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Nec aranearum sane textus ideo melior, quia ex se fila gignunt, nec noster vilior quia ex alienis libamus ut apes.

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From the Albany Cultivator.
CULTURE OF SPRING GRAINS.

SPRING WHEAT.

There are many sections where spring wheats are the only varieties that can be cultivated to advantage. In all places where snow accumulates to a great depth, the success of winter wheat is rendered uncertain, owing to the liability of its being winter-killed. In such cases, the farmer resorts to spring wheat as the best substitute at command, and in many cases it gives a return, which, both for quantity and quality, leaves no cause for dissatisfaction. Spring wheat is said to contain a larger proportion of gluten than winter wheat, and it has hence been inferred that bread made from the former is more nutritious. According to the analysis of Sir H. Davy:

	Gluten.	Starch.
100 parts of the best Silvan wheat contained,	21	75
100 parts of spring wheat of 1804,	24	70
100 parts of good English wheat, of 1803	19	77

Preparation of the soil, quantity of seed, and time of sowing.—Spring wheat is usually cultivated on land that has been occupied the preceding year by some hoed crop—corn, potatoes, &c. Where there is no danger of the attack of the fly, which works in the head, it is best to sow the crop as early as the state of the ground will admit, or as soon as it is fairly free from frost. One good ploughing is sufficient—in fact we have known excellent crops produced by working the ground thoroughly with a cultivator harrow, the feet or teeth of which penetrate the ground and pulverize it to the depth of several inches. Manure is not usually applied for this crop. Long or unfermented manure tends to rust the straw, and on this account it is only applied to the crop of the previous year, and then it becomes so far decomposed as to be in a proper state for the wheat. The seed is usually sown on the furrow, and well harrowed in. The quantity sown, per acre, is generally two bushels.

Varieties.—The kinds held in the greatest estimation in this country, are the Black Sea, Italian, and the Tea wheat. Of these, the Black Sea is the most hardy, and generally gives the best yield. This valuable variety was first brought into notice in this country by Payson Williams, Esq., of Pitchburg, Mass., some twenty five years since, and it has now become widely disseminated. It is said to have been originally brought from the shores of the Black Sea, in Asia. The Kennebec Agricultural Society have made several importations of wheat from the Black Sea. The impression prevailed a few years since that the kind introduced by Mr Williams had declined in productiveness, and the society for this reason thought it advisable to make a new importation. After one or two failures, we believe they succeeded in obtaining a kind supposed to be superior in some respects to that first introduced. It should be remarked, however, that in some sections, and under good management, the Black Sea wheat has considerably improved by cultivation in this country. The yield of this variety, varies of course with the soil and season, but perhaps twenty bushels per acre may be said to be an average crop on medium soils. We have often known upwards of thirty bushels grown per acre, and in a few instances have seen well-authenticated statements of fifty bushels per acre having been produced.

OATS.

Oats are more hardy than wheat, and will grow on many soils not suitable for that grain. In mountainous sections, where the soil is too wet and cold for any other kind of grain, they frequently give excellent returns, and it is very common also, that the weight per bushel is greater in such sections than in those favored with a milder climate and more fertile soil. In many parts of Ireland, and in

the greater portion of Scotland, the oat crop furnishes the only reliance for bread-stuffs; oat meal, in various forms, being the chief article of subsistence.

Oats are undoubtedly far richer in nitrogenous or muscular matter, in proportion to the weight, than wheat. A comparison, according to the analysis of Prof. Johnston, shows this. One hundred pounds each of fine wheaten flour and shelled or hulled oats contain:

	Wheat.	Oats.
Muscular matter,	10 lbs.	18 lbs.
Fat,	3 do.	6 do.
Starch,	50 do.	65 do.
	63 lbs.	89 lbs.

This may serve to give some explanation of the fact that the muscular power of horses is greater when fed on oats than when kept on any other food; and it serves also to lessen our wonder at the athletic feats, corporeal strength, and power of endurance shown by the stalwart Highlander, reared on this simple but nutritious fare.

Preparation of the ground, quantity of seed, and time of sowing.—The earlier this crop can be got into the ground the better. One plowing, if well done, is generally sufficient. The seed may be sown on the furrow, not less than three bushels per acre. Three bushels is the quantity we have formerly been in the habit of sowing per acre; but we have observed that nearly all the extraordinary large yields which have been lately obtained were from a larger quantity of seed than is generally used, and we should not hesitate to use three and a half bushels.

PEAS.

Peas in many parts of the country are a valuable crop. Like other leguminous plants, they rather ameliorate than exhaust the soil, and in this respect furnish an excellent preparation for other crops. In some districts they are adopted as a 'green fallow' for winter wheat, with excellent effects, as they leave the ground clean and mellow.

Peas are highly nutritious as food for animals. The proportion of nitrogenous or muscular matter they yield on analysis, is much greater than is given by any kind of grain, and they are often used, either by themselves, or combined with oats, for fattening swine, as well as for feeding horses. They are also used to a considerable extent in domestic cookery, forming very nourishing and very palatable soups. In some countries they are also mixed with grain, ground and made into bread.

Peas are sometimes sown with oats, in the proportion of one-third peas to two-thirds oats. A variety of peas which has rather a light vine is preferable, as the ranker kinds are apt to overrun the oats, and lay too close on the ground, but the straw of the oats will hold up the lighter ones, so that both the oats and peas will fill well.

Preparation of the soil, time of sowing, and quantity of seed.—A loamy soil, rather inclining to clay, is best adapted to peas. Early sowing generally gives the best crop. Very hot weather is unfavorable to their filling, and it is hence advisable to have the crop well advanced before the hottest part of the season comes on. A sod which was plowed the previous autumn, well harrowed, makes a good bed for peas, but any good sward well broken up and mellowed, will answer—and if sod ground cannot be had, that which has been under cultivation one or more seasons may be taken. No manure is generally needed; but if any is put on, it should be a small quantity of that which is thoroughly rotted, spread on the furrow and harrowed in. A large quantity of manure, or that which is in a green state, makes too great a growth of vines and tends to blight.

The quantity sown per acre varies somewhat with the kind of pea, some being of a more spreading growth than others, and requiring less seed. It is usual also to sow a larger quantity of very large peas, than of small ones, because the number of peas or germs is greater in the same measure of small ones. The large marrow-fat, for instance,

are double the size of some others. From three to four bushels of seed per acre is the quantity usually sown.

The covering of the seed is best performed by a small plow, or by a set of small plows in a frame, called a 'gang-plow.' It is difficult to bury peas with a harrow, many being always left on the surface, where it is attempted. A depth of about two inches is the proper one for covering. A good way is to pass the harrow over the field after the peas are sown, which will prevent them from rolling into rows or bunches, and then plow them in with a shallow furrow. The varieties adapted to field culture are the Canada field pea, the marrow-fat, and the black-eyed pea. The yield on good soil is from thirty to forty bushels per acre.

Garden peas, or those for ground marketing, should be put in the ground as early as possible. Select warm, dry ground—it can hardly be too dry for early peas—and deposit the seed either in rows or broadcast, as soon as the frost is out. The earliest varieties are the Early Washington, Cedo Nulli, and Prince Albert.

To destroy the pea weevil, which is so troublesome, immerse the peas in water, boiling hot, for two minutes; then take them out and mix plaster, dry ashes, or air-slacked lime with them, till they will readily separate in sowing or planting. No fears need be entertained that the hot water will prevent the peas from vegetating—not one in twenty will be hurt at all.

BARLEY.

This grain is cultivated in some sections of this country to advantage. It is not, however, very extensively grown. The reason probably is, that on good land for wheat, as much of that grain can be produced per acre, and with no more labour than is required for barley. Still there are some soils and situations not well adapted to wheat, which will produce good crops of barley.

Barley furnishes an excellent food when ground into meal, for fattening swine and cattle, or feeding milch cows, and the whole grain is the best food for feeding poultry. The meal also makes bread which is used extensively in some countries, and is well relished by those who are accustomed to its use. In this country, however, its culinary use is chiefly for making warm cakes, similar to those of buckwheat, for which it is highly prized by those who have tried it. The grain, when divested of its husk, forms the pearl barley of the shops, so much esteemed for soups and broths.

In nutritive properties, barley, when with wheat, is stated by C. Johnson, in the Farmer's Encyclopedia, as follows:—

	Nutritive matter.
100 parts wheat yield of	78
100 parts barley	65

The principal purpose, however, to which barley is appropriated, both in this country and Britain, is the making of malt for beer, ale, &c., a purpose for which it is superior to any other kind of grain. After having been passed through the mashing process, the 'grains' are used for feeding animals. They are much used in the neighbourhood of cities for feeding milch cows. They tend to produce a great flow of milk, but it is thought their effect is rather injurious to cows of weak constitution, as the grains relax the system, and by highly stimulating the lacteal glands may leave the animal poor.

The straw of barley is reckoned preferable for feeding stock to that of any other grain. It is soft and sweet, and cattle which are in their prime, and that neither give milk nor are required to labour, will winter well on this article alone. Sheep will also do well on it, with the addition of a few roots, and a little grain towards spring.

Varieties.—There are many varieties of barley. The usual designation is by the number of rows which form the head: thus we have the two rowed, the four rowed, and the six rowed barley. A kind called the Chevalier barley, from the name of the gentleman who

first brought it into notice is in great repute in England on account of its superior productiveness, weight, and, according to the statements of some brewers, its greater quantity of saccharine matter. The late Lord Leicester made numerous trials with this kind of barley, the result of which proved it to be superior in weight to the best of other kinds, by at least ten per cent—its average weight being fifty-seven pounds per bushel. Another advantage, in the opinion of Lord Leicester, which this kind of barley possesses, is the habit of tillering or spreading, by which, he thinks, a saving of half a bushel of seed may be made per acre.

There are likewise two or more varieties of naked barley, so called from the grain being detached from the glume or chaff. A two-rowed kind of this description has been known in England many years, and the writer remembers to have seen it cultivated in Massachusetts upwards of thirty years ago. The cultivation of this kind has been generally abandoned, on account of its want of hardiness, &c. A six-rowed kind of naked barley is also cultivated in Europe, (and we have lately heard of it in the hands of a few in this country,) which kind, C. Johnson, in his Farmers' Encyclopedia, says it is greatly esteemed for its fertility. It is also stated that its cultivation had been tried in France, where it was highly recommended by M. Mazucco, who states that "it weighs as much as the best wheats, and its quality resembles them so much that it may be used for the purpose of making good bread, and also for pearl barley. In mountainous countries its produce is twenty-four to one." An extract is also given from a communication to the Board of Agriculture by Warren Hastings. He observes: "that it is of the greatest importance to promote the culture of this sort of grain." He adds: "It is the corn that, next to rice, gives the greatest weight of flour per acre, and it may be eaten with no other preparation than that of boiling. It requires no dressing when sent to the mill, having no husk, and consequently produces no bran. It is gathered into the barn, and may even be consumed, when the seasons are favorable, in August, eighty or ninety days after being sown; and there is no species of grain better calculated for countries where the summer is short, provided the vegetation be rapid. It appears to be this kind of barley to which we have several times alluded as having been produced by Mr. Spinner, of Herkimer.

Besides the kinds of barley above enumerated, which are all spring varieties, there are several winter kinds, which, like winter wheat, are sown in the fall. The best of these is said to be the Siberian winter barley. Whether, however, it would endure the climate of this section, can only be determined by trial. At present we have not known of this variety having been introduced into this country.

Preparation of the soil, time of sowing, and quantity of seed.—The best soil for barley is a warm loam, inclining to sand. If the soil is not too compact, so as to break up in lumps, one plowing will be sufficient; but if hard lumps appear, they must be reduced with the roller and harrow, following each other alternately till a good till is produced; and in such cases it may be expedient to give a second plowing. If the preceding crop (which of course should have been some hoed crop,) was well manured no dressing will be required for barley. The quantity of seed varies from three to four bushels per acre—the latter quantity has been generally sown where the best crops within our knowledge have been obtained. It should be sown in this latitude before the first of May, if practicable.

We should have observed above, that one of the principal recommendations in favor of the culture of barley is its exemption from the attack of several insects which in many instances so seriously injure wheat—particularly the yellow worm or maggot, the larva of the *Cecidomyia tritici*.