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## DISEASES OF SHEEP

If sheep are given proper care and feed, and are not exposed to sudden changes, the liability of disease is materially reduced. For the average sheep that becomes sick, and you do not know how to doctor, the best way is to let nature take its course. Unless the symptoms are very evident and the remedies well known, doctoring sheep is expensive and often unsatisfactory.

In handling and treating sick animals, use common sense. Do not try to make them eat, but let them be quiet. Do not begin to pour medicine down them the first time you see there is something wrong, but look to the cause and remove it, if it is in the feed or care. If the animal does not then return to feed, study closely the symptoms, and give such treatment as the latter seem to warrant. The common ailments of sheep are comparatively few, but severe cases of many of them are very fatal.

In giving medicine to sheep, the easiest way to hold the sheep is to set it on its rump, placing the sheep between your legs and holding the head by placing the first two fingers of the left hand in the roof of the animal's mouth, thus leaving the right hand to hold the spoon or bottle. Except where the medicine is given clear, in one or two tablespoonfuls, the best method is to have a long, small-necked bottle in which to put the medicine, and put in the mouth, taking care to have the opening well to the back of the mouth so that the sheep can not hold the tongue over the opening. Give large doses with great care, pouring slowly to avoid choking. Be careful not to choke by pouring into the windpipe. In giving castor oil with a spoon, dip the spoon in water just before using.

### INTERNAL DISEASES.

**CHOKING.**—Generally caused by too fast eating of oats or roots, which lodge in the gullet. Set the animal on its rump, stretch the neck and throw the head back, and pour a cupful of water down the throat. In more severe cases, use three or four tablespoonfuls of melted lard. If neither of these furnish relief, take a piece of small rubber hose, or a very small, pliable and smooth stick, push it carefully down the gullet,

and dislodge the obstacle. Keep close to the lower side of the neck, so as not to disturb the windpipe.

In passing hose to relieve choke, keep neck perfectly straight. Have animal held firmly by good assistants. Use great care to avoid wounding throat.

**BLOATING.**—Caused by overeating of soft, green feed, such as young clover, alfalfa, rape, and the like. For slight cases, put all the pine tar possible on the nose and mouth; also fasten a small stick in the mouth, like a bridle bit, to keep it open to allow the gas to escape. In more severe cases, give two teaspoonfuls of bicarbonate of soda, dissolved in warm water. If relief does not follow, repeat in about ten minutes. Holding salt pork in the mouth will often relieve. In all of these cases, keep the animal in motion, so as to facilitate the escape of gas. If none of these remedies act and the animal becomes worse, tapping must be resorted to. This is done by making a small insertion with a sharp knife, at a point on the left side equidistant from the end of the last short rib and the backbone, on the paunch. Better than a knife is a trocar with shield. This is a sharp blade in a tube, and when the puncture is made the shield is left in the opening, allow the gas to escape. This shield should be removed as soon as the animal is out of danger. Sheep trocar and canula can be secured from any veterinary instrument maker.

**FOUNDING.**—Generally caused by overeating; for instance, securing access to grain bin accidentally, or being kept from feed twenty-four hours or longer, and then allowed to eat as much as they please. As soon as found, give one-half teacupful of castor oil and keep well exercised. If bloating sets in, relieve by ordinary methods. Foundering is very dangerous, and death often results, in spite of any remedy.

**CONSTIPATION.**—In lambs, often occurs when one to seven years old. Relieve by an injection, with a small syringe, of lukewarm soapsuds into the rectum. Another good injection is glycerine, one ounce to warm water one pint. In older sheep, sometimes due to heavy feeding,

especially of corn and dry feed without any laxative foods; also due to lack of exercise. Two to four tablespoonfuls of castor oil will relieve; if no passage of bowels in twenty-four hours, repeat and increase the dose by one-half.

**SCOURING.**—Induced by a sudden change from dry to green feed; by over-eating of green feed, such as rape, clover, alfalfa, and the like; also of grain. In mild cases, a change to dry feed will cause scouring to stop in a day or so, without the use of any drug. In very severe cases, where the sheep refuses to eat, and passage of dung is slimy and attended with straining, give two tablespoonfuls of castor oil to carry off the cause of the irritation; if this does not check the passage give a tablespoonful of castor oil with thirty drops of laudanum, twice daily, in a little gruel. When checked, continue to give flaxseed gruel, until the sheep returns to its regular ration.

**SNUFFLES.**—Similar to a cold in persons; catarrh; discharge at the nose. Put fresh pine tar in the mouth and on the nose. In severe cases steam the sheep with tar, by putting some live coals in a pan, pouring tar on them, and holding his head over the pan, placing a blanket over his head to keep the fumes from escaping, and forcing the sheep to inhale them.

**URINARY TROUBLES.**—Rams are sometimes troubled to make water; generally due to heavy feeding and close confinement; it is also claimed that heavy feeding of roots will cause this trouble. Rams stand apart from the flock, do not eat, draw up their hind parts, and strain in an attempt to make water. To relieve, give one-half teaspoonful sweet spirits of niter, in a little water, every two hours until relieved.

**WORMS.**—The deadly stomach worm (*strongylus contortus*) is the worst foe of the eastern sheep grower. It is a small worm about three-quarters of an inch long, found in the fourth stomach. They are taken in by lambs running on old pasture, especially blue-grass, and are induced by wet weather and wet soil; are generally noticeable during July and August. Symptoms: lambs lag behind when driving the flock, look thin and poor, act weak, skin is very pale and bloodless; eyes pale, sunken and

lifeless; sometimes scouring occurs a day or two before death; death usually in four to ten days. Preventive: keep the lambs from old pastures; a fresh cut or newly seeded clover meadow makes the best pasture; rape is also good. Feed them some grain and dry feed, and keep some of the following mixture in the salt box all the time, viz.: one bushel salt, one pound gentian, one pound powdered copperas, one pint turpentine, mixed thoroughly. Some of the prepared medicated salts are just as cheap and effective as this mixture. Tobacco dust and tobacco leaves fed with the salt are also much used in some sections and prove very effective as a preventive. Cure: if not too bad when noticed, they can often be cured, but they are seldom as growthy as if not affected. Shut the lambs from all feed for twelve to eighteen hours; catch the lamb, set him on his rump, holding so that he can not struggle and give a drench of gasoline, one tablespoonful, in four ounces (one-third to one-half teacupful) of milk; repeat the two succeeding mornings, and if no improvement, repeat the series in seven to ten days. Follow directions carefully.

#### DISEASES EXTERNAL.

**MAGGOTS.**—Caused by green flies, induced by hot, damp weather, and dirty wool; found on the hind part of sheep, and on rams around the horns, where wool is damp and dirty. Also around castration and docking wounds, which require watching for this trouble. Trim off the wool on place affected, and throw off the maggots; put on gasoline to kill the maggots. Air-slacked lime will dry up the wet wool, and drive the maggots and flies away. Turpentine and kerosene are also used, but both take off the wool, if used in considerable amounts. Apply the above remedies for maggots with brush or small oil can.

**FOULS, OR SORE FEET.**—Sheep are often lame, especially when the ground is wet; earth or manure lodges between the toes, continual rubbing induces soreness, the foot begins to suppurate, and your sheep is lame; the foot looks sore between the toes and is warm. Pare away all shell of hoof around the sore part, being sure to expose to the air all affected parts: after thoroughly paring, put on with a small swab a solution of

blue vitriol and strong vinegar, mixed to the consistency of a thin paste. Keep sheep with fowls away from wet pastures or stagnant water, and keep feet dry and clean as possible.

If lame sheep are not doctored, the fowls soon spread to all parts of the foot, and foot-rot results. This becomes contagious, and all sheep remaining where are those with foot-rot will become lame. There is no need of foot-rot if the shepherd takes care of his sheep. Treat this the same as the fowls, being sure to pare away all shell and exposing the diseased parts. For a stronger solution than blue vitriol, use blue vitriol, butyr of antimony, and muriatic acid, equal parts by weight. Use with care. Paring is the principal thing; be careful not to cut the toe vein. Another excellent remedy for foul feet is one ounce chloride of zinc to one pint of water. Apply enough to wet foul parts once daily after cleaning foot with dry cloth.

**TICKS.**—Ticks to sheep are as lice to hens; they take the life and blood from the sheep. To kill them, dip your sheep in some proprietary dip, carbolic preferred, being careful to follow directions.

**SCAB.**—Is a strictly contagious disease of the skin, caused by a small mite which bites the skin. It generally appears on the back, rump or sides of the sheep, and is first indicated by rubbing and pulling of the wool. The disease is very contagious, common to large flocks and bands, especially on the western range. Cure: use some good proprietary dip, follow directions to the letter, dip your sheep thoroughly twice, the second dipping from six to ten days after the first, not sooner nor later than these limits. Disinfect all pens thoroughly and keep sheep from the old pastures at least two months. Scab is not very common to eastern sheep owners. Inspect all new animals at once for scab, as it is often introduced by purchasing stock ewes or rams.

**SORE EYES.**—Caused by too much wool over the eyes, and the eyelid rolling into the eye; also by getting something into the eye. Shear the wool away from the eye, and tie the cap of wool up off from the eyes, if necessary; if there is a film over the eye, better apply a few drops of a solution of ten grains of boric acid to the ounce of water, put in a pinch of powdered burnt alum.

**SORE TEATS.**—The teats on ewes with lambs sometimes become sore and tender, so that the lamb can not suck. Rub twice a day with salted butter.

**CAKED UDDER.**—Sometimes caused by weaning and not milking after the lamb is taken away. Generally occurs in heavy milkers; also occurs when lamb is still sucking, in one side of the bag at first. It is accompanied by stiffness in the hind quarters, the bag is hard, and in the first stages a thin, watery-like fluid can be drawn from the teat. Rub well and carefully, using camphorated sweet oil; the principal thing is the rubbing; try to soften the bag and keep the teat open. Many times the ewe will lose the use of that side of her bag entirely. If she does, send her to market. Where gait is stiff and udder caked, give the ewe one dram salicylate of soda three times daily for three or four days.

**CASTING WITHERS.**—Thrusting out of the womb. It should be washed in a pint of warm water, in which has been dissolved a teaspoonful of powdered alum, and the womb replaced, and a stitch taken in the upper part of the opening of the vagina. The best way to cure such ewes is to market them or kill at once if they continue to give trouble in this respect. After replacing the womb, keep hind parts of animal quite high by standing in narrow stall made for the purpose, with floor made high behind.

**GOITER.**—Lumps in the throat. Common to lambs when born; also in young sheep during the first winter. Some think the latter is caused by high feeding. Apply tincture of iodine with a swab, rubbing on enough to color well the affected portion. Two or three applications, two to four days apart, should remove the worst case of goiter.

**CASTRATING.**—Hold as for docking. Cut off a good sized portion of the end of the sac with a sharp knife, push back the sack from the testicles, grasp the latter singly, with right hand, and grasp narrow or upper portion of sac firmly with left hand, and draw out until the cord breaks. Do not cut the cord, but break it. When docking and castrating at the same time, castrate first, then dock, and release the lamb. The whole operation should not take over one to two minutes.

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## Lime on the Farm

The use of lime on the farm is growing every year. The farmer who uses it finds it pays and uses more; then his neighbor tries it with the same experience. Agricultural Experiment Stations have proven its value in records of results over periods of years. All reports agree that the necessity of its presence in the soil is second only to drainage.

Where lime is lacking in the soil, it is a waste to supply other fertilizers or even manure, because the full benefit of their application is only attained when the soil is sweet—has a plentiful lime supply. The more green or stable manure put on, the more fertilizer applied, the greater the need of lime, for the decay of any of these in their change to plant food forms acid and tends to soil acidity.

All legumes thrive in soils well supplied with lime. Legumes such as alfalfa, red clover, soy beans, etc., are plants having power to take nitrogen from the air; and since the bacteria necessary to their growth will not thrive where lime is lacking, lime becomes the indirect means of supplying nitrogen necessary to all plants.

Not only legume crops are benefited by the application of lime, but corn, oats, wheat, fruit trees, etc. Experiments at Wooster show a net increase for lime of more than \$20 per acre in a five-year rotation.

Old pastures should be top-dressed with carbonate of lime, two

to four tons per acre will not hurt. Lime not only adds to the abundance and quality of the grass, but also is of value from a sanitary point, helping destroy germs of infectious diseases, such as foot-and-mouth disease, hog cholera, etc.

Lime may be had in Ohio in several forms: Lump caustic, ground caustic, hydrated, and ground raw limestone. Lump caustic should be air-slaked before applying to the soil. Hydrated lime is the caustic lime sufficiently slaked with water to take away much of the undesirable qualities in handling, and in the process it is reduced to a fineness which makes it quickly available to do its work in the soil.

Ground limestone, or carbonate of lime, is the raw rock ground or pulverized. In it, fineness is especially desirable.

Limestone quarried or mined in some sections differs in analysis from that of other sections, but the basis of all is calcium carbonate.

All cultivated soil sooner or later needs an application of lime in one or the other of its forms, and the farmer who recognizes this fact and supplies the need will find it profitable. But it is important to remember that lime should never be applied so that it will come into direct contact with manure or nitrogenous fertilizers. Use it at a different time, or in such a way that the two will not mix.

## FARMERS' BULLETINS

Sent Free to Residents of the United States, by Department of Agriculture  
Washington, D. C., on Application.

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## PLANTING TABLE FOR VEGETABLES AND BERRIES

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MONTGALM COUNTY

VARIETY	For Horse Cultivation Have Rows	For Hoe or Wheel-Hoe Cultivation Have Rows	Distance Apart in the Row	Depth to Cover	Time to Plant in the North, Outdoors (See Foot-note)
ASPARAGUS, Seed .....	2½ ft. apart	1 ft. apart	3 in. transplant in 1 year	1 in.	March-April
ASPARAGUS, Plants ....	4 ft. apart	3 ft. apart	2 ft.	5 or 6 in.	March-April
BEAN, String .....	2½ ft. apart	2 ft. apart	Thin to 4 in.	2 in.	May 10-15
BEAN, Lima .....	Pole, 4 x 4 ft. apart	4 x 3 ft. apart	Thin to 3 plants to a pole	1 in.	May 20-25
BEET .....	Bush, 2½ x 1½ ft. apart	2 x 1½ ft. apart			
BLACKBERRY, Plants ..	2½ ft. apart	1 ft. apart	Thin to 5 in.	1 in.	March-April
CABBAGE and CAULI- FLOWER, Plants .....	8 ft. apart	6 ft. apart	2 ft.		April. Or in the fall
CARROT .....	2½ ft. apart	2 ft. apart	16-24 in.		Early kinds, April; late kinds, June
CELERY, Plants .....	3-4 ft. apart	1 ft. apart	Thin to 5 in.	½ in.	March-April
CORN, Sweet .....	5 x 5 or 6 x 4 ft. apart	2-3 ft. apart	6 in.		Early crop, May; late crop, early July
CUCUMBER .....	4 ft. apart	Same	8-12 in.	2 in.	First sowing, early May
CURRENT and GOOSEBERRY, Plants ..	5 x 5 ft. apart	Same	Scatter 15 seeds in hill; thin out later	½ in.	May 15
EGGPLANT, Plants .....	5 x 5 ft. apart	5 x 4 ft. apart			April. Or in the fall
LETTUCE .....	2½ x 2½ ft. apart	2 x 2 ft. apart			June 1
MELON, Musk .....	2½ ft. apart	1½-2 ft. apart	Thin to 6-10 in.	½ in.	March-April
MELON, Water .....	6 x 4 ft. apart	Same	Scatter 15 seeds in hill; thin out later	½ in.	May 15
	8 x 8 ft. apart	Same		½ in.	May 15-20

## PLANTING TABLE FOR VEGETABLES AND BERRIES—Continued

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CLASSIFIED BUSINESS DIRECTORY

VARIETY	For Horse Cultivation Have Rows	For Hoe or Wheel-Hoe Cultivation Have Rows	Distance Apart in the Row	Depth to Cover	Time to Plant in the North, Outdoors (See Foot-note)
ONION, Seed .....	2½ ft. apart	12-15 in. apart	Thin to 4 in.	½ in.	March-April
PARSLEY .....	2½ ft. apart	1 ft. apart	Thin to 6 in.	½ in.	Early April
PARSNIP .....	2½ ft. apart	1 ft. apart	Thin to 5 in.	½ in.	March-April
PEPPER, Plants .....	2½ ft. apart	2 ft. apart	20 in.		June 1
PEAS .....	3-4 ft. apart	2½-3 ft. apart	Continuous row	3-5 in.	March-April
POTATO .....	3 ft. apart	2-2½ ft. apart	12-18 in.	4 in.	Early, March-April; late, May-June
RADISH .....	2½ ft. apart	1 ft. apart	Thin to 3 in.	½ in.	March-April
RHUBARB, Plants .....	4 ft. apart	3 ft. apart	3 ft.	2 or 3 in.	March-April
RASPBERRY, Plants ....	6 ft. apart	5 ft. apart	Red, 2 ft. Black, 2½ ft.		Early spring
SPINACH .....	2½ ft. apart	1 ft. apart	Thin to 5 in.	1 in.	March-April (or fall)
SQUASH-PUMPKIN ....	8 x 8 ft. (Bush Squash 4 x 4)	Same		½ in.	May 15-20
STRAWBERRY Plants ..	4 ft. apart	3 ft. apart	15-20 in.	Have crown level with ground	April. (Pot-grown plants in August)
TOMATO, Plants .....	4 x 4 ft. apart	4 x 3 ft. apart			May 25-June 1

NOTE.—Planting time varies according to season and locality; dates given above are only approximate, and are based on latitude of Pennsylvania; allow about five days difference for each 100 miles north or south of this State. Do not work soil in spring while it is very wet and soggy; wait. Plants set in autumn must be well mulched with straw manure, leaves, etc., during first winter. Successional sowings of corn, peas, etc., may be made later than the dates given.

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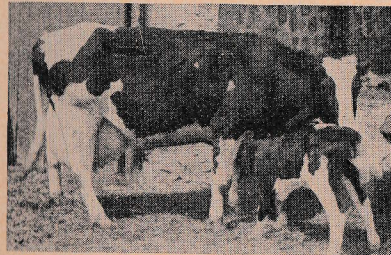
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## Handy Things to Know

### MEASURING HAY AND CORN

Hay is often sold in the mow or stack where the weight has to be estimated. For this purpose 400 cubic feet of hay is considered a ton. The actual weight of 400 cubic feet of hay will vary according to the quality of the hay, time of cutting, position in mow, etc. For making an estimate in a given case multiply together the length, breadth and height of the mow or stack in feet and divide the product by 400. The quotient will be the number of tons.

Corn is measured by the following rule: A heaped bushel contains 2,748 cubic inches. To find the number of bushels of corn in a crib it is therefore necessary merely to multiply together the length, width and height in inches and divide the product by 2,748. The number of bushels of shelled corn will be two-thirds of the quotient. If the sides of the crib are slanting, it will be necessary to multiply together one-half the sum of the top and bottom widths with the height and length.

The legal weight of a bushel of shelled corn in Pennsylvania, New Jersey, Maryland and Virginia is 56 pounds.

In Pennsylvania, Virginia and Maryland 32 pounds constitute a bushel of oats; in New Jersey, 30 pounds.

A bushel of wheat is placed at 60 pounds by most of the states of the Union.

Pennsylvania recognizes 56 pounds as a bushel of white potatoes. In Maryland, New Jersey and Virginia the legal weight is 60 pounds.

A bushel of clover seed in Pennsylvania must weigh 60 pounds; in Maryland, 60 pounds; in New Jersey, 64 pounds; in Virginia, 60 pounds.

A bushel of timothy seed in Pennsylvania must weigh 45 pounds, and the same weight in most adjacent states.

To estimate the amount of land in different fields under cultivation use the following table:

5 yards wide by 968	yards long, 1 acre
10 yards wide by 484	yards long, 1 acre
20 yards wide by 242	yards long, 1 acre
40 yards wide by 121	yards long, 1 acre
70 yards wide by 69 1/7	yards long, 1 acre
80 yards wide by 60 1/2	yards long, 1 acre
60 feet wide by 726	feet long, 1 acre
110 feet wide by 396	feet long, 1 acre
120 feet wide by 363	feet long, 1 acre
220 feet wide by 198	feet long, 1 acre
240 feet wide by 181 1/2	feet long, 1 acre
440 feet wide by 99	feet long, 1 acre

A rod is 16 1/2 feet, or 5 1/2 yards.

A mile is 320 rods.

A mile is 1,760 yards.

A mile is 5,280 feet.

A square foot is 144 square inches.

A square yard contains 9 square feet.

A square rod is 272 1/4 square feet.

An acre contains 43,560 square feet.

An acre contains 4,840 square yards.

An acre contains 160 square rods.

A quarter section contains 160 acres.

An acre is 8 rods wide by 20 rods

long.

An acre is 10 rods wide by 16 rods

long.

An acre is about 208 3/4 feet square.

A solid foot contains 1,728 solid inches.

A pint (of water) weighs 1 pound.

A solid foot of water weighs 62 1/2 pounds.

A gallon (of water) holds 231 solid inches.

A gallon of milk weighs 8 pounds and 10 ounces.

A barrel of flour weighs 196 pounds.

A barrel of salt weighs 280 pounds.

A barrel of beef weighs 200 pounds.

A barrel of pork weighs 200 pounds.

A barrel of fish weighs 200 pounds.

A keg of powder equals 25 pounds.

A stone of lead or iron equals 14 pounds.

A pig of lead or iron equals 21 1/2 stone.

Anthracite coal broken—cubic foot—averages 54 pounds.

A ton loose occupies 40-43 cubic feet.

Bituminous coal broken—cubic foot—averages 49 pounds.

Cement (hydraulic) Rosendale, weight per bushel, 70 pounds.

A ton loose occupies 40-48 cubic feet.

Cement (hydraulic) Louisville, weight per bushel, 62 pounds.

Cement (hydraulic) Portland, weight per bushel, 96 pounds.

Gypsum ground, weight per bushel, 70 pounds.

Lime, loose, weight per bushel, 70 pounds.

Lime, well shaken, weight per bushel, 80 pounds.

Sand at 98 pounds per cubic foot, per bushel, 122 1/2 pounds.

18.29 bushels equal a ton. 1,181 tons cubic yard.

**Seed Per Acre**

It requires less seed per acre to sow in hills or rows than to sow broadcast. The hill or row system permits of after cultivation, which is not possible with a broadcasted crop. In all calculations for hill and drills it must be remembered that an acre of land contains 43,560 square feet. A square piece of land, 209 feet on a side, contains about an acre. The following figures are merely suggestive, as practice varies with locality:

- ALFALFA, 25 to 30 lbs. broadcast.
- ASPARAGUS, 4 to 5 lbs. in drills; 1 oz. to 50 feet of row.
- BARLEY, 1½ to 2 bushels drilled; 2 to 2½ bushels broadcast.
- BEANS, bush, 1½ bushels in drills.
- BEANS, pole, 10 to 12 qts., in hills.
- BEETS, 5 to 6 lbs., in drills.
- BUCKWHEAT, 1 bushel, broadcast.
- CABBAGE, ¼ lb. in seed bed, to be transplanted.
- CARROT, 3 to 4 lbs., in drills.
- CELERY, about 1 oz. for 2,000 plants; 1 lb. per acre.
- CLOVER, red, 8 to 10 lbs., broadcast.
- CLOVER, crimson, 15 lbs., broadcast.
- CLOVER, white, 6 lbs., broadcast.
- CORN, field and sweet, 8 to 10 qts.
- CORN, ensilage, 12 qts., in drills.
- COW PEAS, 1 bushel, in drills; ½ bushels, broadcast.
- CUCUMBERS, 2 lbs., in drills.
- EGG PLANT, 1 oz. seed for 1,000 plants; ¼ lb. to the acre.
- GRASS, lawn, 2 to 4 lbs., broadcast.
- LETTUCE, 1 oz. of seed to 1,000 plants; ½ lb. to the acre.
- MELON, musk, 2 to 3 lbs., in hills.
- MELON, water, 4 to 5 lbs., in hills.
- MILLET, 1 bushel, broadcast.
- OATS, 3 bushels, broadcast.
- ONIONS, 5 to 6 lbs., in drills; for sets. 30 to 50 lbs., in drills.
- PARSNIPS, 4 to 6 lbs., in drills.
- PEAS, 1 to 2 bushels, in drills.
- POTATOES (cut) 8 to 10 bushels.
- PUMPKINS, 4 to 5 lbs., in hills.
- RADISHES, 8 to 10 lbs., in drills.
- RYE, ¾ to 1½ bushels, in drills.
- SPINACH, 10 to 12 lbs., in drills; running sorts, 3 to 4 lbs.
- SQUASH, bush, 4 to 6 lbs., in hills.
- TIMOTHY, 15 to 20 lbs., broadcast, if used alone; less if sown with other grasses.
- TOMATOES, ⅓ lb. in seed bed, to be transplanted.
- TURNIPS, 1 to 2 lbs., in drills; 2 to 3 lbs., broadcast.
- WHEAT, 1½ bushels, broadcast.

**Suitable Distance for Planting Trees**

Apples—Standard	..25 to 35 feet apart each way				
Apples—Dwarf (bushes)	.....	10	"	"	"
Pears—Standard	....10 to 20	"	"	"	"
Pears—Dwarf	.....	10	"	"	"
Cherries—Standard	..18 to 20	"	"	"	"
Cherries—Dukes and Morrells	.....	16 to 18	"	"	"
Plums—Standard	....15 to 20	"	"	"	"
Peaches	.....	16 to 18	"	"	"
Apricots	.....	16 to 18	"	"	"
Nectarines	.....	16 to 18	"	"	"
Quinces	.....	10 to 12	"	"	"
Currants	.....	3 to 4	"	"	"
Gooseberries	.....	3 to 4	"	"	"
Raspberries	.....	3 to 5	"	"	"
Blackberries	.....	6 to 7	"	"	"
Grapes	.....	8 to 12	"	"	"

**Shingles Required in a Roof**

Double the rafters and multiply by length of building. Multiply this by 9 if exposed 4 inches, by 8 if exposed 4½ inches, and by 7 1/5 if exposed 5 inches to the weather.

One thousand shingles, laid 4 inches to the weather, will cover 100 square feet of surface.

Eight hundred shingles, 5 inches to the weather, will cover 100 square feet.

One thousand shingles require 5 pounds of four-penny nails.

Five to ten per cent. should be allowed to these figures to cover waste and shortage.

One thousand laths will cover 70 yards of surface, and take 11 pounds of nails.

Two hundred and fifty pickets will make 100 lineal feet of fence.

**Nails Required**

For 1,000 shingles, 3½ to 5 pounds 4d., or 3 to 3½ pounds 3d.

For 1,000 laths about 7 pounds 3d. fine, or 8 pounds 2d. fine.

For 1,000 feet clapboards (siding), about 18 pounds 6d. box.

For 1,000 feet covering boards, about 20 pounds 8d. common, or 25 pounds 10d.

**Nails—Common**

Size	.....	3d	4d	6d	8d	10d	12d
Length	.....	1½	1½	2	2½	3	3½
No. to lb.	.....	500	300	165	90	62	45
Size	.....	16d	20d	30d	40d	50d	60d
Length	.....	3¼	4	4½	5	5¼	6
No. to lb.	.....	35	24	18	13	10	8

Eighteen to twenty-five pounds of nails are required per 1,000 feet of lumber.

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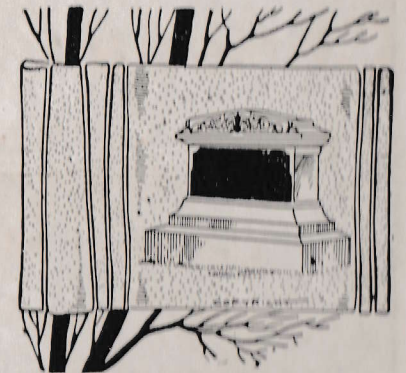
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