

the flow of water is checked, the drainage cannot be so efficient. Where the fall is great, these obstacles are more easily overcome. Where the friction is not great, a very slight inclination is sufficient; but the general standard has been laid down that the fall should usually not be less than one inch per rod, and the length should not usually be over 200 yards. Within certain limits, a deep drain will carry off a larger percentage of rainfall than a shallow one, the other conditions being identical, but this is not of sufficient practical importance for discussion here.

Subject to all these considerations, the following table will prove an invaluable guide. It is called the Latham Standard and is extensively used by drainage engineers; but it has been revised by Prof. Carpenter of the Michigan Agricultural College. It takes average conditions, and provided for the removal of half an inch of rainfall in twenty four hours. The table should not be used except for thorough drainage. The time will soon come when drainage must be thorough; and no greater mistake can be made than half doing the work, as the future cost of repairing present errors will be very great. Where the figures are replaced by dashes, the meaning is that no tile should be laid to such grades:

RATE OF INCLINATION.	ACRES DRAINED.				
	2-in. Tile.	3-in. Tile.	4-in. Tile.	6-in. Tile.	10-in. Tile.
1 foot in 10 feet.	6.6	18.9	29.8	66.2	190.5
1 foot in 20 feet.	4.7	13.0	20.0	44.0	130.4
1 foot in 30 feet.	3.9	10.9	16.9	37.3	108.0
1 foot in 40 feet.	3.4	9.4	14.0	31.0	90.0
1 foot in 50 feet.	3.0	8.4	12.0	27.0	80.0
1 foot in 60 feet.	2.7	7.4	10.0	24.0	70.0
1 foot in 70 feet.	2.5	6.5	9.0	21.0	60.0
1 foot in 80 feet.	2.3	5.5	8.0	18.0	50.0
1 foot in 90 feet.	2.2	5.1	7.5	16.0	45.0
1 foot in 100 feet.	2.0	4.5	6.5	14.0	40.0
1 foot in 125 feet.	1.6	3.5	5.0	11.0	30.0
1 foot in 150 feet.	1.3	2.8	4.0	9.0	24.0
1 foot in 200 feet.	1.0	2.0	3.0	6.0	18.0
1 foot in 250 feet.	.8	1.6	2.4	4.8	14.0
1 foot in 300 feet.	.7	1.3	2.0	4.0	12.0
1 foot in 400 feet.	.5	1.0	1.5	3.0	9.0
1 foot in 500 feet.	.4	.8	1.2	2.4	7.0
1 foot in 600 feet.	.3	.7	1.0	2.0	6.0
1 foot in 700 feet.	.3	.6	.9	1.8	5.0
1 foot in 800 feet.	.2	.5	.8	1.6	4.0
1 foot in 1,000 feet.	.2	.4	.6	1.2	3.0
1 foot in 1,500 feet.	.1	.3	.4	.8	2.0
1 foot in 2,000 feet.	.1	.2	.3	.6	1.0

Whilst the average yield of wheat in the United Kingdom is 28 bushels per acre, that of the United States is only 12 bushels. France, Bavaria, Austria, and Egypt about 16 bushels; Spain, Belgium, Norway, Denmark &c., varying from 22 to 25 bushels per acre. Also for barley and oats as well as forage crops the productions of the British farmer are in the foremost rank. All this shows that although this country stands first in the scale, her position is by no means due to superiority of soil or climate, but rather to good and clean cultivation, to the application of manures—both artificial and produced by highly fed stock—and from greater attention being paid to the change of seed and by the selection of improved varieties of plants.

## Garden and Orchard.

### The Best Varieties of Garden Vegetables.

Now is the time to select your garden seeds. If you are not acquainted with our leading seedsmen, it is time you were. Don't purchase from the local storekeepers unless their seeds come from your favorite seed merchant. Your success in the garden depends largely upon getting the purest seeds and the best varieties. The following are the names of the leading varieties:—

**BEANS.**—Golden Wax Dwarf; Mammoth Red German Wax; Black Wax or Butter; and (of the pole, or running sorts), Dreer's Improved Lima.

**BEETS.**—Eclipse Turnip; Long Black Red Improved; Egyptian Dark Red Turnip; Half-Long, very deep Blood Red.

**CABBAGE.**—Henderson's Early Summer; Dark-Red Pointed; Early Jersey Wakefield; Filderkraut; Pottler's Drumhead; Early Winningstadt; Premium Late Flat Dutch.

**CAULIFLOWER.**—Henderson's Early Snowball; Earliest Dwarf Erfurt.

**CARROTS.**—Early Scarlet Horn (English and French); Scarlet Intermediate; Early Gem; Half-Long Scarlet.

**CELERY.**—Golden-Hearted Dwarf.

**CORN.**—Early Minnesota; Early Marblehead; Stowell's Evergreen.

**CUCUMBERS.**—Long Green; Green Prolific; Stockwood's Long Ridge.

**LETTUCE.**—Standwell; Early Curled Silesia; Drumhead.

**MUSK MELON.**—Montreal Market; Montreal Improved Green Nutmeg; Early Green Nutmeg.

**WATER MELON.**—Black Spanish; Cuban Queen; Peerless; the Boss.

**ONIONS.**—Large Red Wethersfield; Yellow Globe Danvers.

**PEAS.**—Bliss' Everbearing; Blue Peter; McLean's Little Gem; American Wonder; Stratagem.

**RADISH.**—Early Long Scarlet Short Top; Early Scarlet Turnip; French Breakfast; Long Black Spanish Winter; Scarlet China.

**PUMPKINS.**—Etampes Mammoth Bright Red; Potiron.

**SQUASH.**—Boston Marrow; Hubbard; Essex Hybrid.

**TOMATO.**—Livingstone's Perfection; Acme; Canada Victor.

**TURNIP.**—Extra Early Purple Top Milan; Early White Stone or Snowball.

**SPINACH.**—Long Standing.

**POTATOES.**—White Star; Morning Star; Beauty of Hebron; Bliss' Triumph; Clarke's No. 1; Pearl of Savoy; Early Sunrise; Mammoth Pearl; Early Rose.

### Strawberries.

BY W. W. HILBORN.

The past season has been one of the best for strawberries within my knowledge, and has added considerably to the experience of the past. Some varieties that did scarcely anything when the seasons were unfavorable, have produced a very large crop the past year. There is no doubt many people will be led to plant by last season's experience, which is not at all safe to follow; hence will not succeed so well as they would by taking the experience of an unfavorable year as their guide.

Many varieties are very tender in the blossom, and a very light frost will materially injure the crop. Others bloom very early, and some send their fruit stalks up above the foliage, hence are easily injured by frost.

Take, for instance, the Sharpless: it produced a large crop of the largest-sized fruit last year. I have grown it for six years and never before

succeeded in getting a full crop from it, owing to its habit of sending the fruit stalks above the foliage and exposing the blossoms to the spring frosts, which we nearly always have when strawberries are in bloom. It will not stand as many degrees of cold without injury as many other varieties that expose their blossoms to the same extent.

We should therefore make observations in an unfavorable season, and select varieties that will then succeed best, and by watching those same varieties when the season is favorable, we can soon find what will pay us best to plant in our own locality.

It is true that varieties will deteriorate, but it quite often happens that it is caused by using plants from old, worn-out plantations. If we use plants from such beds, it is on the same principle as using scrub stock to breed from. On the other hand, they can be overfed just as easily as we can over-feed stock (although it is not often done).

I fruited about eighty varieties last season, and sold about five hundred bushels of strawberries, and find none better among those well tested than *Crescent Seedling*, *Manchester*, *Daniel Boone*, *Cap Jack*, *Wilson* and *Cumberland Triumph*. *James Vick* sets too many berries to bring all to perfection in a favorable season, but when we get a late spring frost that catches most sorts (as quite often happens), and kills about one-half of the blossoms, it is one of the best.

Among newer varieties, the *Atlantic* is by far the most promising late market berry. It is very productive, not quite so dark in color as *Wilson*, more firm, very hardy, fruit of good size and quality. *Prince of Berries* is the best in quality of any I have ever tasted; although not quite as productive as some varieties, it will give a good crop of large, bell-shaped, dark red berries, quite firm; plant, hardy and a good grower, and it should be in every collection for home use, especially if the grower wishes to eat some of the best strawberries that are known at the present time. Talk about the wild strawberry flavor! I have never tasted a wild strawberry that would anywhere near come up to it in quality.

*Cornelia*, a new variety that was sent out at a very high price as the best late market berry, has disappointed me. It is late, quite productive, fruit of good form and color, not very firm, but such a poor grower that it will be of little use in Canada. The plant is the most tender of any in my collection.

I have fruited quite a number of new varieties; many of them have no special merit; will give the names of some of them, as it may save some of the readers of the *ADVOCATE* from being induced to buy them, at a high figure from some of the travelling agents, who know nothing about them only what they learn from reading the disseminator's description.

First, those that are promising and worthy of trial are *Atlantic*, *Prince of Berries*, *Lacon*, *Woodruff*, *Parry* and *Amateur*.

Of the following varieties some have good points, but not enough good points combined in any one to give them any special merit:—

*Cornelia*, *Primo*, *Legal Tender*, *Big Bob*, *Grand Duke*, *Finche's Prolific*, *Gipsy*, *Hart's*, *Minnesota*, *Jersey Queen*, *Nigh's Superb*, *Piper's Seedling*, *Ray's Prolific*, *Sterling*, *Vine-land Seedling*, *Ct. Queen*, *Mrs. Garfield*, *Oliver Goldsmith*, and *Sucker State*.