

FARM AND ORCHARD

Notes and Instructions from Agricultural Colleges and Experiment Stations of Oregon and Washington, Specially Suitable to Pacific Coast Conditions

Growers Hold Discussion On Orchard Subjects

Washington State College, Pullman. — A rousing horticultural meeting closed the "farmers' week" program here. Orchard fertilizers, cover crops and insect pests each came in for discussion.

"Before applying a fertilizer ascertain by noting the action of the plant growth if a fertilizer is needed," said Professor R. J. Barnett. "Other conditions being right a poor growth of wood and foliage denotes that nitrogen is lacking in the soil. Poorly developed and misshapen fruit often indicates lack of phosphorus, while a poor skin color most often means that the soil is deficient in potassium. If it is necessary to supply nitrogen use cover crops or barnyard manure. Other elements also are added by the manure, but not to so great an extent by the cover crops. Use commercial fertilizers only when manure and cover crops are impracticable because of peculiar conditions or entirely out of the question from other causes."

The growth of cover crops in orchards was advocated by W. S. Thornber, of Lewiston, who pointed out that the kind of a crop to be used varies according to local conditions. Some orchards need a nitrogen producing crop, while others need a cover crop that will conserve the nitrogen already in the soil.

"Keep your orchards free from litter and reduce the loss from insect pests and infection," said Professor W. O. Ellis, in dealing with the subject, "Insect Hybridization in Orchard Litters." Orchard litters, according to Professor Ellis, are one of the greatest sources of insect infection and the money spent in keeping the orchard free from litter will pay big dividends in increased profits."

In his talk on "Farm Sanitation" Professor O. L. Waller, vice president of the college and professor of mathematics and civil engineering, advanced the idea that the sewage from the cities and towns can be used to good advantage for irrigation purposes on the farm. This sewage, could be made sanitary by the use of septic tanks. The speaker cited examples of the success of this plan, including Paris and Berlin.

"No farm where the use of a septic tank is possible should be without one," said Professor Waller, who explained the purpose and construction of the tanks.

The contention that an automobile may be put to good use for power purposes on the farm was objected to by Professor I. D. Charlton, professor of farm mechanics, who based his objection on the assertion that investment is too great for the character of work performed and that oftentimes the power would be greater than is actually needed to perform the work. The added wear and tear on the high-power automobile engine over that of the farm engine of less horsepower was another objection made by Professor Charlton. The use of gasoline for farm power was discussed by Professor Charlton, who explained the construction of the engines and mentioned many good uses to which they may be put.

Many Problems Confront The Market Gardener

Oregon Agricultural College, Corvallis. — "Many inexperienced gardeners who expect to take up the business of truck gardening for the first time do not begin to realize the many difficult problems that confront them," said Professor A. G. Boquet, who is in charge of vegetable gardening at the Oregon Agricultural college. "The average goods, and the average methods of selling are not enough to constitute success. There has got to be something superior.

"I am convinced that many who have signified their intention to embark in the business for the first time next spring, have lands that have not yet demonstrated their ability to grow commercial crops. While in a good many instances their soil may be quite suitable for growing the crops selected, in many others the reverse is likely to prove true. Apparently the future gardeners do not always appreciate the importance of proper soil adaptability to the crop in hand. It is surely as necessary for truckers to distribute their crops over the right kind of soils as it is for the fruitgrowers, who have taken so much pains to harmonize their trees with their soils.

"The selection of the right crop is another matter that requires very careful consideration. Not only should they be adapted to the soils where they are grown, but also to the demands of the market they are designated to fill. Only when we encourage the growing of the right crop on the right land in the right way, are we doing any good for the vegetable industry.

"It is also reasonable to suppose that many beginners who do not understand the proper methods of handling their soils, crops, fertilizer and other problems of production will not be able to make a success of it.

"The result will be a discontented frame of mind and a tendency severely to criticize climatic conditions and soil. It is suggested as a simple precaution that these important details be mastered in a small way before they are applied on a large, commercial scale. We all desire to see this phase of the horticultural interests grow and to have the growers satisfactorily get their rightful share of the profits of the business.

Successful market gardening is not possible without giving careful attention to these problems, which are only a part of the large number to be solved, and the inexperienced had better make small beginnings."

Feeding Young Pigs.

Pigs begin to nibble at their mother's feed when about four weeks old, and should then be fed all they will eat of feed that encourages growth and develops the digestive system without impairing digestion. If they are weaned when seven weeks old this allows but three weeks in which to accustom their nutritive organs to the change from natural to artificial nourishment. The principle involved in making this change of feed is explained by Professor G. R. Samson, swine specialist of the Oregon Agricultural college Animal Husbandry department, as follows:

"The proportion of water in the little pig's body is greatest at birth. This water is gradually replaced by dry matter as the pig grows older and any undue hastening of the transposing process interferes with the pig's entire organism.

"The rate of substituting dry matter for water may be retarded by diluting the solid part of the feed with water which is incorporated into the pig.

"The digestive tract of the small pig is larger in proportion to his body than that of the older pig. While the more common mistake is underfeeding at this time, it is also possible to overfeed. At this time the pig may eat and digest more food than he can take care of in his body and in such cases much of the value of the feed is wasted. Another ill which may result from overfeeding is the impairment of digestion efficiency so that the gains in later life are secured at greater cost than would otherwise be necessary.

"When the little pigs begin to nibble at the feed they should be provided with a trough inside a creep where they may have feed especially suited to them. To start with there is nothing better than skim milk into which about one-tenth by weight of middlings or oatmeal is stirred. If oats are used the coarser hulls should be sifted out. The proportion of the middlings or ground oats may be increased until at weaning time the pigs are getting about one part of solid feed to two parts of skim milk.

"When the little pigs are first being started on artificial feed, care must be taken that no feed be left in their trough to become sour, for scours almost surely will result if they eat this left-over feed. Therefore give them but little and remove what is left and give it to their dams. Then thoroughly clean their trough and if possible scald it and set it up to dry. At any rate make sure the trough is left clean and is clean when feed is put into it again. A good start makes success possible; a bad one makes success very uncertain. The advantages of the creep are that cleanliness is more easily secured and a smaller amount of higher priced feed is necessary as the sow does not require such expensive feed.

"If it is considered too much trouble to provide a creep for the little ones, they may be allowed to continue eating with their dam, and her ration may be made suitable to the pigs. Milk production is stimulated by slopy feed and the sow requires concentrated feed which is easily digestible. For this method of feeding Dietrich suggests one-fourth to one-fifth pound digestible protein and $\frac{1}{2}$ to $\frac{3}{4}$ digestible carbohydrates per one hundred pounds live weight of the sow and litter. The same amount of nutrients is all right per 100 pounds live weight of the sow if she is fed separately from the pigs. But it may contain more coarse feed in the latter case.

"In terms of the feeds used on our farms the ration may be made up as follows: For a 250 pound sow with seven pigs weighing seven pounds each—300 pound live weight in all—this ration requires six pounds middlings and three pounds skim milk; or six pounds barley and 8 pounds skim milk; or six pounds barley and four pounds tankage; or six pounds middlings and 15 pound tankage."

VOLCANOES IN ACTION

TERRIFIC DAMAGE DONE WHEN MOUNTAINS BLOW UP.

Long List of Disasters Due to Eruptions—That of Krakatoa in 1883 About the Worst of Which There is Record.

The eruption of Sakura recalls that of Mount Pelee, which destroyed St. Pierre, Martinique, the most beautiful city in the West Indies, with appalling suddenness. Like Sakura, the volcanic peak of Pelee had been quiescent for a long period, and was believed to be practically extinct. It smoked a little for a few days before it blew up, but it had previously sent up similar thin, vaporous clouds at intervals of ten or twenty years—so nobody paid attention to its seemingly harmless activity. Without warning a pillar of rock shot up from the crater of Mount Pelee to a height of nearly 100 feet, and a rent opened half-way up the mountain's slope, from which blew a hot blast, stupefying and incinerating every organic thing in the path of its withering breath. In less time than it takes to tell, St. Pierre, with nearly its entire population, was wiped out and buried in the rain of ashes which followed the explosion.

In its tremendous force, however, the eruption of Sakura more nearly resembles that of Krakatoa in 1883. This is believed to have been the greatest cataclysmic disturbance suffered by the earth in historic times, and possibly within the more recent of the geologic eras. Krakatoa was a volcanic peak rising 2,000 feet above sea level, in Sunda strait. After warning manifestations, which continued several days, the outburst came on August 27. The entire northern half of the volcano was blown away, and the soundings subsequently made showed a depth of 1,000 feet of water where the mountain had stood. An eye-witness of some of the phenomena observed from the shore of Java professions of native boats, held by a current many times more irresistible than that of Niagara and sucked into the vortex caused by the great hole torn in the floor of the ocean. It is estimated that the column of stones and ashes thrown up by Krakatoa's explosion shot up to a height of 17 miles. Nearby islands were covered with volcanic debris to the height of the tree tops of their forests. The dust particles left floating in the upper strata of the atmosphere encompassed the earth as with a belt 75 degrees wide, producing a deep red glow in the sky after sunset for months after the upheaval. On the day of the eruption and for several days thereafter lamps had to be lighted at Batavia at noon. The waves started by the explosion reached almost around the earth. They were distinctly observed at Cape Horn, and were perceptible even in the English channel. The most remarkable fact, however, was the distance to which the noise of the explosion traveled. It was audible in the Philippines, 1,400 miles; at Ceylon, 2,000 miles, and in South Australia 2,200 miles away.

Old-Fashioned House.

Minor furnishings for the house of eighteenth century type are not easily picked up, but of late some of the old fashioned domestic furnishings have been reproduced at prices which even the very thrifty may seriously consider. The revived fashions include belows in brass or carved wood, Frank line stoves, which furnish the cheering effect of the open fireplace minus its dangers—if left alone—and dog and iron in brass or iron. Delightfully quaint, too, are the freestool having four short posts joined by cords of firm wool hemp and hand woven to form a foundation for a cushion in gay-hued chints, taffeta or velvet. Also the round, braided mats of alluring coloring.

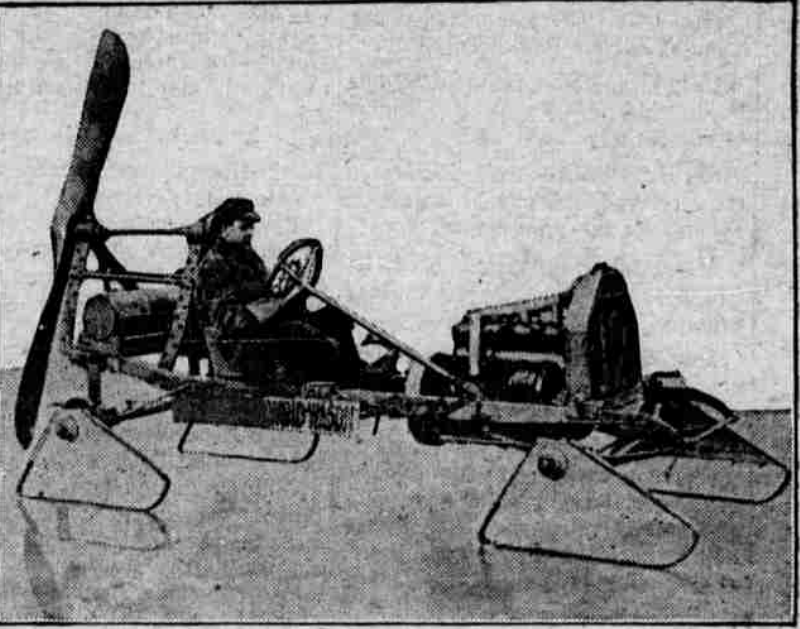
Luxury of Sugar.

Sugar was considered an article of luxury in Europe until tea and coffee became usual articles of diet. Sugar was then used to sweeten these beverages and so gradually came to have a prominent part in the daily diet. Before the days of sugar much more meat was eaten and the drinking of alcoholic beverages was much more common. The fair maiden who could not, with impunity, drink a pint of ale for breakfast was unusual. Perhaps in spite of the fact that most of us eat too much of it, sugar is a blessing. Even over-sweetened coffee and cereal covered with sugar sound more beneficial than a pint of ale and half a pound of beef for breakfast.

Good Paste.

A paste that will keep a long time is made by dissolving one ounce of alum in a quart of warm water. When cold, add flour enough to make it the consistency of cream, then stir into it a teaspoonful of powdered rosin. Boil to the proper consistency, stirring all the time. It will keep for many months, and when dry may be softened with water.

WONDERFUL PERFORMANCE OF WIND WAGON



Wind Wagon Equipped With Runners Furnishes Much Good Winter Sport.

Surprises come often when the wind wagon performs. It has now been equipped with runners and has been driven at high speed over the snow-covered roads and the ice of the river and creeks around Indianapolis. The wind wagon is driven entirely by the wind resistance created by the revolving propeller in the rear. The differential is not connected with the drive shaft. In fact, there is no drive shaft,

as a chain combination connects the motor and the eight-foot wooden aeroplane propeller in the rear. There is only a six-inch clearance between the wooden propeller and the ice and for this reason, and also because it frightens horses, it cannot be used much on the roads. One can have great winter sport "skating" with the wind wagon on the river when the ice is thick enough.

MAKE-UP OF MONORAIL SLED

In Coasting the Rider Lies at Full Length on the Top Board, With Hands on Steering Bar.

A monorail sled, having a simple tandem arrangement of the runners, is very easily constructed as follows: The runners are cut from one-inch plank of the size and shape given in



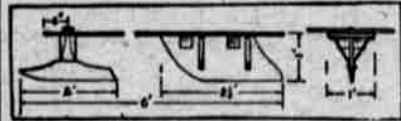
An Exhilarating Glide Accompanied by a Buoyant Sense of Freedom Only Obtained in the Monorail Type.

the sketch, and are shod with strap iron, one inch wide and one-quarter-inch thick. Round iron or half-round iron should not be used, as these are liable to skid. The square, sharp edges of the strap iron prevent this and grip the surface just as a skate.

The top is a board six feet long and 11 inches thick, securely fastened to the runners as follows: Blocks are nailed, or bolted, on either side of the upper edge of the rear runner and the top is fastened to them with screws. The runner is also braced with strap iron, as shown. The same method applies to the front runner, except that only one pair of blocks are used at the center and a thin piece of wood fastened to their tops to serve as the fifth wheel, writes Harry Hardy of Whitby, Ont., in the Popular Mechanics.

The hole for the steering post should be six inches from the front end and a little larger in diameter than the steering post. The latter should be rounded where it passes through the hole, but square on the upper end to receive the steering bar, which must be tightly fitted in place.

In coasting, the rider lies full length on the board with his hands on the steering bar. This makes the center of gravity so low that there is no necessity for lateral steadying runners, and aside from the exhilarating glide of the ordinary sled, the rider experiences a buoyant sense of freedom and a zest peculiar to the monorail type. Then, too, the steering is effected much more easily. Instead of drag-



The Construction is Much More Simple Than Making a Double-Runner Bobsled.

ging the feet, a slight turn of the front runner with a corresponding movement of the body is sufficient to change the direction or to restore the balance. This latter is, of course, maintained quite mechanically, as everyone who rides a bicycle well knows.

Housekeeper's Instinct.

Teacher of Hygiene—Why must we always be careful to keep our homes clean and neat?

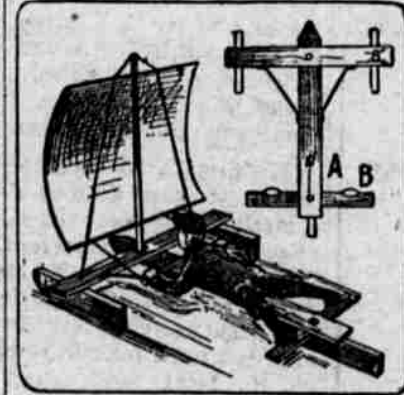
Little Girl—Because company may walk in at any moment.—Judge.

CONSTRUCTION OF ICE BOAT

For Use on Lakes and Wide Rivers Craft Has No Equal—Three Boys Can Build One.

The ice boat shown in this sketch runs directly before the wind, with a square sail as shown in the picture. A three-cornered sail may be used, but it is harder to manage. The frame work of the craft consists of two two-inch planks, which are laid across each other as in Fig. 2. Fig. 3 shows the under part of the top plank at the rear end. Note how the planks are jointed and braced with wire.

The steering is done with the rear single runner. The lower part of Fig. 3 shows how it is made. A bolt in the center of "A" fits in a hole in the center of "C," not so tightly as to interfere with the free motion of the steering runner. The bottom of the runners should be shod with flat iron. Half round or round iron will not do. The mast is three inches in diameter by six feet long. The sail is six feet by four feet. The mast is braced by running two stout wires from the top to the cross plank. The sail is controlled by a wooden handle bar. For use on lakes and wide rivers this boat has no equal, writes Moses La Bom-



Ice Boat.

bard of New York in an exchange. Three boys should be able to construct it in a short time.

True for Once.

Such was Willie's misconduct that the school authorities in despair, reported it to the boy's father, hoping he would see that the crime was visited on the miscreant's head—or elsewhere—in a more effective manner than they could.

Next day tender inquiry was made for Willie's health, but the boy's answer proved disappointing.

"What!" exclaimed the teacher. "D'you mean to say your father didn't whip you?"

"No, ma'am," said Willie. "He told me a licking would hurt him more than me."

"Stuff and nonsense! Your father's too absurdly sympathetic!"

"Not, he, ma'am," he remarked; but just now he's got rheumatism in both his arms!—London Answers.

Important Islands.

"What are the most important islands on the globe?" asked the geography teacher.

And without hesitation the boy from New York answered, "Ellis, Manhattan and Coney."—Washington Star.

Modern Childhood.

"Now shall I tell you about the babes who got lost in the woods?"

"Oh, you can't get lost in the woods, uncle. Woodcraft is the first thing you learn as a boy scout."—Kansas City Star.