxes 18 or 20 feet above the ground.

For tree-swallows, bluebirds, nuthatches, wrens and martins a simple copy from nature may be used instead of an elaborate house. Get a stick of stove wood from the shed or a fallen branch from the nearest grove, drill an augur hole an inch deep near one end of it, split the stick with an axe, gouge out a hollow in the cleft surface of each half (Figure 2) until the augur hole comes through, nail them together again and your site is complete.

For martins the stick should be about 20 inches long, 8 in diameter, with the entrance about 2½ inches across. For tree swallows, bluebirds, nuthatches and wrens the length should be about 18 inches, the diameter 6 inches and the opening as follows: For tree swallow 1½ inches; bluebird 1½ inches; nuthatch 1½ inches; and wren 1½ inches.

Small bark boxes may be made, when the bark is obtainable from the birch or chestnut, being used in its cylindrical shape as cut from the tree. Sawing a slice from the stick for the bottom and top, tacking the bark on the ends, nail on the supporting stick, and then cover the
top with the green bark from a young pine to make it water tight. These small boxes are suitable for the chickadee. Bark from the old fir tree is valuable for this work. Large flat pieces are easily obtained and can be cut into shape with a hatchet or pocket-knife, thus making bark houses in a square or oblong shape. The interior dimensions should be six or eight inches square and eight inches high. If pains are taken in truing up the edges, very neat joints can be made. These joints can be fastened with nails or by whittling small pins out of wood, having the one end pointed, the main body of the pin slender and headed at the other end. In most cases these pins can be shoved into the bark with the hand, thus pinning the house entirely together. If the house thus made does not seem substantial, a cord or fine wire can be wrapped

Figures 1, 2, 3, 4, 5, 6.
around the outer end of one of the pegs, stretched tightly around the house, giving a half hitch around each of the corresponding pegs until it arrives at the first peg, where it should be tied firmly (Figure 3). This wire or cord makes a handy attachment from which to suspend the house.

The bark from the body of a green second-growth fir tree makes excellent bird houses. This bark can easily be removed from a tree where cord wood is being cut, by use of an axe or saw or even a pocket knife. Two curfs can be cut through the bark and entirely around the tree, the distance between these curfs being the height of the walls of the desired house. To remove the bark, split parallel with the tree, between curfs, with the edge of the axe, hatchet or pocket knife; next, by the aid of the tool, remove the bark. This bark, if placed in the sunshine or near heat, will form, when dry, a rigid cylinder through which the openings for door and ventilation can be made and the floor and roof fastened (Figure 4). The bark from the cedar tree forms the best material for roofs and floors; it is also valuable for the side structure of the bird house. Very attractive bird houses can be made by the use of cedar bark for exterior finish, over a box or any rough frame work, the cedar being in the form of shingles, lap siding or rustic. This provides an opportunity for original design, at the same time gives a finish acceptable to the birds and the esthetic nature of man.

As the cat is an enemy to our native birds, we should try to make the homes of the birds cat-proof. A box 6x6x18 inches, with an overhanging cover or roof, no perch, and the entrance hole well up under the eaves, is a difficult one for the cat to enter and may well be built for bluebirds or chickadees. It is a difficult nest for young birds to get out of; they have to make many attempts, but with the added strength thus gained they are not so likely to be caught by the cat before fully fledged (Figure 5).

Bluebirds prefer an elevation of 8 or 10 feet, a height at which the English sparrow is not so likely to trouble them.

The ordinary small bird house (Figure 6), put up for martins or tree swallows, may be set on a tall slim pole, as these birds usually prefer a house elevated from 15 to 30 feet from the ground.

Ordinarily the entrance holes are made too near the floor so that the young birds, being nearly on a level with the doorway, fall out, to their harm. The entrance hole should be just large enough to admit the desired tenant and keep out all larger birds.

The following is a desirable size for entrance holes: Wrens, 1¼; chickadees, 1½; bluebirds or swallows, 1½; martins, 2½; flickers or screech owls, 3¼ inches.

Boxes should be made with the top or bottom or side removable so that they can be cleaned both of debris and any undesirable tenant that may try to occupy them.

Martin houses may be built like apartment houses or minature residence of many rooms, having the rooms 6 inches square and 7 inches high with entrances 2¼ inches square and 1½ inches above the floor.
POULTRY HUSBANDRY.

BY JAMES DRYDEN.

BREEDS OF CHICKENS.

There are over 100 different breeds and varieties of chickens, but for useful purposes they may be divided into three classes. First, those that are chiefly valuable in producing eggs; second, those that are good table fowls and layers combined; third, those that are chiefly useful as table fowls. The Leghorn and Minorcas belong to the first class. There are various other breeds, however, that can be placed in this class, which would include all small, active chickens. The Plymouth Rocks, Rhode Island Reds and Wyandottes belong to the second. There are a great many other breeds that can be called general purpose fowls, but these are the principal breeds in this country. The Brahmas and Cochins belong to the third class. They are the largest of domesticated fowls.

The smaller fowls, other things being equal, will produce eggs cheaper than the larger fowls, because they require less food to keep up the body. If it is a question of eggs alone and the meat doesn't enter into consideration, the Leghorns or other breeds of that size would be the most profitable, but the meat question must also be considered. After the fowls have passed beyond the period of usefulness as layers they must be sold for meat purposes, and, of course, the larger fowls will bring more than the smaller. The Plymouth Rock, for instance, is about twice the size of a Leghorn and should sell for double the price; so that when we consider both the eggs and the meat there is not so much, if any, difference in the relative profit to be derived from the different breeds. After all, the main difference in breeds, so far as egg-laying goes, is a difference in individuals. There are good and poor layers in all breeds. The problem is to pick out the good and discard the poor. The only way to find out which are the good layers in the flock is to use the trap-nest. It is impossible to pick out pullets at the beginning of the year that will be the best layers.

HATCHING.

To get winter layers, or pullets that will lay by November, it is necessary to hatch them early. For the general purpose breeds, they should be hatched in March and to the middle of April. The Leghorns or smaller breeds may be hatched a month later. If hatched at those times, with good care and feeding, they should be laying in November.

The hen may be set either on the ground or in a nest off the ground. If the nests are properly made, there will be very little difference, if any, in the hatching results, whether the nests are on the ground or up off the ground. The bottom of the nest, if up off the ground, should be made of two or three inches of moist earth; hollow slightly, and cover with straw or chaff. The nests should be roomy enough, not less than 14 inches square.

The hen should be dusted with a good insect powder when set. Rub the dust thoroughly into the roots of the feathers. Do this again a week later. Then a day or two before she hatches give her another good dusting. If that is thoroughly done there will be little trouble with lice on the chicks. The chicks, however, should be examined fre-
quently for lice, especially on the head and under the wings. If any lice are found one of two methods should be followed. First, take the chicks in the evening, put them into a box and thoroughly sprinkle them with a good insect powder, then put them back under the hen. When a good powder is used the chicks won't show any lice in the morning. It may be necessary to repeat this a week later.

Another method, and a very effective one, is to use lard. Rub the lard on the top of the head and under the throat. That can be done a day or two after they are hatched, or as soon as any lice appear.

Examine the coops frequently for mites. The way to kill the mites is to treat the coops with a liquid. A good way to kill them is to paint the coop thoroughly; that is, the place where the fowls roost, with a good lice killer. Do this before the hen and chicks are put into it and examine it again later; if any mites are still found, do it again.

**Feeding the Chicks.**

Rolled oats make a very good first feed for the chicks. They must, of course, be of good quality. Bread crumbs or stale bread soaked in milk, squeezed dry, is also an excellent first feed. Another good feed for the first few days or a week is raw egg mixed with bran and a little shorts or middlings and fed in a crumbly condition twice a day. Any of those three feeds may be fed twice a day, and in addition cracked wheat and cracked corn. Until the chicks have learned to eat, the food should be given on clean sand. After a couple of days the cracked wheat and corn should be fed in chaff, so as to make the chicks scratch; increase the depth of the chaff as they grow older. After the first week discontinue bran and egg or the bread and milk, and feed in its place a mash or bran and shorts or bran and middlings with ground corn in the proportions of about three of bran to one of middlings and one of corn. If the ground corn is not available at a reasonable price, finely ground wheat may be substituted and a little later finely ground oats. Add a pinch of salt to the mixture and enough milk or water so that it will mix to a crumbly consistency. Feed just as much of this as they will clean up readily in an hour or less and give them one feed a day. Continue the cracked grains in the chaff until they are about six weeks old, when whole wheat may be fed. Do not allow the soft food to remain in the feeding troughs after the chicks have had all they will eat. A little dish of dry middlings is a pretty good cure for ordinary diarrhea. A dish of charcoal should be kept before them all the time. After the feeding of the egg is discontinued give them beef scrap. That should be kept in a box or hopper all the time where they can help themselves. The feeding should be done in such a way that the chicks will be busy most of the day. They must have plenty of green food and grit at all times and their brooding coop must be kept clean and free from mites.

**Housing.**

As the chicks grow they require larger coops. This is very important. If many chicks are crowded into a small coop they won't make any more growth in weight than half the number would make. They must have plenty of fresh air. Again, they must have clean ground to run on and the more clean fresh ground they have the better they will do. But it is possible to make them grow in small runs if the proper care is given to the yards and to the feeding.
FEEDING THE DUCKLINGS.

The young ducklings should have soft food. Any of the grains ground finely and mixed with buttermilk or sour milk will make a good mash for the young ducks. Ground wheat, oat meal and bran moistened with milk or water will make a good mash; so will ground corn and bran and shorts. Finely ground plump oats with bran and shorts is also a good ration. If milk is not available mix beef scrap in the food, using about 10 per cent as much beef scrap by weight as total grain. Also mix a little clean sand with the food. Feed this four or five times a day the first week and after that three times a day. If the ducks have rangs where they can find bugs and insects they will need no further animal food than the milk. Let them have all the green food they will eat. They should have plenty of shade, as a hot run is very bad on young ducks.

ANIMAL HUSBANDRY.

BY E. L. POTTER.

HOG GROWING.

Suggestions.—Select a smooth thrifty pig farrowed about March 1st. Select one that is very square and blocky, wide between the eyes, short in the legs and neck, but not too short in body. Select a pig that seems to be strong and hearty and that has a good appetite.

After the pig is a few days old feed the sow abundantly on skim milk and shorts, ground wheat or barley. Continue to feed the sow heavily all the time the pig is suckling. When the pig is about two or three weeks old make a little pen near the sow's trough so that the pig can go in but so the sow cannot. Put a small trough in this pen and put in a little slop made of shorts or middlings with skim milk. The pig will soon learn to eat readily and should have about all he wants. Be sure the pig gets plenty of exercise. As soon as there is good pasture, such as rape, clover, vetch, or alfalfa, turn the sow and pigs on that but continue to feed grain as before. If the sow is to produce two litters a year it will be necessary to wean the pigs at about six weeks old. If only one litter is expected they need not be weaned until about four months old, by which time the sow will have probably weaned them herself. From weaning until the pig weighs about 100 pounds, which he should do at about five months, keep him on good pasture and feed grain and milk. About one and one-half pounds of grain will be enough at weaning and increase until he is getting two and one-half pounds per day at five months.

When the pig weighs 100 pounds shut him in a smaller lot and fatten him. The best feeds are ground wheat or barley supplemented with skim milk. Start with three pounds of grain per day and gradually increase until the pig is getting all he will clean up readily twice per day. Give in addition to the grain from one to two gallons of skim milk per day. Sixty days in the fattening pen should make him weigh 200 pounds, which is about the right weight for market purposes.
For further information write to the Oregon Agricultural College, Corvallis, Oregon, for Circular 18 on Hog Raising. For information on points not mentioned in that circular write to the Department of Animal Husbandry, Corvallis, Oregon. The Department of Animal Husbandry will be very glad to furnish any information possible.

LAMB REARING.

Lambs in this contest will be judged from the standpoint of mutton finished for market. Choose a lamb that is very square and blocky, with a straight back, short wide face, and short legs. The selection can well be made when the lamb is only three or four weeks old. The mother should be fed liberally on rich pasture and such grains as oats and bran in order that she will give plenty of milk for the lamb. By the time the lamb is three weeks old it should have a little grain too. Fence off a little pen near where the ewe eats and put a trough for the lamb in this pen. Make the fence of the pen with slats seven or eight inches apart so the lamb can go in and the ewe cannot. The feed for the lamb should be a mixture of bran and oats. The lamb should have about all the grain he wants for the first three months. When summer comes and the grass gets dry, be careful to have some green clover or rape for the lamb. Plenty of rich green feed and a little grain make about all the lamb needs to grow into a prize winner.
STATE FAIR PRIZE LIST

RULES GOVERNING EXHIBITS.

1. The State Fair will be held September 29 to October 4.
2. There is nothing to prevent a child from entering as many competi-
tions as he or she desires.
3. Each child must do all the work in preparing his or her exhibit.
   In gardening the ground may be plowed by someone else if desired.
4. Every boy and girl in Oregon under 21 years of age is eligible
to enter these contests. The contests will be divided into two classes.
   Class A will include all 12 years of age and over; Class B will include
   all under 12 years of age. The prizes will be offered on the basis of
   these qualifications. There must be a statement accompanying each
   exhibit signed by the parents or guardian of each child to the effect that
   the exhibit entered has been prepared by the exhibitor.
5. Entries in this department must be made upon blanks issued from
   the office of the secretary.
6. One entry blank should be filled in for each pupil, and this blank
   must be mailed to the secretary of the State Fair, Salem, so that it will
   reach him not later than September 22, 1913.
7. No pupil shall make more than one entry for each prize.
8. In case there is no competition, the premium will be awarded
   at the discretion of the judge.
9. All exhibits being shipped should be billed to Oregon State Fair,
   Fair Grounds, Oregon, and the name of shipper must be marked plainly
   on article; also the words, “Division U.”
10. All exhibits must be shipped so as to reach the Fair Grounds not
    later than September 27th.

FREE FREIGHT.

11. The S. P., the O.-W. R. & N., the Oregon Electric, the United
    Railways and the Astoria R. R. will all carry the children’s exhibits free
    to and from the fair, provided they are congregated at one or more
    points and shipped in the name of the county school superintendent,
    teacher or other authorized person. Articles sent by express must be
    prepaid.
12. Entry blanks will be sent upon application to the secretary,
    Oregon State Fair, Salem, Oregon.

There will be no fee charged at the State Fair for entering exhibits
in these contests. The fair officials will also give to each boy or girl
who enters an exhibit a ticket to the State Fair, good for one day.
PRIZE LIST FOR STATE FAIR

ENTRIES CLOSE SEPTEMBER 22ND.

The following first prizes have been solicited and the list prepared by the State Superintendent of Public Instruction, who reserves the right to substitute any prize offered that for any reason may not be available.

The second, third, fourth and fifth prizes in each case, except where otherwise specified, will be $4.00, $3.00, $2.00 and $1.00 respectively.

LOT 1. FIELD CORN (10 Ears).

CLASS A.

First Prize—Poland China sow, given by Dr. Holt C. Wilson, owner of Possum Trot Farm, breeding high-class Poland China swine, Lafayette.

Second Prize—Certificate for 50 eggs given by H. S. Carter, breeder high-class Leghorns and Orpingtons, Salem.

Third Prize—$3.00.

Fourth Prize—$2.00.

Fifth Prize—A year's subscription to the "Rural Spirit", a weekly farm and stock journal, published in Portland.

CLASS B.

First Prize—Poland China pig, given by G. Springer, Haystack Blood Stock Ranch, breeder Poland China swine and draft horses, Culver.

Second Prize—Setting White Wyandotte eggs, given by Mrs. A. Longtin, White Wyandotte specialist, Portland.

Third Prize—$3.00.

Fourth Prize—$2.00.

Fifth Prize—$1.00.

LOT 2. POP CORN (10 Ears).

CLASS A.

First Prize—Berkshire pig, given by W. K. Newell, Cloveridge Farm, breeder Berkshire swine and Holstein cattle, Gaston.

Second Prize—One setting of eggs, from first pen of S. C. Black Orpingtons, given by John F. Reinholdt, Black Orpington specialist, Lents, Oregon.

Third Prize—$3.00.

Fourth Prize—$2.00.

Fifth Prize—A year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Poland China pig, given by F. P. Farrington, Poland China specialist, Salem.


Third Prize—$3.00.

Fourth Prize—$2.00.

Fifth Prize—$1.00.
LOT 3. SWEET CORN (10 Ears).

CLASS A.

First Prize—Duroc Jersey pig, at farm, winner to pay express charges to destination, given by C. R. Clark, Duroc specialist, McMinnville.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Duroc Jersey pig, given by W. L. Sheard, breeder Duroc Jersey swine, Dayton.
Second Prize—One setting White Rock eggs, given by T. H. Blundell, breeder of fine poultry. Ringtail pheasants and Fox Terrier dogs, Salem.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 4. WATERMELON (One).

CLASS A.

First Prize—Columbia garden drill, given by The John Deere Plow Co., manufacturers of all kinds of farm implements, vehicles and automobiles, Portland.
Second Prize—Setting of White Indian Runner duck eggs, given by Mrs. L. G. Pell, breeder of fancy poultry and pigeons, Pendleton.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—A year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Standard garden seeder and cultivator, combined, given by The Parlin, Orendorff Co., manufacturers farm implements and machinery, Portland.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 5. MUSKMELONS (One).

CLASS A.

First Prize—Planet Junior single wheel hoe cultivator, given by Mitchell, Lewis & Stayer Co., manufacturers of all kinds of farm implements and machinery, Portland.
Second Prize—Pair of rubber boots, given by The Goodyear Rubber Co., manufacturers of everything made of rubber, Portland.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Suit of clothes, given by the Holtz Mercantile Co., big department store, Portland.
Second Prize—Setting Columbian Plymouth Rock eggs, given by M. E. DeGuire, breeder of all kinds of Plymouth Rock chickens and other fancy strains, Silverton.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

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LOT 6. SQUASH (One).

CLASS A.

First Prize—Poland China pig, given by Thomas Carmichael, breeder of Holstein cattle and Poland China hogs, Gaston.
Second Prize—Setting Partridge Plymouth Rock eggs, given by M. E. DeGuire, breeder of every variety of Plymouth Rocks, Silverton.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Berkshire pig, given by L. L. Paget, breeder of Holstein cattle and Berkshire swine, Gaston.
Second Prize—Setting Silver Penciled Plymouth Rock eggs, given by M. E. DeGuire, Salem.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 7. PUMPKIN (One).

CLASS A.

First Prize—Berkshire boar pig, given by Cherry Lawn Farm, John Schaap, proprietor, breeder of A. J. C. C. cattle, Berkshire swine and Single Comb Brown Leghorn chickens, Gervais.
Second Prize—Setting of Barred Plymouth Rock eggs, given by M. E. DeGuire, Silverton.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Duroc Jersey pig, given by H. G. Kyte, breeder of Duroc Jersey hogs and Cotswold sheep, Perrydale.
Second Prize—Setting White Orpington eggs, given by M. E. DeGuire, Silverton.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 8. POTATOES (Ten).

CLASS A.

First Prize—Cotswold sheep, given by Fairacres Farm, J. B. & D. B. Stump, proprietors, breeders of Jersey cattle, Angora goats, Lincoln and Cotswold sheep, Percheron horses and Shetland ponies, Monmouth.
Second Prize—Setting White Leghorn eggs, given by M. E. DeGuire, Silverton.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Cotswold ewe lamb, given by D. J. Kirby, proprietor of Pine Tree Stock Farm, breeder of Cotswold sheep and Bronze turkeys, McMinnville.
Second Prize—Five dollars' worth of garden tools, given by the Salem Hardware Co., dealers in all sorts of tools, implements, hardware and household essentials, Salem.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
LOT 9. CABBAGE (One).

CLASS A.

First Prize—Angora goat, given by The Northwest Angora Association, A. L. McDonald, secretary, Portland.
Second Prize—Suit case, given by Multnomah Trunk and Bag Co., manufacturers of all kinds of trunks, suit cases and traveling bags, Portland.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

Second Prize—Suit case, given by Western Trunk & Leather Works, special designers and makers of trunks, sample cases and everything in leather staples and novelties, Portland.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 10. ONIONS (One gallon).

CLASS A.

First Prize—Poland China boar pig, given by Maple Lawn Farm, P. E. Thomason, proprietor, Eubanks & Turner, managers, breeders of Poland China swine, and Toulouse geese, Turner.
Second Prize—Setting White Plymouth Rock eggs, given by "Drummond Poultry Farm," White Rock specialist, Creswell.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Duroc Jersey boar pig, given by G. M. Harvey, proprietor of the Rosebud Herd Duroc Jersey swine, Salem.
Second Prize—Setting White Plymouth Rock eggs, given by "Drummond Poultry Farm," White Rock specialist, Creswell.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Eureka seed drill, given by Oliver Chilled Plow Co., manufacturers plows and farm implements, Portland.

LOT 11. CELERY (Three bunches).

CLASS A.

First Prize—Shropshire ewe lamb, given by Craigielea Stock Farm, Frank Brown, proprietor, breeder of Shorthorn cattle, Shropshire and Southdown sheep, Percheron and Belgian horses, Carlton.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the "Rural Spirit."

CLASS B.

First Prize—Poland China pig, given by Hon. Thomas W. Brunk, breeder of Poland China swine, Cotswold sheep, Angora goats, Shorthorn cattle and fine poultry, Salem.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
LOT 12. GRAIN SELECTIONS.

(Best collection of sheaf and threshed grain.)

CLASS A.

First Prize—Riding bridle, given by F. E. Shafer, manufacturer of saddles, harness, and everything made of leather, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—A year's subscription to the "Rural Spirit," the oldest farm and stock journal in the Northwest, Portland.

CLASS B.

First Prize—Porch swing, given by Falls City Lumber Co., manufacturers of all kinds of lumber and building material, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 13. BIRD HOUSE.

CLASS A.

First Prize—Lumber for making a white cedar moth-proof chest, given by the North Bend Manufacturing Co., manufacturers of all kinds of lumber and building material, North Bend.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.

First Prize—Studebaker Junior wagon, given by Studebaker Bros. Co., manufacturers of all kinds of farm vehicles, machinery and automobiles, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.50 pocket knife, given by Watt Shipp, dealer in all sorts of sporting goods, Salem.
Fifth Prize—$1.00.

LOT 14. LIBRARY TABLE (28 x 46 inches).

CLASS A.

First Prize—Chest of Stiletto tools, given by Pacific Hardware Co., manufacturers of all kinds of tools and hardware, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.

First Prize—Set of mechanical drawing instruments, given by The Eugene Dietzen Co., manufacturers of drawing materials, mathematical and surveying instruments, San Francisco, Calif.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Imported veneer saw, given by The Preer Cutlery Co., dealers in all kinds of tools for the farmer and mechanic, Portland.
LOT 15. LABOR SAVING DEVICE.

CLASS A.

First Prize—Library table, given by The C. K. Spaulding Lumber Co., manufacturers of lumber and all sorts of builder's material, Salem.
Second Prize—One 8-foot Bastian pruner and one 8-foot Bastian dicker, given by the Storey Manufacturing Co., dealers in all sorts of tools for the orchard, farm and garden, Portland.
Third Prize—$2.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.

First Prize—Trio of White Plymouth Rocks, given by Justamere Poultry Farm, Mrs. C. H. Pickett, proprietor, White Rock specialist, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 16. SWEET PEAS.

CLASS A.

First Prize—Hand spray pump, given by The Farmers' Implement Co., manufacturers of and dealers in farm implements, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to any $1.50 magazine, given by Curtis P. Coe, proprietor Coe's Subscription Agency, McMinnville.

CLASS B.

First Prize—Aluminum combined egg poacher, given by The Yokohoma Tea & Crockery Co., dealers in all kinds of crockery and kitchen furniture, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 17. ASTERS.

CLASS A.

First Prize—Aluminum cooking set, given by Rice & Phelan, wholesale supply house, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to any $1.50 magazine, given by Curtis P. Coe, principal commercial department, McMinnville College, McMinnville.

CLASS B.

First Prize—Framed picture, given by Lipman, Wolfe & Co., proprietors Portland big up-to-the-minute department store, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
LOT 18. BREAD (One loaf).

CLASS A.
Second Prize—One barrel of "Diamond W. Flour", given by Wadhams & Co., wholesale grocers, Portland.
Third Prize—Six cans "Wadco" baking powder, given by Wadhams & Co., Portland.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.
Second Prize—One barrel "Whitehouse flour", given by Jones Cash Store, the big mail order house, that can supply you with everything to eat, Portland.
Third Prize—Six cans of "Wadco" baking powder, given by Wadhams & Co., wholesale grocers and manufacturers of the celebrated "Wadco" baking powder, Portland.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 19. CANNED FRUIT AND VEGETABLES (One jar each variety).

(Quality and number of jars considered in awarding prize.)

CLASS A.
First Prize—Misses' astride saddle, given by The John Clark Saddlery Co., manufacturer of saddles, harness and other leather goods, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.
First Prize—Somerset saddle, for girl or boy, given by the George Lawrence Co., manufacturers of everything made of leather, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 20. JELLY (Six glasses).

CLASS A.
First Prize—Scale, brass scoop, capacity 240 pounds, given by Fairbanks, Morse Co., dealers in scales, hardware and railroad supplies, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.
First Prize—Suit case, given by E. T. Barnes' Cash Store, dealers in everything used in the home, Salem.

LOT 21. HAND MADE DRESS AND APRON.

CLASS A.
First Prize—Willamette sewing machine, given by Meier & Frank Co., the big Portland department store that sells everything that human wants, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.
First Prize—Sewing table, and complete sewing basket, given by Failing & McCallum Co., dealers in hardware, iron and steel, tinware and metals, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
LOT 22. MACHINE MADE DRESS AND APRON.

CLASS A.

First Prize—Gold watch, given by I. E. Staples, optician and jeweler, also breeder of fine poultry and Shropshire sheep, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.

First Prize—Reed rocker, given by Heywood Bros. & Wakefield Co., wholesale furniture dealers, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 23. DARNING (Three pieces).

CLASS A.

First Prize—Aluminum cooking set, given by The Meier & Frank Co., department store, the oldest firm in Portland, handling everything kept in any department store.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.

First Prize—Aluminum cooking set, given by M. Seller & Co., wholesale dealers in crockery, groceries and everything used in the kitchen, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
POULTRY

To avoid errors in entering poultry and getting it returned to the proper owner, place leg bands on each fowl, giving the secretary the leg band numbers when making your entries and keeping a copy of them yourself; write your name and address plainly on the coop, and do not depend upon a card which may get torn off in transit. In the same way write, "For the Children's Department." If it is a prize for the children's department write on the coop, "a prize." also write your name and address.

LOT 24. INDIAN RUNNER DUCKS (Trio).

CLASS A.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the Pacific Homestead, Salem.

CLASS B.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 25. PEKIN DUCKS (Trio).

CLASS A.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to the Pacific Homestead, Salem.

CLASS B.
First Prize—Pair White Wyandottes, given by J. S. O'Dell, breeder of White Wyandottes and Partridge Rocks, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 26. BARRED PLYMOUTH ROCKS (Trio).

CLASS A.
First Prize—Trio of Barred Plymouth Rocks, given by J. C. Murray, Plymouth. Rock specialist, Portland.
Second Prize—Barred Plymouth Rock cockerel, given by M. J. Myers, Barred Rock specialist, Portland.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.
First Prize—Trio of Barred Plymouth Rocks, given by G. W. Spalght, breeder of Barred Rocks, Black Minorcas and Poland China swine, Hubbard.
Second Prize—A Barred Plymouth Rock cockerel, two pullets, or a setting of eggs, at option of winner, given by Hollywood Poultry Farm, Ladd & Bauer, proprietors, Portland.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—One gallon Lilly's Lice Killer, given by The H. C. Lilly Co., dealers in all sorts of poultry supplies, Portland and Seattle.
LOT 27. WHITE PLYMOUTH ROCKS.

CLASS A.

First Prize—Trio of White Leghorns, given by W. B. Brown, White Leghorn specialist, Sellwood Station, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—one gallon Lilly's Lice Killer, given by The H. C. Lilly Co., Portland.

CLASS B.

First Prize—Trio high score S. C. White Leghorns, given by A. S. Fleming, White Leghorn specialist, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—one gallon Lilly's Lice Killer, given by The H. C. Lilly Co., Portland and Seattle.

LOT 28. BUFF PLYMOUTH ROCKS.

CLASS A.

First Prize—Shropshire lamb, given by C. E. Cleveland, breeder of Shropshire sheep, Cedar Glen Farm, Gresham.
Second Prize—one Barred Plymouth Rock cockerel, given by Henry Readel, breeder prize winning heavy laying ringlet, Barred Plymouth Rocks, The Dalles.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—one gallon Lilly's Lice Killer, given by The H. C. Lilly Co., Portland.

CLASS B.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—one gallon Lilly's Lice Killer, given by The H. C. Lilly Co., Portland.

LOT 29. SILVER PENCILED WYANDOTTES.

CLASS A.

First Prize—Pair of Buff Plymouth Rocks, given by Mrs. Ella Plank, proprietor Walnut Avenue Farm, breeder of Buff and White Plymouth Rocks, Woodburn, and one gallon of Lilly's Lice Killer, given by The H. C. Lilly Co., Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—one gallon Lilly's Lice Killer, given by The H. C. Lilly Co., Portland.

CLASS B.

First Prize—one pair of White Rocks, given by F. F. Seaver, breeder of Blue Ribbon White Rocks, Albany, and one gallon Lilly's Lice Killer, given by The H. C. Lilly Co., Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—one gallon Lilly's Lice Killer, given by The H. C. Lilly Co., Portland.
LOT 30. WHITE WYANDOTTES.

CLASS A.

First Prize—Trio White Wyandottes, given by J. A. Griffin, The White Wyandotte man, Eugene.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead, Salem's Big Farm Journal.

CLASS B.

Second Prize—One pair White Fantail Pigeons, given by L. S. Mochel, breeder fine poultry and pigeons, Albany.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 31. WHITE ORPINGTONS.

CLASS A.

First Prize—Trio of White Orpingtons, given by M. Feldman, breeder prize winning Orpingtons, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead.

CLASS B.

First Prize—Trio of White Orpingtons, given by H. S. Carter, breeder of high class Leghorns and Orpingtons, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 32. BUFF ORPINGTONS.

CLASS A.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead.

CLASS B.

First Prize—Trio S. C. Buff Orpingtons, given by Charles P. Nelson, Orpington specialist, Portland.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
LOT 33. RHODE ISLAND REDS.

CLASS A.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead, Salem.

CLASS B.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 34. WHITE LEGHORNS.

CLASS A.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead.

CLASS B.

First Prize—Trio White Leghorns, given by John Palmer, Jr., breeder of White Leghorns, Rhode Island Reds and Buff Orpingtons, Jefferson.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 35. BROWN LEGHORNS.

CLASS A.

Third Prize—$4.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead.

CLASS B.

Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
LOT 36. BUFF LEGHORN.

CLASS A.

First Prize—one setting Buff Leghorn eggs, given by W. T. Lethin, Buff Leghorn specialist, Hillsboro, and one gallon Lilly's Lice Killer, given by The Lilly Co., Portland.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead.

CLASS B.

First Prize—an out-door Fireless brooder, given by E. J. McClanahan, the incubator and brooder manufacturer, Eugene.

Second Prize—one setting White Rock eggs, given by T. H. Blundell, breeder fine poultry, ring tail Pheasants, and Fox Terrier dogs, Salem.

Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 37. BLACK MINORCAS.

CLASS A.

First Prize—Trio Rhode Island Reds, given by the Oregon Hatchery. E. J. McClanahan, president, and L. B. Kenu, secretary and manager, breeders of high class poultry, Eugene.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead.

CLASS B.


Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 38. LIGHT BRAHMAS.

CLASS A.

First Prize—Trio of Light Brahmas, given by Edward Shearer, Light Brahama specialist, Estacada.

Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year's subscription to The Pacific Homestead.

CLASS B.


Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
LOT 39. MISCELLANEOUS (Any other standard breed).

CLASS A.

First Prize—Trio Partridge Wyandottes, given by T. L. Davidson, breeder of fine poultry, Salem.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—Year’s subscription to The Pacific Homestead.

CLASS B.

First Prize—Trio Partridge Wyandottes, given by Mrs. D. C. Clark, breeder Mahogany and Partridge Wyandottes, Forest Grove.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 40. BANTAMS (Any variety).

CLASS B, ONLY.

Second Prize—One pair White Homer pigeons, given by Mrs. L. G. Pell, breeder of White I. R. ducks, R. C. White Leghorns, White Homer pigeons and White Guinea, Pendleton.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

LOT 41. TURKEYS (Pair).

CLASS A.

First Prize—Fox Hound puppy, given by P. A. Smith, breeder of royally bred coyote catcher Fox Hounds, Yamhill.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.

CLASS B.

First Prize—Trio Barred Plymouth Rocks, given by B. F. Keeney, Barred Rock specialist, Eugene.
Second Prize—$4.00.
Third Prize—$3.00.
Fourth Prize—$2.00.
Fifth Prize—$1.00.
JUVENILE COUNTY AND DISTRICT EXHIBITS

RULES AND REGULATIONS.

1. Competition is open to every county in the State.
2. County and District exhibits shall be composed of articles for which prizes are offered in the individual classes, including poultry and livestock. Prizes shall be awarded on quality, rather than quantity, and the judges will be expected to select the best three articles in each exhibit and compare them with the best three articles of the same class in other competing exhibits. Other articles in the exhibit will not be considered as entering into the competition for a collective prize.
3. Articles constituting a juvenile county or district exhibit may compete for the individual prizes also; provided, however, that when the judges are awarding the prizes on the individual entries that the parties in charge of the county and district exhibits shall take their various individual entries to the judge as called for, returning same and replacing them when the judge has passed upon them.
4. Juvenile county and district exhibits shall be in charge of the County School Superintendents of the respective counties, or of agents appointed by them, who, with their assistants, shall place their exhibits in order, have charge of them during the fair and pack and remove them at the close of the fair and receive and receipt for any and all prizes won by them.
5. Entries for Juvenile county and district exhibits close September 22d. Exhibits must be in place and in order Monday morning, September 29th, at 10:00 a.m., and in order to do this should be on the grounds not later than September 27th.
6. Awards on Juvenile county and district exhibits will be made by the following score:

   Garden and field products and flowers..............30 points.
   Mechanical work ...........................................15 points.
   Domestic Science .........................................20 points.
   Poultry and livestock ....................................25 points.
   Arrangement ................................................10 points.

LOT 42. JUVENILE COUNTY EXHIBIT.

Best display by counties of the products of the school children of the county.

First Prize—$100.
Second Prize—$75.
Third Prize—$60.
Fourth Prize—$50.
Fifth Prize—$40.

LOT 43. DISTRICT EXHIBIT.

Best display by districts of the products of the school children of the district.

First Prize—Victor Phonograph and 12 records, given by the Rural Spirit, a weekly stock and farm journal published by the H. C. Browne Printing Co., Portland.
Second Prize—An eighteen inch Library Globe, given by the Northwest School Furniture Co., dealers in all sorts of school furniture and supplies, Portland.
Third Prize—School flag, given by the Pacific Northwest, a monthly farm journal published by Phil S. Bates, Portland.
Fourth Prize—School flag, given by A. L. Mills, president First National Bank, Portland.
Fifth Prize—Babcock Tester, given by Monroe & Crissel, dealers in all sorts of dairy utensils and supplies, Portland.
SPECIAL PRIZES

The following special prizes are open to children of both “A” and “B” classes, except as otherwise specified.

GRAND SPECIAL FOR BEST LIVESTOCK EXHIBIT.
Shetland pony, given by the Portland Union Stock Yards Company, for the best exhibit of livestock, said exhibit to consist of at least one trio, or pen of chickens, or ducks, two pigs and a lamb. One prize only.

SOW AND LITTER.
Second Prize—Trio White Wyandotte chickens, given by El Povernir Poultry Yards, Miss A. S. Herlow, White Wyandotte specialist, proprietor, Portland.

PIG FEEDING CONTEST.
Contestants required to feed and show two pigs; to set down date, age and weight of pigs when they commence to feed them; (if no chance to weigh have weight estimated by butcher or some other competent person); to keep account of all feed and labor and furnish the secretary a complete statement of these facts; showing the cost per pound of gain. The prize will be awarded upon the following basis, viz:
Quality of pig 40 per cent, economical gain 40 per cent, account 20 per cent.
First Prize—One ton U. M. Co. Digester Tankage, given by the Union Meat Co., government inspected meat, lard and other products, “digester tankage”, land fertilizers, etc., Portland.
Second Prize—Poland China pig, given by W. O. Minor, breeder shorthorn cattle, Poland China hogs and fine poultry, Heppner, Oregon.

BUTTER.
(Two pounds.)
Cream Separator—“No. 1 Dairy Maid Cream Harvester”, given by International Harvester Co., manufacturers of everything used on the farm. One prize only.

SHEPHERDS’ PRIZES.
Open to both “A” and “B” classes, but not to children of regular exhibitors. Competitors will be required to feed, fit and show a wether or ewe lamb. The cash for the following Shepherd’s prizes was donated by J. G. S. Hubbard, breeder of Southdowns, Corvallis; F. A. Koser, breeder Cotswolds, Rickreall; W. A. Jones, breeder Hampshire sheep and Duroc hogs, Joseph; C. P. Kizer, breeder Shropshires, Harrisburg, and A. L. Mills, president First National Bank, Portland.

BEST MEDIUM WOOL WETHER OR EWE LAMB.
First Prize—Scotch Collie puppy, given by The Pacific Homestead, a weekly farm paper published at Salem.
Second Prize—$15.00.
Third Prize—$10.00.

BEST LONG WOOL WETHER OR EWE LAMB.
First Prize—Scotch Collie puppy, given by C. D. Nairn, Oregon’s pioneer importer and breeder of Collie dogs, Shadeland Farms, Amity, Oregon.
Second Prize—$15.00.
Third Prize—$10.00.
POULTRY SPECIALS.

First Prize—For the best pen (one cockerel and four pullets) of birds of any breed, Silver Cup, given by the Oregon Poultry & Pet Stock Association, W. L. Fulmer, secretary, Portland.


LARGEST EXHIBIT.

First Prize—For the boy or girl making the largest and best display of poultry, a 120-egg incubator, given by E. J. McClanahan, The Incubator Man, Eugene, Oregon.

Second Prize—$5.00 in cash given by J. M. Garrison, the oldest pure-bred poultry breeder in the State, catalogue free, Salem, Oregon.

TRIO ASIATICS (Including Brahmas, Cochins and Langshans).

For best trio of any breed of Asiatics, trio Light Brahmas, given by W. F. Kaplinger, Light Brahma specialist, Salem.

PAIR WATER FOWLS.

For best pair of water fowls of any breed, pair White Indian Runner ducks, given by George T. Graves, I. R. duck specialist, Black Rock, Oregon.

BEST PAIR CHICKENS.

$5.00 in gold for the boy exhibiting the best cockerel and pullet hatched from eggs received through the Oregon Agriculturist's free egg offer.

$5.00 in gold for the girl exhibiting the best cockerel and pullet hatched from eggs received through the Oregon Agriculturist's free egg offer.

BEST ACCOUNT.

For the boy or girl in the "A" class furnishing the secretary the best account of the season's work with their poultry, a No. 1 Norwich Feeder, given by the Portland Seed Co., dealers in all kinds of seeds and poultry supplies, Portland.

For the boy or girl in the "B" class, furnishing the secretary the best account of the season's work with their poultry, the book "Robinson's Poultry Culture", given by J. K. Gill, wholesale and retail books and stationery, Portland.

SALMON FAVEROLLE COCKEREL.

For the best Salmon Faverolle cockerel, 50 Salmon Faverolle eggs (after March 1, 1914), given by Eugene Prescott, Faverolle specialist, Salem.

SALMON FAVEROLLE PULLET.

For best Salmon Faverolle pullet, 15 Salmon Faverolle eggs (after March 1, 1914), given by Eugene Prescott, Salem.

ANDALUSIANS.

For the best display of Andalusians, a Blue Andalusian cockerel, given by D. M. Calbreath, Blue Andalusian specialist, Monmouth.

DOMINIQUES.

For the best display of Dominiques, a Dominique cockerel, given by D. M. Calbreath, breeder of Blue Andalusians and Dominiques, Monmouth.
SILVER CAMPINES.
For the best trio Silver Campines, $5.00 cash, given by Elmer Dixon, expert judge and breeder, fancy poultry, Oregon City.

WHITE WYANDOTTE PULLET.
For the girl in "Senior Class", who exhibits the best White Wyandotte pullet, a setting of White Wyandotte eggs, given by Harry V. Marx, originator and breeder of "Trainer Strain"; pedigree-bred-to-lay White Wyandottes, Portland.

MOST CHICKENS.
For the boy or girl, any age, who hatches and has alive June 1, 1913, the most chickens, an air gun, given by Hauser Bros., dealers in all kinds of sporting goods, Salem; also one gallon Lilly's Lice Killer. Count your chickens hatched between January 1st and June 1st, and the one reporting the greatest number of chickens gets the gun and lice killer. Reports must all reach the office of the Superintendent of Public Instruction, Salem, by June 5th.

FOR EVERY PRIZE WINNER.
The Northwest Poultry Journal, Salem, gives a year's subscription to every prize winner in the Juvenile poultry department at the State Fair.