





Lecture 19
Roman Agricultural Writers



Marcus Porcius Cato (234–148 BCE)



Marcus Porcius Cato (234–148 BCE)

Earliest of Latin writers
Cato the Censor
Prolific author, Father of Latin prose
Only writings to survive are *De Agri Cultura*
Earliest specimen of treatise in Latin prose
List of disjointed notes

Practical aspects of farming
On Acquiring Farms
Fertilization
Propagation Techniques
Instruction for Female Housekeepers

History of Horticulture: Lecture 19

Cato

On Acquiring Farms

I. When you are thinking of acquiring a farm, keep in mind these points: that you be not overeager in buying nor spare your pains in examining, and that you consider it not sufficient to go over it once. However often you go, a good piece of land will please you more at each visit. Notice how the neighbours keep up their places; if the district is good, they should be well kept. Go in and keep your eyes open, so that you may be able to find your way out. It should have a good climate, not subject to storms; the soil should be good, and naturally strong. If possible, it should lie at the foot of a mountain and face south; the situation should be healthful, there should be a good supply of labourers, it should be well watered, and near it there should be a flourishing town, or the sea, or a navigable stream, or a good and much travelled road. It should lie among those farms which do not often change owners; where those who have sold farms are sorry to have done so. It should be well furnished with buildings.

Do not be hasty in despising the methods of management adopted by others. It will be better to purchase from an owner who is a good farmer and a good builder. When you reach the steading, observe whether there are numerous oil presses and wine vats; if there are not, you may infer that the amount of the yield is in proportion. The farm should be one of no great equipment, but should be well situated. See that it be equipped as economically as possible, and that the land be not extravagant. Remember that a farm is like a man-however great the income, if there is extravagance but little is left. If you ask me what is the best kind of farm, I should say: a hundred iugera of land, comprising all sorts of soils, and in a good situation; a vineyard comes first if it produces bountifully wine of a good quality; 2nd, a watered garden; 3rd, an osier-bed; 4th an olive yard; 5th, a meadow; 6th, grain land; 7th, a wood lot; 8th, an arbustum; 9th, a mast grove.

Cato

Fertilization

XXXVI. Fertilizers for crops: spread pigeon dung on meadow, garden, and field crops. Save carefully goat, sheep, cattle, and all other dung. Spread or pour amurca around trees, an amphora to the larger, an urn to the smaller, diluted with half its volume of water, after running a shallow trench around them.

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Cato

Propagation Techniques (grafting, cuttage, and layerage)

XLI. Vine grafting may be done in the spring or when the vine flowers, the former time being best. Pears and apples may be grafted during the spring, for fifty days at the time of the summer solstice, and during the vintage; olives and figs should be grafted during the spring. Graft the vine as follows: Cut off the stem you are grafting, and split the middle through the pith; in it insert the sharpened shoots you are grafting, fitting pith to pith. A 2nd method is: If the vines touch each other, cut the ends of a young shoot of each obliquely, and tie pith to pith with bark. A 3rd method is: With an awl bore a hole through the vine which you are grafting, and fit tightly to the pith 2 vine shoots of whatever variety you wish, cut obliquely. Join pith to pith, and fit them into the perforation, 1 on each side. Have these shoots each 2 feet long; drop them to the ground and bend them back toward the vine stock, fastening the middle of the vine to the ground with forked sticks and covering with dirt. Smear all these with the kneaded mixture, tie them up and protect them in the way I have described for olives.

Cato

Instructions for Female Housekeepers

CXLIII. See that the housekeeper performs all her duties. If the master has given her to you as wife, keep yourself only to her. Make her stand in awe of you. Restrain her from extravagance. She must visit the neighbouring and other women very seldom, and not have them either in the house or in her part of it. She must not go out to meals, or be a gad-about. She must not engage in religious worship herself or get others to engage in it for her without the orders of the master or the mistress; let her remember that the master attends to the devotions for the whole household. She must be neat herself, and keep the farmstead neat and clean. She must clean and tidy the hearth every night before she goes to bed. On the Kalends, Ides, and Nones, and whenever a holy day comes, she must hang a garland over the hearth, and on those days pray to the household gods as opportunity offers.

She must keep a supply of cooked food on hand for you and the servants. She must keep many hens and have plenty of eggs. She must have a large store of dried pears, sorbs, figs, raisins, sorbs in must, preserved pears and grapes and quinces. She must also keep preserved grapes in grape-pulp and in pots buried in the ground, as well as fresh Praenestine nuts kept in the same way, and Scantian quinces in jars, and other fruits that are usually preserved, as well as wild fruits. All these she must store away diligently every year. She must also know how to grind spelt fine.

Marcus Terentius Varro (116–27 BCE)



Marcus Terentius Varro (116–27 BCE)

Soldier and scholar

Assembled enormous collection of writings (700 on a wide variety of topics)

Nine works remain, 3 on Latin languages, 3 on agriculture

Res Rustica began in his 80th year and addressed to his wife Fundania who had just purchased a farm

Three books cover agriculture and livestock, including game, birds, and bees

Each book in the form of a dialogue

Work was a source for Virgil and Pliny

Style is erudite and windy, forever quoting other scholars

Varro

On Grafting

You cannot, for instance, graft a pear on an oak, even though you can on an apple. This is a matter of importance to many people who pay considerable attention to soothsayers; for these have a saying that when a tree has been grafted with several varieties, the one that attracts the lightning turns into as many bolts as there are varieties, though the stroke is a single one. No matter how good the pear shoot which you graft on a wild pear, the fruit will not be as well flavoured as if you graft it on a cultivated pear. It is a general rule in grafting, if the shoot and the tree are of the same species, as, for instance, if both are of the apple family, that for the effect on the fruit the grafting should be of such a nature that the shoot is of a better type than the tree on which it is grafted.

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There is a 2nd method of grafting from tree to tree which has recently been developed, under conditions where the trees stand close to each other. From the tree from which you wish to take the shoot a small branch is run to the tree on which you wish to graft and is inserted in a branch of the latter which has been cut off and split; the part which fits into the branch having first been sharpened on both sides with the knife so that on one side the part which will be exposed to the weather will have bark fitted accurately to bark. Care is taken to have the tip of the grafted shoot point straight up. The next year, after it has taken firm hold, it is cut off the parent stem.

Publius Vergilius Maro (Virgil) 70–10 BCE

Great poet and leading naturalist

Best known for epic poem the *Aeneid*, the national epic of Rome

Excellent education, part of a literary circle associated with Augustus and Octavia



Georgics

Transforms nature and commonplace agricultural activities into great poetry.

Management of fields, care of trees and vines, rearing or horses and cattle, beekeeping.

(Grafting)

*But various are the ways to change the state
Of plants, to bud, to graff, to inoculate.
For, where the tender rinds of trees disclose
Their shooting germs, a swelling knot there grows:
Just in that space a narrow slit we make,
Then other buds from bearing trees we take;
Inserted thus, the wounded rind we close,
In whose moist womb the admitted infant grows.
But when the smoother bole from knots is free;
We make a deep incision in the tree,
And in the solid wood the slip inclose;
The battening bastard shoots again and grows;
And in short space the laden boughs arise;
With happy fruit advancing to the skies.
The mother plant admires the leaves unknown
Of alien trees, and apples not her own.*

(Animal Selection)

*When she has calved, then set the dam aside;
And for the tender progeny provide;
Distinguish all betimes with branding fire,
To note the tribe, the lineage, and the sire;
Whom to reserve for husband of the herd;
Or who shall be to sacrifice preferred;
Of whom thou shalt to turn thy glebe (soil) allow,
To smooth the furrows, and sustain the plough:
The rest, for whom no lot is yet decided,
May run in pastures, and at pleasure fed.*

(Virgil's Georgics 1953, Heritage Press, New York)

**Lucius Junius Moderatus Columella
(1st century CE)**

Spanish born, lived in Rome as a soldier
Two agricultural treatises:
Res Rustica (On Agriculture), 11 volumes
De Arboribus (On Trees)
Seems to have been written on request or
commission for a Publius Sivinus.
A modern work, devoid of superstition.

On Agriculture

- Book 1: Land choice, water supply, farm buildings, farm labor**
- Book 2: Agricultural practices**
- Books 3–5: Cultivation, grafting, pruning of fruit trees, shrubs, vines, olives**
- Books 6–7: Farm animals and veterinary medicine**
- Book 8: Farmers wife**

Columella

Vineyard management

For, admitting that vineyards demand a very generous outlay, still *7 iugera* require the labour of not more than 1 vinedresser, upon whom people in general set a low value, thinking that even some malefactor may be acquired from the auction-block; but I, disagreeing with the opinion of the majority, consider a high-priced vinedresser of first importance. And supposing his purchase price to be 6000 or, better, 8000 *sesterces*, when I estimate the *7 iugera* of ground as acquired for just as many thousands of *sesterces*, and that the vineyards with their dowry—that is, with stakes and withes—are set out for 2000 *sesterces* per *iugerum*, still the total cost, reckoned to the last farthing, amounts to 29,000 *sesterces*. Added to this is interest at 6% per annum, amounting to 3480 *sesterces* for the 2-year period when the vineyards, in their infancy as it were, are delayed in bearing. The sum total of principal and interest comes to 32,480 *sesterces*.


1 *iugerum* = 3/5 of an acre. 1 *sesterces* = 4 cents.

And if the husbandman would enter this amount as a debt against his vineyards just as a moneylender does with a debtor, so that the owner may realize the aforementioned 6% interest on that total as a perpetual annuity, he should take in 1950 *sesterces* every year. By this reckoning the return from *7 iugera*, even according to the estimate of Graecinus, exceeds the interest on 32,480 *sesterces*. For, assuming that the vineyards are of the very worst sort, still, if taken care of, they will yield certainly 1 *culleus* of wine to the *iugerum*; and even though every forty urns are sold for 300 *sesterces*, which is the lowest market price, nevertheless *7 cullei* make a total of 2100 *sesterces*—a sum far in excess of the interest at 6%. And these figures, as we have given them, take account of the calculations of Graecinus. But our own opinion is that vineyards which yield less than 3 *cullei* to the *iugerum* should be rooted out.

1 *culleus* = 137 gallons. 1 *iugerum* = 3/5 of an acre. 1 *sesterces* = 4 cents.

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Caius Plinius Secundus (Pliny)
23–79 CE



Born in Verona, served as a cavalryman in Germany
First book *On the Use of the Javelin by Cavalry*
Enormous literary career
In year 73 or 74 was appointed prefect of the Roman fleet in Misenum
Death occurred during eruption of Vesuvius, simultaneous with destruction of Herculaneum and Pompeii
Death recorded from a letter of his nephew to the historian Tacitus

Natural History (Historia naturalis) published in 77, 2 years before his death, only work to survive.
37 volumes, encyclopedic in coverage.
Information on astronomy, chemistry, geography, natural history, agriculture, medicine, astrology, and mineralogy.
Popular translation covers 5 volumes, each of 500 pages. Over 400 authors cited.

Pliny was a compiler and sometimes appears overly credulous.

However encyclopedic coverage is the best known and most widely referred sourcebook of classical natural history.

Rich source of agriculture and horticulture

Pliny

Chap. 44. p. 530. Book XVII. Vol. 3.

Caprification, and Particulars Connected with the Fig

It is beyond all doubt that in caprification the green fruit gives birth to a kind of gnat; for when they have taken flight, there are no seeds to be found within the fruit; from this it would appear that the seeds have been transformed into these gnats. Indeed, these insects are so eager to take their flight, that they mostly leave behind them either a leg or a part of a wing on their departure. There is another species of gnat, too, that grows in the fig, which in its indolence and malignity strongly resembles the drone of the beehive, and shows itself a deadly enemy to the one that is of real utility; it is called centrina, and in killing the others it meets its own death.

Pliny

Chap. 45. p. 531. Book XVII. Vol. 3.

Errors that may be Committed in Pruning

But, before everything, especial care should be taken that intended remedies are not productive of ill results; as these may arise from either remedial measures being applied in excess or at unseasonable times. Clearing away the branches is of the greatest benefit to trees, but to slaughter them this way every year, is productive of the very worst results. The vine is the only tree that requires lopping every year, the myrtle, the pomegranate, and olive every other; the reason being that these trees shoot with great rapidity. The other trees are lopped less frequently, and none of them in autumn; the trunk even is never scraped, except in spring. In pruning a tree, all that is removed beyond what is absolutely necessary, is so much withdrawn from its vitality.

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Pliny

Chap. 23. p. 156–158. Book XIX. Vol. 4.
Vegetables of a Cartilaginous Cucumis

The cucumis belongs to the cartilaginous class of plants, and grows above the ground. It was a wonderful favorite with the Emperor Tiberius, and, indeed, he was never without it; for he had raised beds made in frames upon wheels, by means of which the cucumbers were moved and exposed to the full heat of the sun; while, in winter, they were withdrawn, and placed under the protection of frames glazed with mirrorstone.

