

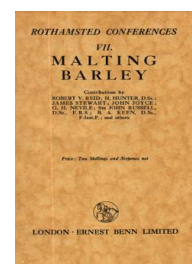
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## Malting Barley

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J. Joyce (1929) *Cultivation and Treatment of Barley Grown for Malting in the Vale of Taunton* ; Malting Barley, pp 21 - 26 - DOI: <https://doi.org/10.23637/ERADOC-1-200>

CULTIVATION AND TREATMENT OF  
BARLEY GROWN FOR MALTING  
IN THE VALE OF TAUNTON

By JOHN JOYCE, Esq.

*Taunton*

*Kinds of Seeds sown*

IN the Taunton Vale and West Somerset many various types of barley have been tried during the last thirty or forty years, yet very few really reliable facts and figures are forthcoming as to the results of yield, quality and price. It is a fact that growers have now *generally* relinquished the old Chevallier types, as well as the old Goldthorpe and some of its earlier varieties, for Plumage-Archer and Spratt-Archer sorts, and very few, I think, will carry on next season with any of the other crosses of the Goldthorpe kind.

The old Chevallier variety gave way to the Archer-Chevallier, and that again gave way to the Spratt-Archer, whilst the old Goldthorpe gave way to the newer crosses of that type, and finally to the Plumage-Archer.

Of the grain from these two types of ears—namely, Chevallier and Goldthorpe—the former being more open in the chest or ear is therefore more exposed to the weather, and we consider that bad weather affects the quality and colour of this open-eared grain more quickly than that in the closer-packed grain of the other kind. This is more noticeable in a bad season. In a dry season it is held that the Chevallier type of ear yields rather better quality, and with a thinner skin on the grain, whilst that from the Goldthorpe kind of ear is generally considered to be thicker in the skin and not so curly, hence not so much preferred by brewers.

*Cultivation*

The Taunton Vale varies as to the texture of the soil, and it is only on the red sandstone districts or lighter kinds of soil in the vales that one can really depend on producing barley fit for malting, continuously and consistently, year after year.

In the heavier classes of soils a good malting sample is produced only in a genial season. In the sandier and lighter lands barley suitable for malting can be relied upon generally up to a height of nearly 500 ft. above sea-level, but not higher.

Malting barley is grown after three kinds of previous crops—namely :

*First.*—After young grass, clover, or mixed seeds produced the previous season, which we call “ley” land. These leys are ploughed

down in the late autumn or early in the new year. The furrows are often pressed down with a roller and two or three horses, which consolidates the earth and prevents loose pockets occurring between the earth that is moved by the plough and the solid earth that lies underneath it. The next process is to go over the land with a spring tooth-drag or harrow, about three times, each time crossing the furrows a little and also crossing the previous operation, so that the soil gets thoroughly mixed up together, and thoroughly loosened at a good and even depth. We then harrow, not so deeply, about twice, making about six operations in the whole before drilling.

This, generally speaking, after ley, should make a good tilth, or seed-bed. The constant passing over it with the horses during the operation should make the bottom, especially the last two harrowings, of an even character and fairly firm, while the top portion, to about three or four inches, should be loose and fine at that depth.

We find two bushels per acre sufficient with the Spratt-Archer variety, and just a little over that amount on the ley ground with Plumage-Archer—perhaps half-a-peck more per acre—for the Plumage-Archer does not tiller quite as much as the Spratt-Archer or New Cross. Some drill more seed than this, even up to two and a half bushels per acre, but where the land is in good heart and condition, and the cultivations before drilling are efficient and ample, I maintain two bushels are enough. A harrow in after the drill completes the operation.

*Second.*—Land for barley after a previous straw crop—for we often put barley after barley since wheat has been lower in price than malting barley. This errish land would generally have been skim-ploughed about three inches deep in the previous autumn, and worked out fine, and, like the ley, not ploughed down till late December or early January. This would not need a roll on the furrow in ordinary times, but scratching the furrows with harrows, once or twice over, then a spring tooth-drag to get down fairly deep again, about three times over—each time more or less crossing the furrows and also crossing the previous working—then about two harrowings on top again, and drill and harrow in as described for ley ground.

*Third.*—Barley after root crops, which are generally folded with sheep the same winter as the barley is drilled in in the spring. It is very important in this case that this land, after the folding with sheep, should be ploughed when nice and dry and not ploughed down muddy and wet, or otherwise it will dry in lumps and will never break up nicely. After folding with sheep, some farmers in this neighbourhood do not plough more than about four inches deep, but if the land had a catch crop on it the previous year before the roots were planted—that is, trifolium or vetches were folded down the previous spring or summer, and that folding ploughed down fairly deeply for the roots—then the ploughing for barley after the roots the following spring should, I think, also be at a good depth—namely, six or seven inches—bringing up on top

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again the previous spring foldings and manurings of the previous catch crops. After ploughing, and whilst the first two workings should be with the spring tooth-harrow, and should be fairly deep, the remaining workings, if it breaks well, should consist of two harrowings and a roll down before drilling, and drill on the rolling. Of course, if the weather should set in pronouncedly dry, and small lumps are formed, it might have to be rolled once or twice more, and more harrowings given between the rollings.

This, in a general way, constitutes the three classes of land for barley, and how it is generally treated in this neighbourhood.

My description of barley after roots means also land where sugar-beet, mangels or potatoes and cabbage or kale have been grown, only in these cases the land may not have been folded with sheep. We do not generally, in this neighbourhood, plough twice after any of these crops for barley. I have heard of twice ploughing for barley recommended on land farther up the country, and I have tried it in Somerset. The other day I put the question to an old barley grower—one of the best growers we ever had in the West of England, Mr J. B. Corner, who won several prizes for the quality of his grain, and who used to grow also, at the same time, heavy crops—and he told me his experience had been the same. He said, rather than plough twice he would lightly run the cultivator over it after the root crop had been folded, and with harrows and chain-harrows rub it out fine, and then plough down only once. You will remember I recommended, after errish, that the land be thinly skimmed and rubbed out finely and then ploughed down, but not what is known as second or “cross-ploughing.”

The barley is now in the land ready to grow, but care must be taken to keep off rooks and pigeons, which often do considerable damage by scratching the soil and picking up and eating the sown grain, especially when it has sprouted out and the young sprouts are just breaking through the top crust of the earth. These birds then scratch and easily find the sprout that is just coming up, and they know that at the bottom of it there is a grain all malted and sweet. Just at this stage of growth another harrowing, right across the opposite way to which it has been drilled, often answers well for many reasons; one is, that if there has been heavy rain, and the top soil has scaled, the harrows break this scale and re-loosen the soil around the sprouting barley. Another reason is that it kills many small weeds which have already sprouted out. There should be no rolling until the blades are thoroughly strong, deeply rooted, and on the verge of tillering or branching out, for the blade makes greater headway when the earth is fine and loose about it than when pressed down tightly on it. Then, in about four or five weeks after it has been sown, a roller can be used to press down any stones which may be on top, and to level the land for the binder at harvesting; but I have never found that it helps the barley to grow—in fact, a few good barley growers continue to drill eight inches apart,

from colter to colter, and they run the horse-hoe through the spaces between the drills, instead of rolling, when the barley is about this stage. I personally do not do this, but follow the more usual method.

All thistles and weeds must be hoed out, and in order to do this thoroughly the barley should be gone over the second time to catch the smaller thistles which were missed the first time.

#### *Manuring*

We do not find that barley in Somerset visibly responds to any artificial manures, except the nitrogenous ones—such as nitrate of soda or sulphate of ammonia—and for that portion of barley which is sown after a previous corn crop it generally pays to put 1 cwt. per acre of either of these fertilizers, and if sulphate of ammonia is chosen it may be applied broadcast just before harrowing across the last time, and if nitrate of soda a little later on.

The root lands, if they have been folded with sheep, should not require any artificials whatever, even on poor light soil; neither does the ley barley if the land is in good heart or if the previous ley seeds have contained a good proportion of clover. But if there were few clovers in those seeds, no matter from what cause, and the ley consisted chiefly of rye-grasses mown for hay, then 1 cwt. of nitrate of soda or sulphate of ammonia would be required there to produce a good crop quite as much as it is required on barley which was sown as a second corn crop.

Of course the best stimulant for the growth of all malting barley on all soils would be a tax on the foreign barleys entering our country and used for malting.

#### *Harvesting*

To obtain a good sample of malting barley it is essential and important that the grain in each ear of barley is thoroughly ripe before it is cut. On some land the ears of grain ripen off together much better than on other kinds of land; but the only method I know of which the grower can employ in order to produce an even sample of grain is to refrain from cutting his barley until all the backward ears have got thoroughly ripe, although this may entail the risk that some of the forward ears which were ripe earliest may turn their heads down, even touching the ground, and be cut off there by the binder, and so many of those heads may not be gathered in the sheaf at all. This is unfortunate and vexing to see, when many heads of grain are so wasted on the ground; and it is a problem the grower has to decide for himself, either to cut, or to wait, and which is likely to be more profitable—cutting early and securing all the grain, but having at the finish a poor, uneven sample, or waiting longer before cutting, ensuring an even sample, but losing many of the heads on the ground. There is certainly an art in producing and delivering a first-class malting barley crop year after year.

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Buyers of malting barley, who are generally good judges, like every grain of the sample presented to them to have been dead-ripe when cut, and they are able to distinguish a sample that is such almost at a glance. The reason for such importance being attached to this is that, in the process of malting, when the grain is damped and required to grow out, it is most desirable that all the grains should germinate and grow out together, and this occurs only when all the grains are of an even ripeness, whereas in an unevenly ripe sample the grains grow out or sprout at irregular times.

### *Cutting*

We cut with a binder, and this, of course, must be done only when the straw is dry. We stook up after with about eight sheaves to a stook, and these stand a few days to allow any weed or greenstuff in them to dry off. If bad weather arrives, and these stooks get wet, and the sheaves get wet in the middle, the stooks must be reset and dried, even if it entails handling and cutting the cords around some of the wet sheaves, for if the barley is carried with even a small percentage of sheaves damp in their middles, though it may not be enough to make it heat much in the stack, the barley, when threshed, will smell stale and old, and not look fresh or smell sweet.

### *Ricks*

Barley is now often carted into dutch barns and threshed therefrom, but, if put into stacks, the stacks must be thatched up quickly or else the tops of the ricks will get damp and the barley will grow out, and barley that has sprouted, either in the stack or in the field, is no good for malting.

### *Threshing*

In threshing great care must be taken to set that part of the machine which cuts off the "iles" or beard from the grain, just right for each lot of barley, for if these iles attached to the grain are cut off too short the skin on the end of the grain is liable to be stripped off along with it—at least from some of the grains—which prevents or checks the growth of that grain; and if, on the other hand, the iler is set to cut the iles too long, the sample will not look so plump and full; but it is better for malting to have these ends of the grain a little too long than too short.

### *After Threshing Management*

There are two methods of treatment in vogue in West Somerset—first, sacking and weighing the barley off as it comes from the thresher and sending it to the buyer in that state and condition; but in this case the buyer should be told beforehand that this is the plan adopted; or, secondly, to shoot the grain from the thresher into a heap on the floor

of a barn or granary, and when delivering to the buyer to mix it and put it through the winnowing machine, and then sack and weigh it up from the winnower.

The best method I know of taking the sample to sell by, in either case, is to have an extra sack by the side of the threshing machine and to place a handful of barley in it out of every sack as it is filling. If the first method of delivery is adopted, and when this sample sack is shot and mixed, this will be the sample to sell by; but every sack of this lot will not be like the sample, nor, necessarily, exactly like the other sacks of the same lot. Hence the necessity of the buyer knowing that this is the method adopted, and he should know what to expect. But if the second method of delivery is followed, of shooting it in a heap, mixing and winnowing, and sacking it up and then delivering it, then the sample sack can be shot out, mixed and nicely winnowed, as the bulk will be later, and in this way one is able to present to the buyer every sack of grain like the sample by which it was sold; and hence all the sacks, too, will be like each other sack, whereas, by sacking and delivering it direct from the machine, however careful one is in threshing, one cannot depend on having the barley in each sack alike.

In the Somerset National Farmers' Union we get many cases of dispute brought to us every year arising out of this method. I may say that we in Somerset, together with the corresponding County Branch of the Corn Merchants' Association, generally manage to settle these disputes by our good offices, or by arbitration, and without resorting to the law, but, generally, at more or less loss to the grower.

## CULTIVATION AND TREATMENT OF BARLEY GROWN FOR MALTING ON LINCOLN HEATH

BY G. H. NEVILLE

*Wellingore*

THE "Heath," in Lincolnshire, is the local name for the tract of land whose western edge is the oolitic limestone escarpment running between Grantham and Lincoln. The escarpment itself rises about two hundred feet above sea-level, and drops sharply to the vale of the Witham and Brant on the Lias clay formation. The villages are all on the edge of the escarpment, and the parishes are long narrow parallel strips, partly on the Heath and partly on what is locally termed the "lowfield." Farms are large, and, like the parishes, usually contain a proportion of Heath and a proportion of lowfield land. The Heath itself is almost