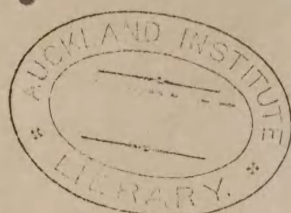








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# GRAMINA PASCUA:

O R,

A COLLECTION OF SPECIMENS

OF THE COMMON

PASTURE GRASSES,

ARRANGED IN THE ORDER OF THEIR FLOWERING,

AND ACCOMPANIED WITH THEIR

LINNÆAN AND ENGLISH NAMES,

AS LIKEWISE WITH FAMILIAR

DESCRIPTIONS AND REMARKS.

---

BY G. SWAYNE, A. M.

VICAR OF PUCKLECHURCH, IN THE COUNTY OF GLOCESTER,

AND OF EAST-HARPTRY, IN THE COUNTY OF SOMERSET,

CHAPLAIN TO HIS GRACE THE DUKE OF GORDON,

HONORARY MEMBER OF THE ODIHAM,

AND

CONTRIBUTING MEMBER OF THE BATH

AGRICULTURE SOCIETIES.

---

*Hic segetes, illic veniunt felicius uvæ:  
Arborei, fœtus alibi;--atque injussa virescunt  
Gramina.*

VIR.

---

B R I S T O L :

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1790.







TO THE RIGHT HONOURABLE  
THE PRESIDENT,  
THE VICE-PRESIDENTS AND MEMBERS,  
OF THE  
METROPOLITAN SOCIETY,  
INSTITUTED FOR THE ENCOURAGEMENT OF  
ARTS, MANUFACTURES, AND COMMERCE:



TO THE RIGHT HONOURABLE  
THE PRESIDENTS,  
THE VICE-PRESIDENTS AND MEMBERS,  
OF THE BATH AND ODIHAM  
AGRICULTURE SOCIETIES;  
AND  
TO THE OFFICERS AND MEMBERS  
OF THE OTHER PROVINCIAL AND MUNICIPAL SOCIETIES  
INSTITUTED FOR THE LIKE LAUDABLE PURPOSES,

THIS NOVEL ATTEMPT  
TO RENDER THE PASTURE GRASSES  
AS WELL KNOWN AND FAMILIAR  
AS THEY ARE BENEFICIAL TO THE FARMER,  
IS MOST RESPECTFULLY INSCRIBED,  
BY THEIR VERY HUMBLE

AND MOST DEVOTED SERVANT,

THE AUTHOR.



To the Right Honorable

THE ROYAL INDIAN

THE VICE-PRESIDENTS AND MEMBERS

OF THE

METROPOLITAN SOCIETY

INSTITUTED FOR THE IMPROVEMENT

OF THE AGRICULTURE AND COMMERCE

OF THE EAST INDIES

THE VICE-PRESIDENTS AND MEMBERS

OF THE EAST INDIES

OF THE EAST INDIES

AGRICULTURE SOCIETIES

AND

TO THE OFFICERS AND MEMBERS

OF THE SEVERAL PROVINCIAL AND MUNICIPAL SOCIETIES

INSTITUTED FOR THE IMPROVEMENT

OF THE EAST INDIES

TO RENDER THE EAST INDIES

AS WELL KNOWN AND VALUED

AS THEY ARE BENEFICIAL TO THE EAST INDIES

IS MOST RESPECTFULLY REQUESTED

BY THEIR VERY HUMBLE

AND MOST DEVOTED SERVANT

THE AUTHOR





## A P O L O G Y.

IN the remarks which accompany the following Specimens, the Author has purposely omitted to bring forward any opinion tending to decide on the respective value of the Grasses, as compared with each other; because, although he might have produced the detail of a few experiments of his own, together with an opinion resulting therefrom; and although he is aware that some great names have given their verdict much in favour of some of them, to the disadvantage of others, which probably might have been founded on experiments; yet, he apprehends, that such experiments have not been sufficiently numerous, sufficiently extended, or sufficiently diversified, to justify any decision of this kind, or to ascertain the real merits or demerits of any one of the Pasture Grasses. One Grass may not be so productive at one particular season of the year as another Grass may be: But it may be more so at another season when its produce may be of more value; it may bear the inclemency of the Winter or the drought of the Summer better; it may be better in quality, more nutritious, or more palatable; it may renew its leaves sooner after being cropped by cattle or cut with the scythe; and may possess many other valuable properties which one or a few experiments will not enable us to determine upon. Again, another Grass may appear rough, and not so delicate to the human eye or feeling, as many others, which yet may be quite as well adapted to the masticating organs of animals, and may suit their constitutions, as a food, as well as, if not better than, the more tender and delicate ones. Well-conceived and well-executed experiments are wanting to ascertain these and many other points. And the Writer of this sincerely hopes that such experiments will at length take place; as he is convinced the result of them, would be for the advantage of his Country. He will not take upon him to direct in what manner such experiments ought to be conducted. There are heads much better qualified for this purpose. And, indeed, Experimenters will be best enabled to form their judgments from the process of their experiments. He will only just hint, that, he apprehends the first thing to be done, is, to obtain a separate collection of the seeds of all the Pasture Grasses in considerable quantity. Then to sow them singly, and try them for a considerable time, with a view to determine their different effects in feeding and fattening the different kinds of cattle. Afterwards to join them in various combinations and various proportions, with, and without a mixture of other Plants, such as perennial trefoils, vetches, &c.

Without farther extending this hint, he humbly hopes the pains he has taken in collecting, preparing and arranging these Specimens, may conduce to some interesting experiments of this kind, and thus open the way for a general cultivation of all the most valuable of our pasture Grasses. And should this prove to be the case, he shall be well satisfied that his time and labour have not been misemployed: Having long ago subscribed to the opinion "that whoever could make two ears of corn, or two blades of Grass, to grow upon a spot of ground "where only one grew before, would deserve better of mankind, and do more essential service to his country, "than the whole race of Politicians put together."

Introductory to the observations which follow, the Author thinks it incumbent on him to apologize for the liberty he has taken in giving a new *trivial* name to one of these Grasses, namely, the *smaller Fescue*. He is conscious that his very confined knowledge in the Science does by no means authorize him to take such liberty. But as this publication was chiefly intended for ~~the use of the public~~, such as are not at present versed in, and have no intention to addict themselves hereafter to the general study of Botany; with Readers of this description, it may be a sufficient reason for appropriating the epithets of *larger* and *smaller* to the only two Species of Fescue which are here introduced, that this was done, the more strikingly to contrast the two, and by this means make them the easier to be recollected. And it may be some excuse for the innovation even with ~~the science~~, that our first Writers on Botany are by no means agreed in their determinations as to species and varieties, particularly with respect to the Grasses. *proficients in the science,*

The real species of the Grasses, it is presumed, are not allowed by Botanists of the present time to be nearly so numerous as they have been represented by Writers of a somewhat distant date. A difference in soil and situation will often occasion so striking a difference in the appearance of these Plants, as has, no doubt, been the cause of determining many to be distinct species, which in reality are only varieties. And perhaps an adventitious admixture of the *Pollen* from different species may often produce hybridous plants, which might not uncommonly have deceived the Investigator. Nor is it to be wondered at, if this should *very frequently* happen amongst plants which are so nearly allied, whose generating organs are apparently so similar, and which are situated so close together as the Grasses generally are. It is rather wonderful, considering these circumstances, that the real species of the Grasses should have continued so distinct as we find them; when it is well known what infinite and dissimilar varieties have been produced by such an admixture in several other species of Plants.

The Author has cultivated the Grass which he calls the *smaller Fescue*, on a small scale, for a considerable time. The first seeds of it were obtained from the top of a wall; and he then supposed it to be the *ovina*. By cultivation it became of larger growth than in its original state; and the produce of repeated sowings at length accumulated the Stock of Seed which was lately advertised for sale. And whoever has sown, or shall hereafter sow, any of that seed in different soils and situations, will, he believes, find plants arising from such sowing, which will agree in specific characters with those attributed by Botanists to be three species of *Festuca* termed the *ovina*, *rubra*, and *duriuscula*.

That it is the *Gramen pratense paniculâ duriore laxâ unam partem spectante* of RAY, he has no doubt. Mr. CURTIS, it is apprehended, would pronounce it to be the *duriuscula*. That Gentleman, in his preface to the first Fasciculus of the *Flora Londinensis*, announced the *Festuca duriuscula* as intended to be given in the next; but it has not yet appeared; at least in the first five Fasciculi, which are the only parts of the work that have come under the Author's perusal. He would be happy to read the disquisitions of that penetrating Naturalist on the subject.



## A P O L O G Y.

Mr. HUDSON, if the Author rightly understands him, makes the *Festuca loliacea* and the *Festuca pratensis*, varieties only of the *fluitans*, and asserts that the seed of the latter sown in a garden, will the first year produce the *liiacea*, and the second the *pratensis*: And farther remarks that the *elator* is so much alike the *pratensis*, that there is good reason for doubting whether it be a distinct species.\*

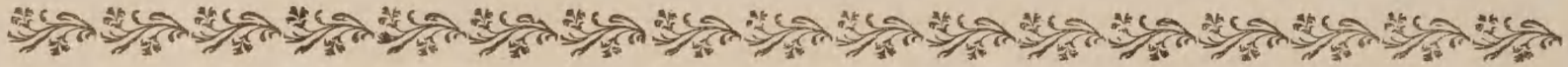
Dr. WITHERING has set down the *Meadow Fescue* as a variety of the *elator*, and has placed the *fluitans* under the subdivision of *paniculâ æquali*, whereas HUDSON has placed it under that of *paniculâ secundâ*. Indeed, neither of these Authors seems to suspect that the *Sheeps*, *Purple*, and *Hard Fescues* are varieties of one and the same species. But the Writer of this thinks he has sufficient reason to believe this to be a fact. It is however very possible he may be mistaken, as he has not, nor is it in his power to examine them with the nicely-discriminating eye of a CURTIS. If it be an error, he will be obliged to any person who will candidly point it out; professing himself to be open to conviction, and when convinced, ready to retract.

To prevent all misconception, it may be necessary to mention, that in particular seasons, soils and situations, the Grasses will not always be found to flower exactly in the order, which is here given. But, it is believed that the present will in general be found more accurate than any different arrangement.

After all, perhaps, many will think that the greatest share of the Apology is due for having fixed so high a price upon so slender a Volume. Were those who are inclined to this opinion, to be apprized of the expence of the particular kind of Paper and Binding which have been judged necessary, together with that of printing, advertising, the Publisher's charge, and other incidental expences, they certainly would not think the little profit which will accrue from the sale of even the whole collection, too much for the labour which has been used; provided they will allow that it is deserving of any reward at all.

\* Since writing the above, the Author has read Professor MARTYN's Letters on the Elements of Botany. In the thirteenth of which he has adopted this remark of HUDSON's. "In this Grass, says he, we have another instance of the changes wrought by soil and situation. Three species having been made of one, until experiment detected the truth, and informed us that the seeds of the *Flote-Fescue* sown in a dry-soil, become, the first year, *spiked*, and the second, *Meadow-Fescue*. Nay, *tall Fescue*, a fourth species, has so many marks in common with the last, that it is matter of doubt whether this also may not be a variety only." The Editor of this collection has often sown the seeds of the *Flote-Fescue* in his Garden. They generally vegetated well; and the plants grew while the soil was moist: But whenever there was any continuance of dry weather, they were sure to perish. So far was it from becoming the *liiacea* or the *pratensis*. In fact the *Flote-Fescue* is an aquatic plant. And neither the *liiacea* nor the *pratensis* have any pretensions to this distinction. The *liiacea* is certainly a variety of the *pratensis*, occasioned by a deficiency of luxuriance, owing to a poverty of soil, or some other cause. In this state, being abridged of the ramifications of a panicle, it becomes *spiked*, and very much resembles the *lolium perenne*. The *elator* bears a very great resemblance to the *pratensis*, and seems only to differ from it in being coarser and of a more gigantic size.





As it may be thought requisite that some general familiar description should precede the arrangement, the following is extracted from Professor MARTYN's Letters on the Elements of Botany; which the Editor is certain, will be deemed much more pertinent, plain and elegant than any description he could possibly compose himself.

— “Grass vulgarly forms one single Idea; and a husbandman when he is looking over his inclosure, does not dream that there are upwards of three hundred species of Grass, of which thirty or forty may be at present under his eye. They have scarcely had a name besides the general one, till within these twenty years; and the few particular names that have been lately given, are far from having obtained general use: So that we may fairly assert that the knowledge of this most common and valuable tribe of Plants is yet in its infancy.”

— “The greater part of the world scarcely know that Grass has a flower; or if they are shewn it, will coldly ask—and is this all? And yet Grass not only has a flower, but every constituent part of it; which is more than we can say of a Tulip, and some others, that have engrossed almost all the attention of mankind; nay, there is such a variety in the parts, disposition and manner of the flowering, that we have sufficient marks in the fructification to distinguish about forty Genera.

“Some particular characters, respecting the Flowers, you will find common to every Grass you examine. But this tribe of Plants does not agree in the parts of fructification only. The whole appearance, the general air, the manner of growth, is the same in all. A simplicity of structure runs through the entire Class. Every one has a simple, unbranched, straight, hollow stem, strengthened with knots at certain intervals. There is none but has a single leaf to each knot, investing or sheathing the stem to some distance, and then spreading out into a long narrow surface of equal breadth all the way, till it approaches the end, when it draws off gradually to a point. The leaf is also invariably entire in every species; and without veins or branching vessels, being only marked longitudinally with lines parallel to the sides, and to a nerve or ridge that runs the whole length of it. There is another curious circumstance almost peculiar to this tribe of Plants, and common to them all; namely, that the body of the seed does not split into two lobes, but continues entire till it has accomplished its purpose of giving the young plant its first nourishment and then rots away.”

MARTYN's Letters on the Elements of Botany,  
Let. 13th Page 133 and seq.









# P O A A N N U A. (LINNÆUS.)

ANNUAL MEADOW-GRASS. (HUDSON.)

SUFFOLK GRASS. (STILLINGFLEET and WITHERING.)

COMMON DWARF POA. (CURTIS.)

It was at first intended to have excluded this and the *soft Brome Grass* from this collection, on account of their not being perennial. But so much has been written on the *annual meadow-grass* by STILLINGFLEET, CURTIS, and others; and the *soft Brome* appears in so great quantity in most of our mowing-grounds, that it is apprehended the omission had been deemed unpardonable.

This Grass is readily distinguished from the two other species of this genus which are afterwards introduced, by its humble growth, as well as by the tender, delicate contexture of its leaves and stalk. It is of annual duration. The flowering stalks make their appearance in a very short time after the seeds begin to vegetate: and the same plant will continue to send up fresh flowering stalks, a considerable time. Indeed, the different plants flower from March to December; and, sometimes, when the weather is mild, all the winter long. A considerable quantity of ripe seed has been collected by the Writer of this so early as the month of April. It is a common weed in most gardens, courts, &c.—is the first Grass which occupies foot-paths after they have been a little while disused; and such places as have been much trodden by the Feet of Cattle; as round hay-ricks and near gate-ways.

Mr. CURTIS observes, that there is “no Grass better entitled to RAY’s epithet *vulgatissimum* (*very common*) than this, as it occurs almost every where, in meadows, gardens, at the sides of paths, and on walls: when it grows in a very dry situation, it frequently does not exceed three inches. But in rich meadows it often grows more than a foot in height. The panicle is frequently green, but in open fields, it acquires a reddish tinge.”

Notwithstanding this remark, that it is so *very common*, yet in meadows and pasture grounds that have been long laid down to grass, it is scarcely to be met with; unless in the particular parts of them mentioned above, as pathways, &c. This we may readily conceive from its being an annual, and a plant of a delicate frame and dwarf stature.

The flowers of this Grass in the spring are oderiferous, smelling not much unlike the flowers of the plant called mignonette or sweet reseda, and retain this smell a considerable time after being dried. This therefore militates against the observation which has been made that the *vernal* is the only oderiferous Grass. The seeds fall off upon the least touch as soon as ripe. Hence it will be impossible to collect them without great waste after cutting the grass with a scythe. Besides, one half of the stalks will have shed their seed, before it is half ripe in many of the panicles, and even before some of them are in blossom.

The best method the Author has experienced in a small way, is, with an uncovered Chip Box (such as the Toy-makers furnish) containing about a pint or a quart, in each hand, holding the right-hand Box with the thumb on the edge on one side, and the fingers at the bottom of the Box, to sweep with the other edge along the surface of the Grass pretty rapidly, raising the edge which strikes the Grass upwards as the stroke advances; the Box will be found to have collected a quantity of pure seed, which is immediately to be discharged into the receiver in the left hand. By this method the unripe panicles are left to perfect their seeds; which, in a few days must be thus swept over again, and will produce a second collection. This process with the intermission of a few days between each collection, may be pursued from April to October, or November, in which time a large quantity of seed must undoubtedly be collected.

The tips\* (antheræ) of the flowers of this Grass are of a pale greenish-white colour. For further observations on this Grass, see CURTIS’s *Flora Londinensis* and STILLINGFLEET’s *Traacts*.

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## ANTHOXANTHUM ODORATUM. (LIN.)

VERNAL or SPRING GRASS. (HUDSON.)

SPRING GRASS. (WITHERING.)

SWEET-SCENTED or VERNAL GRASS. (CURTIS.)

VERNAL GRASS. (LIGHTFOOT and ANDERSON.)

The flowering heads of the grasses are termed by Botanists either *Spikes* or *Panicles*. A *Spike* is, when all the flowers, or little assemblages of flowers arise from one common simple stem. In *Panicles*, they are dispersed on different stems or branches. But no definition will give so good an idea as examples. The *Vernal*, *Foxtail*, *Darnel*, *Dogstail*, *Meadow-Barley*, and *Catstail*, of this assortment are *Spikes*, all the rest are *Panicles*. When the Grasses are in flower these *Spikes* and *Panicles* are beset with little forked *Tips* <sup>or</sup> *Anthers*, (Antheræ) which are covered with a powder of a different colour on different species of Grass, and sometimes differently coloured on the same species.

The *Tips* or *Anthers* are supported by slender thread-like props or filaments, and are the male organs of the plant. These coloured *Anthers* contain the prolific substance which impregnates the female organs. The female organs in the Grasses are two little feathery styles, issuing from a minute germ or seed-bud, and terminated each with a feathered summit.

The *Vernal Grass* is distinguished from all the rest of the Grasses by having but *two* of the male organs, whereas all the rest have *three*. This is one very peculiar character whereby it may be certainly known. Besides this, it has a very remarkable smell. Mr. CURTIS says, “The Farmer, or those who have not been accustomed to examine plants minutely, may readily distinguish this Grass by its smell: if the leaves (or any part of the plant) are rubbed betwixt the fingers they impart a grateful odour, like that of Woodruff;—hence I have called it “sweet scented.”

These marks, together with its early appearance, will not leave a possibility of mistaking it. It grows chiefly in the moist parts of meadows and pastures. The largest and most luxuriant growth of this Grass ever observed by the Author, was on a Turbery or Peat Bog. It flowers the beginning of May. When this Grass is in blossom, it is very conspicuous, and occurs very readily, altho’ it is not one of the taller Grasses. The reason is, that the stalks of the others have not then finished their growth; and some of them scarcely made their appearance. But when the seed is nearly ripe, it is in very different circumstances. It is then surrounded by a throng of taller Grasses, and scarcely to be seen. In this situation the *Spikes* become more erect than when they were in blossom. Yet it is quite necessary to be very observant of the proper time of collecting the seed; since, notwithstanding the *Spikes* are necessarily kept in an upright position, and the seeds consequently cannot *fall* out of the husks, yet, there is a provision of nature for the purpose of disseminating them. When the seeds are in a state fit for being committed to the earth, the larger *arista* or awn, which adheres to the *corolla* or flower-cup, the part of fructification which immediately incloses the seed, bends, and twists itself in a spiral manner, and by this operation lifts the seeds out of their husks. This circumstance makes it necessary for those who wish to collect the seed, to do it just at the time of its ripening. Indeed, the upper part of the husks is often evacuated before the lower part is scarcely ripe.

\* This is a term of Dr. WITHERING’s, which will be explained in the next article.



This Grass seems to be of a very warm, aromatic quality, and therefore may possibly be of great use in preventing or curing the disorders which cattle are liable to in the Spring. But if the rankness and *beaving* of cheese be owing to the essential oil of the plants which are taken in as food by the cows (as Mr. MARSHALL, in his rural Economy of Gloucestershire lately published, has by reason and experiment rendered more than probable) however beneficial it may be as a medicinal plant, it is likely to be detrimental in another respect as an article of pasture for kine.

The *Tips* of the flowers are at first flesh-coloured, and afterwards of a purple hue. For further remarks on this Grass, see CURTIS'S *Flora Londinensis*, STILLINGFLEET'S *Traacts*, and ANDERSON'S *Essays on Agriculture and rural Affairs*.

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## ALOPECURUS PRATENSIS. (LIN.)

MEADOW FOX-TAIL GRASS. (HUDSON, CURTIS, WITHERING and LIGHTFOOT.)

BULBOUS FOX-TAIL GRASS. (ANDERSON.)

There is another of the Grasses among these specimens, which bears a Spike somewhat resembling this: which is the *Phleum* or *Catstail*. But as that does not appear till the month of July; and this is one of our earliest Grasses, there will be no danger of their being confounded. The Spike of the *Catstail* is in general longer, and very rough to the feeling, owing to the sharp, forked termination of the husks: whereas the Spike of the *Foxtail* feels very soft and smooth. Its anthers or tips are likewise larger than those of the *Catstail*. This Grass abounds chiefly in rich, moist soils; and it is oftener to be met with in small inclosures, at no great distance from the hedges, and in sheltered places, than it is in large open meadows, and champaign pastures. It blossoms the beginning of May, scarcely later than the Vernal. The seed is not in so great haste to quit the stalks, as that of many of the Grasses ~~are~~: yet it is by no means an easy matter to collect a quantity of good seed, owing to a peculiar species of insects, which inhabit the husks and make the tender seed their food. These insects are the *Larvæ* or Caterpillars of a species of *Musca*, or Fly.

Mr. CURTIS, in a note subjoined to his Observations on the *Foxtail* Grass, in the *Flora Lond.* has done the Author the honour to quote his remark, which was first published in the 2d Volume of the Bath Society's *Memoirs*. That ingenious Writer has since observed (see *Annals of Agriculture* N<sup>o</sup>. 70, P. 349) that he believes *one* third of the seed ~~is~~ yearly destroyed by the ravages of these insects. From this observation it appears that he has been more fortunate than the Writer of this has been; since, from *his* experience he has concluded that at least *two* thirds of the seed are constantly destroyed by their ravages. Indeed, so very general and so very numerous are these insects in the situation described, as seemingly to justify an apprehension that they would soon multiply to such a degree as entirely to exterminate this species of Grass; at least effectually to hinder its propagation by seed.—But this the dispensation of an all-wise Providence prevents, by the instrument of another species of insect, which makes these *Larvæ* its peculiar food. This is a species of *Cimex* or Bug; whose *rostrum* or trunk appears to be peculiarly adapted for penetrating between the husks of this Grass, and extracting the substance of these minute insects which inhabit them. This insect, like most of the species of *Cimex*, when crushed, or even handled, is exceedingly offensive to the smell. And so corpulent does it become by its gluttony, that, altho' it is furnished with wings, it can scarcely make any use of them; and not even walk with any agility. It is probable that it destroys thousands in a day.—How superlatively wonderful are the providential dispensations of the great Creator! Without his particular direction a single species of Grass can no more become extinct, than an individual *sparrow fall to the ground*.

There is another circumstance peculiar to this Grass, which, it is believed, has not been taken notice of before; and that is, that its stalk continues green and succulent after the husks are dropped from it. Which, as this happens a considerable time before the season of hay-making, will no doubt be looked upon as a circumstance in its favour as a Hay-Grass.

Those who are about to collect the seed of this Grass need not cut off the stalks; as the husks with the contained seed are readily stripped off by drawing the Spikes thro' the hand. But on account of the abovementioned circumstances, the collector must expect a large proportion of chaff, with a very little seed.\*

A seed of this Grass greatly resembles a grain of wheat in miniature.

The *antheræ* of the blossoms are in general purple, but in some varieties of a very pale yellow.

See *Curtis's Flora*, *Stillingfleet's Traacts*, and *Anderson's Essays*.

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## BROMUS MOLLIS. (LIN.)

SOFT BROME GRASS. (CURTIS and LIGHTFOOT.)

FIELD BROME GRASS. (HUDSON.)

SOFT BROOM GRASS. (WITHERING.)

In pasture grounds that are constantly grazed, this Grass appears but seldom, but in those that are frequently under the Scythe, it is very abundant. In many fields near large Towns this Grass at mowing time seems to be almost the sole crop. The reason of which is apprehended to be, that, being an early biennial Grass, and its seeds being constantly ripe at the time of mowing, and easily parting from the panicle, are by the operation of hay-making, plentifully scattered on the ground, where they vegetate and strike root with the first rain that falls. And producing, moreover, quick and strong-growing plants, when they have once taken possession of the ground, they continue to keep it. In grounds that are constantly pastured the case is otherwise. Tho' we should conceive such grounds for once to be sufficiently stocked with plants of this Grass, yet they would not long keep possession. As soon as the flowering stalks <sup>†</sup>shot up early in the Spring, they would be immediately cropped by the cattle; and, this being a Grass which lasts only part of two years, and requires to be continually renewed by seed, in such situations, it would soon be extirpated; or, if not totally expelled, would appear but unfrequently.

The seeds are large and approach to the size and nature of Corn. And it is said that the seeds of some species of this Genus mixed with Corn may be used to make bread: but when mixed in too large a proportion, they render the bread brown and bitter; and those who eat it experience a temporary giddiness.

Being the only species of this genus introduced among these specimens, it will be readily known from the rest. There is however another species of Brome which occurs not unfrequently in lands which have been newly laid down to Grass, namely, the *Bromus sterilis*, or *barren* Brome, which has very long awns (*aristæ*) and flowers early in June. As it scarcely ever makes its appearance in old leys, it was thought unnecessary to produce a specimen of it.

The *Tips* of the Soft Brome are small in proportion to the seed and panicle. They are when first protruded of a bright orange colour, and afterwards change to a brown or snuff-colour. It affects dry land: and the seed might easily be collected in some fields in large quantities; but the time of their ripening must be carefully attended to. It flowers the third week in May.

Further observations on this Grass may be read in CURTIS'S *Flora*.

\* The Author is happy to find, by a communication to the Editor of the *Annals of Agriculture* from LEWIS MAJENDIE, Esq; printed in the 71st N<sup>o</sup>. of that Publication, that all obstructions to the cultivation of this Grass are in a fair way of being overcome.













*Poa annua.*

*Anthoxanthum odoratum.*

*Alopecurus pratensis.*

*Bromus mollis.*

*Annual Meadow.*

*Sweet-scented Vernal.*

*Meadow Foxtail.*

*Soft Brome.*











## POA PRATENSIS. (LIN.)

SMOOTH-STALKED MEADOW GRASS. (CURTIS.)

GREAT MEADOW GRASS. (HUDSON, WITHERING, and LIGHTFOOT.)

CREEPING MEADOW GRASS. (ANDERSON.)

The panicles of this Grass and its next neighbour are so very similar in their superficial appearance, that even professed Botanists can scarcely distinguish them at a little distance. Yet when nearly and minutely examined they differ greatly in their constituent parts, as well as the situations and soils which the plants affect. This flowers a little earlier than the other; likes a dry porous soil; and propagates itself chiefly by its roots, which creep just beneath the surface of the earth, in the manner of Couch Grass (*Triticum repens*.) It consequently predominates ~~most~~ in those meadows or pastures which have been lately laid down to Grass, where the soil is yet loose, and the roots can find an easy passage. In antient Leys there is very little of it to be found. The stalks of this Poa are in general not so tall as those of the *Poa trivialis*. But there are two marks of distinction by which they may be quickly and infallibly known from each other. The stalk, and the leaves which sheath the stalk, in this Grass, are perfectly smooth, and will so appear to the feeling, if the stalk be drawn between the finger and thumb: whereas the stalk with its appendage in the other species will be found to be as perceptibly rough. The other certain characteristic is, that at the base of the stalk-leaf, at the point where it separates from the stalk after sheathing it, in both these Grasses, there is a thin transparent membrane. But the difference is, that this membrane in the *smooth-stalked meadow* Grass is *short* and *blunt*, in the *rough-stalked* it is *long* and *sharp*. For the discovery of these last mentioned elegant specific characters, the Botanical World is indebted to the excellent Author of the *Flora Londinensis*.

This Grass flowers about the third week in May. Its seed in general remain in the husks a considerable time after they are ripe. These are larger than those of the *Poa trivialis*. The seeds of both species have a downy substance adhering to them somewhat like cobwebs.

The Tips are commonly of a purplish colour; but sometimes of a whitish yellow.

Further remarks on this Grass may be seen in the *Flora Lond.* and ANDERSON'S *Essays*.

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## POA TRIVIALIS. (LIN.)

ROUGH-STALKED MEADOW GRASS. (CURTIS.)

COMMON MEADOW GRASS. (HUDSON, WITHERING, and LIGHTFOOT.)

CREEPING SOFT GRASS. (ANDERSON.)

The marks whereby to distinguish this Grass have been mentioned above. Yet it may not be amiss to add, that altho' the stalks and the leaves which sheath the stalks are *rough* in this Grass, yet the leaves which it first puts forth, are exceedingly smooth, tender, and delicate. It affects a moist situation; and seems to flourish in a particular manner in places where a thin sheet of clear water is frequently thrown over, as in water-meadows, and the currents of springs.

When the seeds are become ripe they soon drop; and the stalks and rough leaves of the plant will be found to be covered with them; adhering by the downy cobweb-like substance which has been mentioned above: and, with which the seed of this species is more plentifully attended than that of the former. Indeed so much of this down is intermixed with the seeds, and so closely does it stick to them, that it is a very difficult matter to separate them from it, so as to scatter them properly in sowing. They have been known to have been rubbed together for a considerable time, and other methods used to dissolve the connection without any success: when sown they would fall in lumps, in the quantity of a quarter or half an ounce together. Perhaps a little fresh-slacked lime mixed with the seed, and well rubbed with it, may have the effect of cauterizing this lanuginous substance, and discontinue the adhesion, without destroying the vegetative quality of the seed.

The anthers are of the same colour as those of the other species.

It flowers about the fourth week in May.

See CURTIS'S *Flora*, and ANDERSON'S *Essays*.

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## FESTUCA, (OVINA, RUBRA) DURIUSCULA. (LIN.)

Sheeps, Purple, Hard FESCUE. (HUDSON, WITHERING, and LIGHTFOOT.)

Sheeps, and Purple FESCUE. (ANDERSON and STILLINGFLEET.)

Smaller FESCUE.

So much has been said in the prefatory Apology respecting this Grass, that there is the less need of enlarging on it here. The most ready criterion whereby the common observer may distinguish this species from the other Grass of this family, which will be mentioned hereafter, namely, the *larger* or *meadow* Fescue, is the difference in the general size of the two plants. This is in all respects smaller than the other, particularly the leaves, which in very dry and poor soils, are very short and small, resembling bristles. In rich soils they are considerably broader and longer; but never so much so as to compare in size with those of the *meadow* Fescue. It is to be found on most soils, yet seems to be rather partial to such as are moderately dry. The best sheep pastures abound with it. It blossoms the latter end of May and beginning of June.

The Tips are purple.

See *Stillingfleet's Tracts* and *Anderson's Essays*.













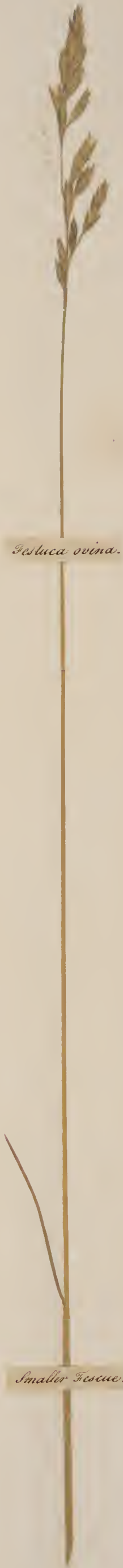
*Poa pratensis.*

*Smooth Stalked Meadow.*



*Poa trivialis.*

*Rough stalked Meadow.*



*Festuca ovina.*

*Smaller Fescue.*











## B R I Z A M E D I A. (LIN.)

MIDDLE QUAKING GRASS. COW-QUAKES and LADIES HAIR. (HUD. and WITH.)  
COWQUAKES. QUAKING GRASS. (LIGHTFOOT.)  
WAGWANTON. TREMBLING GRASS. (VULGO.)

This Grass produces a most elegant and curious panicle; which there is no danger of mistaking for that of any other Grass. The heart-shaped spiculæ, or *spikelets*, which contain the flowers, are considerably large; but the footstalks or supporters of them are so very slender, and at the same time so elastic, that the least breath of wind keeps them continually in a tremulous motion: Hence its names of Quaking Grass, &c. It flowers the beginning of June.

Mr. RAY in his Synopsis observes, that the old proverb "*May, come she early, come she late, makes the Cow quake,*" has by some been interpreted of this Grass: namely, that the month of May, whether it comes early or late (does not make the Cow to shudder or quake, but) produces the Grass called Cow-quakes. As this Grass at present scarcely ever blossoms before June, are we to infer that our spring season is now later than it was a century back?

Dr. WITHERING remarks that if a seed of this Grass be carefully dissected in a microscope with a fine lancet, the young plant will be found with its root and leaves pretty perfectly formed. It will be found to grow chiefly in wet springy ground. It does not drop its seed when ripe so easily as many of the Grasses.

Its anthers are generally purple, yet are they sometimes whitish.

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## D A C T Y L I S G L O M E R A T A. (LIN.)

ROUGH COCK'S-FOOT GRASS. (HUDSON, WITHERING, and LIGHTFOOT.)  
ORCHARD GRASS.

The general appearance of this plant does not prepossess the Farmer much in its favour. It is very perceptibly rough in all its parts. Yet it may not be the less valuable on this account.

The seeds of a species of *Dactylis* were introduced into this country about twenty years ago as a *new* Grass from America, and highly extolled under the name of *Orchard Grass*.

This Grass sends up but few flowering stalks in proportion to its produce of leaves.

Mr. LIGHTFOOT has the following remark subjoined to his description of this Grass. "It is a very troublesome creeping Grass in a garden and difficult to be destroyed. The Gardeners call this and several other creeping kinds Couch-Grass." This seems to have been a slip of the pen. The roots of the rough Cocksfoot are perfectly fibrous, and never have been observed to *creep* by the writer of this, who has frequently sown it in his Garden. The *Poa pratensis* indeed deserves the name of Couch, or Quich, equally with the *Triticum repens* or Dogs Grass. Which appellation is only a corruption of *Quick* the ancient term for *living*. The more you cut the roots of these Grasses the faster they propagate themselves.\*

The Rough Cock's-foot blossoms the second week in June, and prevails universally.

The seeds do not quit the panicle when ripe so soon as those of many others of the Grasses.

The *Tips* of the Florets are sometimes flesh-coloured, at other times purplish, and not unfrequently of a whitish-yellow.

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## A V E N A E L A T I O R. (LIN.)

TALL OAT GRASS. (HUDSON and WITHERING.)  
TALL OAT GRASS. ANGLIS. SWINES AR-NUTS, or EARTH-NUTS. SCOTIS. (LIGHTFOOT.)

The perennial Grasses in general do not produce flowering stalks the first season they are sown. From an experiment which was registered in the year 1780, this and the Cats-tail Grass were found to be exceptions. Some seed of the Tall Oat, and of the Cats-tail, sown the 19th of April, produced flowering stalks, which were in blossom the 15th of August following, and perfected their seeds by the 8th of September: when many other kinds of Grass sown at the same time, and in the same situation, shewed no appearance of flowering stalks that season. The Tall Oat prevails almost every where; particularly in dry ground, and near the boundaries of fields.

It is one of the tallest of the pasture Grasses; and is therefore very conspicuous.

It blossoms near the same time as the Rough Cock's Foot.

The seed must be collected at the critical time of its ripening, or it will soon drop to the ground.

Its *Tips* are purple.

\* See MARTYN'S Letter on the Grasses.













*Brixia media.*

*Middle Quake Grass.*



*Dactylis glomerata.*

*Rough Cocksfoot.*



*Avena elatior.*

*Tall Oat.*











# FESTUCA PRATENSIS. (LIN.)

MEADOW FESCUE GRASS. (HUDSON and WITHERING.)  
 GREAT MEADOW GRASS. (ANDERSON.)  
 LARGER FESCUE.

Moist and low Meadows in general have the greatest abundance of this Grass. Its leaves are considerably broader than those of the other species of Fescue which has been treated of before. The flowering spikelets are likewise much larger and longer; and ~~was~~ ~~not~~ ~~bearded~~ as those of the *smaller Fescue*. There is however another species of this Genus, which is frequently to be met with in Meadows that are wet; particularly near brooks and watery ditches. This is often in company with a Grass of a different family, the (*Aira cæspitosa*) *Turfy Hair Grass*; vulgarly called *Hassocks*, *Rough-caps*, *Bull's-faces*. &c. But, of both these Grasses, it is to be wished, that the Farmer will be so far from taking honourable notice, that he will use his utmost endeavours to get them eradicated, as they are so coarse, or otherwise disagreeable, that no Cattle will touch them unless compelled by severity of hunger. The only respect in which they will be of any use to the Farmer, whilst they continue in his grounds, is, that they will afford him a perpetual memento that the spots of ground where they grow would be much benefitted by draining.

It flowers the third week in June.

The anthers are purple.

For further observations on this Grass see Annals of Agriculture, N<sup>o</sup>. 70, P. 354.

# LOLIUM PERENNE. (LIN.)

PERENNIAL DARNEL GRASS. (HUDSON and LIGHTFOOT.)  
 RED DARNEL GRASS, RAY-GRASS, RYE-GRASS. (WITHERING.)  
 RYE GRASS. (ANDERSON.)

Large quantities of the seed of this Grass are annually raised in many parts of the kingdom. And every Seed-shop will furnish it under the name of Ray, or Rye-Grass. It may therefore seem unnecessary to direct a collection of it by hand. But there is some reason to suspect that by long cultivation its nature has been somewhat altered. In its manured state, it blows early in June; and seems to approach to the nature of corn, running up chiefly to seed-stalks. In its wild state, it blows considerably later, and furnishes a much larger proportion of leaves. But perhaps this latter circumstance is attendant on most of the perennial Grasses, if they have been sown two or three years. It is meant, that they have a greater tendency to produce seed-stalks for the first year or two after they are sown; and that, afterwards, they endeavour to propagate themselves more by off-sets, and consequently produce a greater abundance of leaves.

Its Tips are commonly purple, but sometimes whitish.

This Grass is pretty largely treated of in ANDERSON'S Essays, Vol. 2d. p. 232. and MARSHALL'S Gloucestershire, vol. 1st, p. 157 & seq.

# CYNOSURUS CRISTATUS. (LIN.)

CRESTED DOGS-TAIL GRASS. (HUDSON, WITHERING, ANDERSON, STILLINGFLEET and LIGHTFOOT.)  
 WINDLESTRAWS. (COMMON.)

The crested Dogs-Tail Grass is abundantly to be observed in downs and high pastures that are appropriated to the feeding of Sheep; which are generally dry; and it is likewise not uncommonly found in land that is far from being dry.

It has been remarked, that, altho' the grasses constitute the principal food of herbivorous animals, yet whilst they are left at liberty in the pasture, they leave untouched the straws which support the flowers, that the seeds may ripen and sow themselves.

The fact stated in this remark is particularly verified in the Dogs-Tail Grass: a great proportion of which, in most pastures, the cattle constantly suffer to run up to seed. But, it is apprehended, not with any such instinctive view as that just mentioned. This being a Grass whose flowering stems are not put forth till towards the latter end of June, when the *leaves* of most of the Grasses are every where in the greatest profusion, there is not then the same temptation or necessity for cattle to crop the *stalks*, as there is earlier in the season when the leaves of the Grasses are more scanty. Besides, the stalks of this Grass are peculiarly hard and tough: and perhaps the spike, the flowers of it being armed with a pectinated fence, may be unpleasant to the bite of cattle.

It is no difficult matter to collect a large quantity of the seed of this Grass; but the season of its ripening must be adverted to.

It flowers the latter end of June and beginning of July.

The Tips are of a dark purple colour.

From an experiment which was made with several of the Grasses in the year 1780, with a view to determine the different degrees of produce (an account of which follows) the Dogs-Tail appears in the least favourable light. But it must be remembered that the experiment was confined to one season. And it is probable that many of the Grasses, and perhaps those more especially which are most strictly perennial, do not attain to so great a perfection the first season, as others which are not so lasting. So that no certain conclusion can be drawn from it. 1780, April the 19th, sowed the following Grass seeds in Drills, in a Border of good Garden Mould, viz.

- |                      |                     |                        |
|----------------------|---------------------|------------------------|
| 1. Meadow-Fescue.    | 6. Crested Dogtail. | 10. Annual Poa.        |
| 2. Cats-Tail.        | 7. Meadow Foxtail.  | 11. Rough-Stalk'd Poa. |
| 3. Tall Oat.         | 8. Smooth Poa.      | 12. Bulbous Poa.       |
| 4. Rough Cocks-foot. | 9. Fine Bent.       | 13. Yellow Oat.        |
| 5. Smaller Fescue.   |                     |                        |

The plants in each drill were thinned and left six inches apart. Sept. 17th, the Grasses in the Drills being, as supposed, arrived at their full growth for the season, a plant of each sort of the medium size was taken up and weighed, the roots having been previously cut off.

No.	Grass	Oz.	Drams	Gr.	No.	Grass	Oz.	Drams	Gr.			
No. 3.	Tall Oat weighed	-	2	18	7	No. 10.	Annual Poa	-	-	0	15	22
1.	Meadow-Fescue	-	2	14	0	5.	Smaller Fescue	-	-	0	15	5
2.	Cat-tail	-	1	14	13	12.	Bulbous Poa	-	-	0	9	6
4.	Cocksfoot	-	1	14	12	13.	Yellow Oat	-	-	0	4	22
9.	Fine Bent	-	1	8	12	6.	Crested Dogtail	-	-	0	3	9
8.	Smooth-stalked Poa	-	0	17	1							

N. B. The seeds of No. 7, Foxtail, and No. 11, Rough-stalked Poa, did not vegetate. No. 2, Cat-tail, and 3, Tall-Oat, had run up to seed. The Annual and Bulbous Poas were in blossom.



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*Festuca pratensis.*



*Lolium perenne.*



*Cynosurus cristatus.*



*Meadow Fescue.*



*Darnel or Rye Grass.*



*Crested Dogtail.*











## AVENA FLAVESCENS. (LIN.)

YELLOW OAT-GRASS. (CURTIS, HUDSON, WITHERING and LIGHTFOOT.)

The Yellow Oat-Grass is one of the least of the Genus. It chiefly affects dry pastures; and generally accompanies the smaller Fescue and the crested Dogtail. The best sheep-pastures are principally occupied by these three Grasses. The yellowness of the panicles when the seed approaches towards ripeness, readily points out this Grass. The seed when ripe does not immediately part from the husks; and therefore the collector of it need not be so particular as to the exact time of gathering it.

Its Tips are purple.

The beginning of July is the season of its flowering.

For further remarks on the Yellow Oat see CURTIS'S Flora Londinensis.

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## HOLCUS LANATUS. (LIN.)

MEADOW SOFT-GRASS. (CURTIS, HUDSON, WITHERING, and LIGHTFOOT)

COCK'S TAIL, or FEATHER GRASS. (ANDERSON.)

The leaves and stalks of this Grass are covered with a soft woolly substance, which gives the plant a hoary appearance, and has obtain'd for it in some places the name of *White Grass*. It flourishes most in very light and porous soils, and particularly in turfy or peat ground. About two thirds of the flowers of the panicle are furnished with only male organs: the remainder have both male and female. As these last only are fertile, the person who collects the seed of this Grass must expect the chaff proportionally to exceed the quantity of seed. In one instance this Grass did not prove so hardy as several others. May 1st, 1782. A Plat about six feet square was sown with this Grass; it vegetated in due time, and flourished very well during the summer; but in the ensuing winter was entirely killed; when similar and adjoining plats of the Cat-tail, Tall-Oat, Rough Cocks-foot, Meadow Barley, Fine Bent, Dogtail, and smooth-stalked Meadow, received not the least injury.

It blossoms about the second week in July.

The *Tips* are at first of a reddish yellow, and afterwards purple.

See CURTIS'S Flora, and ANDERSON'S Essays.

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## AGROSTIS CAPILLARIS.\* (LIN.)

FINE BENT. (HUDSON, WITHERING, STILLINGFLEET, and LIGHTFOOT.)

The *Bents* in general are partial to wet soils. And the *Fine Bent* was once supposed by the Author not to differ in this respect from the greater part of the species of this Genus. But he has since found it abundantly on high sheep pastures, and particularly in sandy soils. This peculiarity therefore, together with the slender hair-like branches of the panicles, will serve sufficiently to distinguish it from the rest of this family. There is indeed another species of Bent (*agrostis pumila*) which grows on high, dry, and rocky situations; which is a very dwarf plant, and flowers in May.

The *fine Bent* flowers about the second or third week in July.

Its anthers are of a lightish purple.

See STILLINGFLEET'S Tracts.

\* Now *Vulgaris*, see *Withering's Ann.* 3<sup>rd</sup> Ed. Vol. 2. pag. 132.



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*Avena flavescens.*



*Holcus lanatus.*



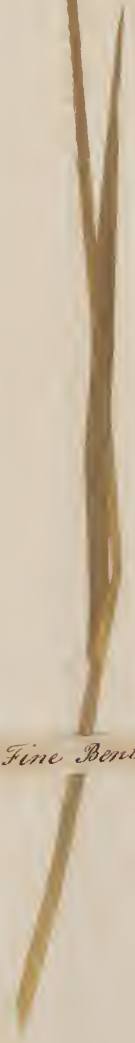
*Agrostis capillaris.*



*Yellow Cat.*



*Meadow Soft Grass.*



*Fine Bent.*











## HORDEUM PRATENSE. (LIN.)

MEADOW BARLEY GRASS. (HUDSON.)

WALL BARLEY GRASS. WAY BENNET. (WITHERING.)

LIGHTFOOT has not this species.

The Meadow Barley-Grass grows chiefly on ground that is somewhat moist. There is another species of this Grass which grows on walls and by the sides of roads, but is scarcely ever to be met with in meadow or pasture grounds. This last mentioned species has its spikes and likewise the beards of the husks much longer than those of the *Meadow Barley*, and is often called by the common people in England *Way Bennet*, and by the inhabitants of Scotland *Squirrel-tailed Grass*. See *Curtis's Flora*, article *Hordeum murinum*.

Dr. WITHERING has made the *pratense* a variety of the *murinum*; but they are certainly very distinct species.

The *Hordeum murinum* is an annual plant; the *pratense* a perennial.

The *Meadow-Barley* flowers the third week in July.

Its *Tips* are of a brimstone colour.

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## PHLEUM PRATENSE. (LIN.)

MEADOW CATTAIL GRASS. (HUDSON.)

TIMOTHY GRASS. (WITHERING.)

MEADOW CATTAIL or TIMOTHY GRASS. (LIGHTFOOT.)

A species of the *Phleum* (but it is uncertain whether it be the same as the meadow Cattail found wild in this country) is at present cultivated, pretty generally, by the Farmers in North America, under the name of *Timothy Grass*. And attempts were made between twenty and thirty years ago to establish the culture of it in this country; without success. It is recorded to have obtained the name of *Timothy Grass* from a Mr. TIMOTHY HANSON; who was the first cultivator of it. In the *Museum rusticum*, vol. 2d, p. 161, it is said to be cut green by the Americans for feeding their cattle, in the same manner *Lucerne* often is used in Europe, and is asserted to be so luxuriant as to yield them several crops in a summer; and that the inhabitants reckon it very wholesome, sweet, nourishing food. From this description it should seem to be a different species from ours, which does not spring early, nor vegetate with any luxuriance till late in the season.

The Spikes of the Cattail in some situations, as in wet ditches, are sometimes six or seven inches long. The seeds of this Grass remain well on the stalks.

It flowers the last week in July.

The anthers are small, and of a dark purple colour.

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## AGROSTIS ALBA. (LIN.)

MARSH BENT. (HUDSON, WITHERING and LIGHTFOOT.)

The difficulty of distinguishing the different species of the same Genus, is perhaps in no family of the Grasses so great as in that of the *Agrostes*. The parts of fructification are so minute, and the specific differences so inconsiderable, as to have occasioned much obscurity in the descriptions of botanical Writers. Mr. CURTIS has observed, "that no character in the Grasses is more inconstant than the awn, arista, or beard; in some Grasses whose character it is to be *muticeæ* (without awns) it is present, as in the *Lolium perenne*, *Agrostis capillaris*, and *alba*; and in others whose character it is to be *aristatæ* (awned) it is wanting, as in the *Agrostis canina*. The striking alteration in the appearance of the Grass from this circumstance has often been the cause of multiplying species unnecessarily." The specimens of the two Bents and of the Darnel which appear in this collection will not prove examples of the existence of the awn in these Grasses. It is not however doubted but that in particular situations the awn may be present to them.

Mr. LIGHTFOOT is of opinion that it would perhaps be no error to consider the *Marsh Bent* as only a variety of the *Stolonifera* or *Running Bent*.

Dr. WITHERING has made these two, as well as the *capillaris*, distinct species.

Mr. HUDSON has scarcely noticed the *alba*, and has ranked all three, and indeed all the English Bents (except one) in which the awn is deficient, as varieties under the specific term *polymorpha*.

The *White, running, or Marsh Bent* abounds chiefly in low meadows, near rivers, and in moist ditches. As it endow'd it with a power of propagating itself by another method, namely, by *runners* in the manner of *Strawberries*, *Cinquefoil*, &c. These *runners* in some places extend for several yards, and are in low meadows very plentiful in the autumn. The Graziers in some parts of the west of England are not very partial to this production, to which they give the appellation of *fog*.

It flowers the latter end of July.

The *Tips* are white with a purple tinge.













*Hordeum pratense.*

*Meadow Barley.*



*Phleum pratense.*

*Meadow Catstail.*



*Agrostis alba.*

*White Bent.*







MUCH has been said, and written, respecting a particular kind of Grass, which grows in a small meadow, in the parish of Orcheston St. Mary, in Wiltshire; which is asserted to produce a most extraordinary quantity of sought for by many; but of what kind it is, and whether it is really a peculiar kind of Grass, has not been ascertained. Mr. CURTIS (whose zealous attention to obtain, as well as readiness to communicate useful knowledge, cannot be sufficiently praised,) has endeavoured to develope this mystery. By the favour of a Friend, residing near the Spot, he obtained six small Turfs cut up in different parts of the above meadow. The Turfs were planted in his Garden. From the produce of these Turfs, he has concluded that the extraordinary fertility of this Meadow, does not arise from any new Grass, peculiar to it, but from several unusual circumstances, concurring, and favouring in an uncommon degree the growth of certain well-known Grasses, especially the *Poa trivialis* and *Agrostis alba*.—The account of this experiment is published in the Annals of Agriculture, vol. 70, p. 352. The produce of only five of those Turfs are mentioned. If Mr. CURTIS has thus fixed upon the *Poa trivialis* and *Agrostis alba* from the frequency of their appearance in the Turfs which he planted, the list which he has given of the plants produced from those Turfs, will, it is apprehended, scarcely justify the conclusion. The *Poa trivialis* indeed appears in all the five Turfs. But the next in frequency is the *Triticum repens*, or common Couch Grass. This is a most remarkable circumstance. As it is very rare that a single blade of that Grass appears in any meadow or pasture which has been in Grass any considerable length of time. It is possible there might have been some roots of the *Triticum repens* in the plat, before the Turfs were admitted.

The Author has been informed that this meadow is situated near a small River, from which it is liable sometimes to be overflowed; but not very frequently; and that after such flooding it furnishes a most extraordinary large Crop of Grass; incomparably larger than when it has not been flooded. This rivulet is described as issuing from the Chalk-Hills at a small distance above this meadow. And it is probable that the water brings down and deposits on the land, a quantity of calcareous matter, to which its uncommon fertility is owing.

Altho' the Writer of this is quite of the opinion of Mr. CURTIS, that the fertility is not to be ascrib'd to any particular Grass, yet (from the intelligence of a Gentleman who viewed this meadow for two days last summer, at the time when the meadow had just begun to be mowed, and brought away with him some roots and flowering specimens of a Grass, which the people at work in the meadow, and an intelligent Farmer in the neighbourhood, assured him was the particular or famous Orcheston Grass) he has been led to conclude that the Grass most predominant in that meadow, is, not the *Poa trivialis*, but the *Alopecurus pratensis*. The Gentleman indeed was no Botanist. But upon shewing him some specimens of Grasses, he immediately fixed upon the Foxtail. As the meadow was mowed early in June, it seems at least probable, that the Foxtail was at that time the most conspicuous.\*

As there is undoubtedly a particular period when the Grasses are in the most proper state for mowing; and as that state is most probably about the time of their flowering, (either a little before or a little after) should all the Grasses of this collection be found upon fair trial to deserve cultivation: The following Diagraph would seem to divide them into proper assortments to be sown together; supposing the fields or meadows, where they are to be sown, be principally intended for Hay. If an assortment for three crops only be desired, the Brackets on the right hand will shew the division. If five crops be required, the Brackets on the left hand will direct to the assortment. In the division of three parts, the first crop will be fit to cut early in June. The second about Midsummer. And the third about the middle of July. In the division of five parts, the first will be ripe about the latter end of May; the second, the beginning of June; the third, about Midsummer; the fourth, about the beginning of July; and the fifth, the middle or latter end of July.

The annual Meadow, vernal, Smooth-stalked Meadow, smaller Fescue, Dogtail, yellow Oat, and fine Bent, seem to be best adapted for the feed of Sheep; the rest for the larger kinds of Cattle. The Soft-Brome, smooth-stalked Meadow, smaller Fescue, and yellow Oat, are partial to dry soils. The Vernal, Foxtail, rough-stalked Meadow, Quake Grass, Meadow Fescue, Soft Grass, Meadow Barley, Catstail, and Marsh Bent, flourish most in moist soils. And soils of an intermediate quality as to moisture and dryness, will best suit the remainder.

	{	Annual Meadow flowers	-	-	1st week in May	-	}	1
		Vernal	-	-	2d week in May	-		
1		Foxtail	-	-	Ditto	-		
		Soft Brome	-	-	3d week in May	-		
	{	Smooth-stalked Meadow	-	-	4th week in May	-	}	
2		Rough-stalked Meadow	-	-	1st week in June	-		
		Smaller Fescue	-	-	Ditto	-	}	
		Quake Grass	-	-	2d week in June	-		
	{	Rough Cock's-foot	-	-	Ditto	-	}	2
3		Tall Oat	-	-	Ditto	-		
		Meadow Fescue	-	-	3d week in June	-		
		Darnel	-	-	4th week in June	-	}	
		Dogtail	-	-	Ditto	-		
	{	Yellow Oat	-	-	1st week in June	-	}	3
4		Soft-Grass	-	-	2d week in July	-		
		Fine Bent	-	-	3d week in July	-		
		Meadow Barley	-	-	Ditto	-	}	
5		Catstail	-	-	4th week in July	-		
		Marsh Bent	-	-	Ditto	-		

\* The Author has since received a tuft of this Grass in a growing state, and from the leaf he can venture to pronounce it the *Alopecurus pratensis*.







MUCH has been said, and written, respecting a particular kind of Grass, which grows in a small meadow, in the parish of Orcheston St. Mary, in Wiltshire; which is asserted to produce a most extraordinary quantity of herbage; and to render the piece of ground, whereon it grows, exceedingly valuable. This Grass has been sought for by many; but of what kind it is, and whether it is really a peculiar kind of Grass, has not been ascertained. Mr. CURTIS (whose zealous attention to obtain, as well as readiness to communicate useful knowledge, cannot be sufficiently praised,) has endeavoured to develop this mystery. By the favour of a Friend, residing near the Spot, he obtained six small Turfs cut up in different parts of the above meadow. The Turfs were planted in his Garden. From the produce of these Turfs, he has concluded that the extraordinary fertility of this Meadow, does not arise from any new Grass, peculiar to it, but from several unusual circumstances, concurring, and favouring in an uncommon degree the growth of certain well-known Grasses, especially the *Poa trivialis* and *Agrostis alba*.—The account of this experiment is published in the Annals of Agriculture, N<sup>o</sup>. 70, p. 352. The produce of only five of those Turfs are mentioned. If Mr. CURTIS has thus fixed upon the *Poa trivialis* and *Agrostis alba* from the frequency of their appearance in the Turfs which he planted, the list which he has given of the plants produced from those Turfs, will, it is apprehended, scarcely justify the conclusion. The *Poa trivialis* indeed appears in all the five Turfs. But the next in frequency is the *Triticum repens*, or common Couch Grass. This is a most remarkable circumstance. As it is very rare that a single blade of that Grass appears in any meadow or pasture which has been in Grass any considerable length of time. It is possible there might have been some roots of the *Triticum repens* in the plat, before the Turfs were admitted.

The Author has been informed that this meadow is situated near a small River, from which it is liable sometimes to be overflowed; but not very frequently: and that after such flooding it furnishes a most extraordinary large Crop of Grass; incomparably larger than when it has not been flooded. This rivulet is described as issuing from the Chalk-Hills at a small distance above this meadow. And it is probable that the water brings down and deposits on the land, a quantity of calcareous matter, to which its uncommon fertility is owing.

Altho' the Writer of this is quite of the opinion of Mr. CURTIS, that the fertility is not to be ascrib'd to any particular Grass, yet (from the intelligence of a Gentleman who viewed this meadow for two days last summer, at the time when the meadow had just begun to be mowed, and brought away with him some roots and flowering specimens of a Grass, which the people at work in the meadow, and an intelligent Farmer in the neighbourhood, assured him was the particular or famous Orcheston Grass) he has been led to conclude that the Grass most predominant in that meadow, is, not the *Poa trivialis*, but the *Alopecurus pratensis*. The Gentleman indeed was no Botanist. But upon shewing him some specimens of Grasses, he immediately fixed upon the *Foxtail*. As the meadow was mowed early in June, it seems at least probable, that the *Foxtail* was at that time the most conspicuous.\*

As there is undoubtedly a particular period when the Grasses are in the most proper state for mowing; and as that state is most probably about the time of their flowering, (either a little before or a little after) should all the Grasses of this collection be found upon fair trial to deserve cultivation: The following Diagram would seem to divide them into proper assortments to be sown together; supposing the fields or meadows, where they are to be sown, be principally intended for Hay. If an assortment for three crops only be desired, the Brackets on the right hand will shew the division. If five crops be required, the Brackets on the left hand will direct to the assortment. In the division of three parts, the first crop will be fit to cut early in June. The second about Midsummer. And the third about the middle of July. In the division of five parts, the first will be ripe about the latter end of May; the second, the beginning of June; the third, about Midsummer; the fourth, about the beginning of July; and the fifth, the middle or latter end of July.

The annual Meadow, vernal, Smooth-stalked Meadow, smaller Fescue, Dogtail, yellow Oat, and fine Bent, seem to be best adapted for the feed of Sheep; the rest for the larger kinds of Cattle. The Soft-Brome, smooth-stalked Meadow, smaller Fescue, and yellow Oat, are partial to dry soils. The Vernal, Foxtail, rough-stalked Meadow, Quake Grass, Meadow Fescue, Soft Grass, Meadow Barley, Cat-tail, and Marsh Bent, flourish most in moist soils. And soils of an intermediate quality as to moisture and dryness, will best suit the remainder.

	{	Annual Meadow flowers	-	-	1st week in May	-	}	1
	{	Vernal	-	-	2d week in May	-		
1	{	Foxtail	-	-	Ditto	-		
	{	Soft Brome	-	-	3d week in May	-		
	{	Smooth-stalked Meadow	-	-	4th week in May	-		
	{	Rough-stalked Meadow	-	-	1st week in June	-	}	2
2	{	Smaller Fescue	-	-	Ditto	-		
	{	Quake Grass	-	-	2d week in June	-		
	{	Rough Cock's-foot	-	-	Ditto	-		
	{	Tall Oat	-	-	Ditto	-		
	{	Meadow Fescue	-	-	3d week in June	-	}	3
3	{	Darnel	-	-	4th week in June	-		
	{	Dogtail	-	-	Ditto	-		
	{	Yellow Oat	-	-	1st week in June	-		
	{	Soft-Grass	-	-	2d week in July	-		
	{	Fine Bent	-	-	3d week in July	-	}	3
4	{	Meadow Barley	-	-	Ditto	-		
	{	Cat-tail	-	-	4th week in July	-		
	{	Marsh Bent	-	-	Ditto	-		
5	{		-	-		-		

\* The Author has since received a tuft of this Grass in a growing state, and from the leaf he can venture to pronounce it the *Alopecurus pratensis*.



















