

The most comprehensive agricultural textbook in the ancient world, *De re rustica* (“Twelve Books of Agriculture”) by Columella (c. 70 AD), now published in Swedish

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Preparations are underway at the Royal Swedish Academy of Agriculture and Forestry's (KSLA) unit for forest and agricultural history¹ for publishing Swedish editions of three pioneering works on agriculture, dating from the Roman Empire. The first publication to appear, in 2009, was Columella's *Twelve Books of Agriculture*, translated by Sten Hedberg and including twelve essay commentaries by Swedish scholars, several of them associated with SLU (the Swedish University of Agricultural Sciences). Work on the remaining two publications will begin in the autumn of 2010.

Panem et circenses – bread and circuses – were, according to the poet Juvenal (60–140 AD), what the Roman Emperors must give the teeming population of their capital city in order to avoid political turbulence. The circuses, the gladiatorial combats, are uninteresting in the present context, but the bread is a prime topic for our consideration.

It was a matter of necessity, then, that Rome's huge population, many of them indescribably poor, should have access to cheap or, better still, free food. This called for an efficient food production system and an infrastructure capable of delivering what the citizens needed, which in turn is just one of many signs, but a very clear one, of widespread urbanisation within the Roman Empire and of a division of labour entailing great social inequalities, virtually a market economy with an effective money market, as well as central investments in roads, harbours, drinking water, sewerage and other basic utilities.

The preconditions for this production remained essentially unaltered until the scientific and technical revolution of the 19th century. Production was based on annual harvests. The level of mechanisation was low, and, apart from human muscle power, the only available power sources were animals, water, wood and wind. Transport was a particular consideration. Heavy goods with a long storage life,



Figure 1. The estate of the landowner Julius. The mosaic floor depicts several agricultural tasks during the late classical period (end of the 4th century): fowling and game bird breeding, cattle farming, hunting, fruit growing and picking (pomegranates, quinces, grapes and olives). Bardo Museum, Tunisia.

such as cereals and fermented or salted products, were easily shipped between the Mediterranean ports and along the rivers, while perishable foods ought preferably to be consumed near their place of production and land transport kept to a minimum.

Agriculture and agricultural authors in the ancient world

How, then, was the farming conducted which formed the basis of ancient civilisation and also had to interact with the rest of the community? The full picture is not readily obtainable from

archaeological finds, but fortunately we are also aided by art and literature – art above all through mosaics and other images unearthed at various settlement sites. But the literary monuments are in fact more remarkable, in that three didactic works on agriculture, written in Latin between 180 BC and 70 AD, have come down to us. Next to histories they constitute the largest body of non-fictional prose literature from classical antiquity.

The oldest and shortest of the three is the only work by Marcus Porcius Cato (c. 220–150 f.Kr.) to have survived intact. His *De re rustica* can be termed a book

¹ The KSLA library has a very extensive collection of literature on Greek and Roman agriculture in the broad sense of the term. This is listed in the Libris database. A list of works can be accessed on the library's website, www.kslab.ksla.se. Cf. *Grekland och Rom. Litteratur om jordbruk, livsmedel, skogsbruk, trädgård, lantmäteri m.m. i Kungl. Skogs- och Lantbruksakademiens bibliotek* 2000.



Figure 2. Farm management: harvesting and pressing of olives, harvesting honey, dung-heap management (with hunting of snakes) and slaughtering goats. From a manuscript, *Cynegetica*, by Oppian.

of instruction for his son. Much of it is devoted to administrative tasks, such as dealing with contractors. The second work, by an elderly Marcus Terentius Varro (116–28 BC), is more in the nature of *belles lettres*, comprising three notional dialogues between Roman landowners on the principal aspects of farm management.²

Lucius Iunius Moderatus Columella and *De re rustica*

The third work is a complete manual of agriculture by Lucius Iunius Moderatus Columella, who was born in about 3 AD, near present-day Cadiz. He learned the basics of farming from an uncle before joining the army and serving as an officer in Syria and Asia Minor. Ending his service in about 50 AD, he was pensioned off with a plot of land in Italy, with former fellow-officers as his neighbours. He was a good deal better prepared for living off the produce of his farm than they were, added to which, Italian agriculture had fallen into disrepute and there were no proper manuals or teachers available. Columella set out to remedy this deficiency, and the result was his great manual in twelve sections or books, entitled *De re rustica* – Of Agriculture. Nearly 2,000 years after its appearance, the book has now been published for the first time in Swedish.³

Columella was an out-and-out practitioner, almost a pragmatist. He aimed for completeness, and his work is voluminous to say the least, running to three times as much text as Cato's and Varro's books together, and he addresses every branch of agriculture, from cereal cultivation to fish farming and game enclosures. On the other hand, he was writing for farmers in Italy during the first century of the Christian era, by which time the commercial production of bread grain was no longer a paying proposition. The real money, given a suitable location, was to be made out of wine, olive oil and certain perishable products. The form of enterprise was the medium-sized estate, with a workforce consisting mostly of slaves.

True to his emphasis, nearly a quarter of *De re rustica* is about vineyards and winemaking. The corresponding advice on olive growing occupies less space, partly because olive trees are more easily tended. The rest of the work contains general advice on climate and soil and on the production of all the other commodities which wine and olive production called for: draught animals were needed for tilling the soil; human labourers and livestock needed food and clothing, which called for cultivation of cereals and fodder plants; the processing of wine and oil and the preparation of foodstuffs and

medicines for man and beast required sweetening agents and herbs and spices. Finally, the farm should be attractive and pleasant for the owner and his family, i.e. it should have a beautiful garden. If any of the land was less suitable for plant cultivation as such, the owner could turn it into a fish farm or a poultry run. The ideal, then, was for everything to be made use of and for the farm to be as self-sufficient as possible, selling as much and buying in as little as it could.

After presenting, in the first book, general recommendations on location and soil and on requirements concerning the labourers, Columella turns in Book 2 to arable farming as such, going on in Books 3–5 to address his main theme, namely production of wine and olives and – briefly – fruit growing. The next four books are concerned with farm animals: Book 6 with draught animals – oxen, horses and mules – Book 7 with smaller quadrupeds – donkeys, sheep, goats, pigs and dogs – Book 8 with fowls and fish and Book 9 with wild animals and bees. Book 10, in hexameter verse, deals with the garden, and especially with various edible and ornamental plants. Book 11 gives a full recapitulation, but in a new form: after a presentation of the farm manager and his duties comes an annual calendar with tasks divided into fortnightly periods and with a prose guide to the garden and its plants. The twelfth and final book contains a few chapters on the duties of the slave woman who directed indoor work in the kitchen, store room, weaving shed, sick bay etc., followed by a large collection of recipes, mainly concerning wine and olive oil but also such products as preserved fruit, salted meat and pesto.

Columella's presentation is objective and solidly factual. Only in exceptional cases do we espy traces of superstition, such as belief in the mere presence of a menstruating woman being fatal to insect pests. One is surprised at his firm belief in the possibility of grafting different, remotely related fruit trees. There is a little more advice of this kind, but otherwise it is the experienced professional who speaks, describing methods and implements which to this day are still being used in Mediterranean farming.

Columella's aspirations did not stop short at completeness. He was also intent on presenting his material attractively and making clear that he was taking part in an ongoing debate about methods and choices in agriculture. If one of his

² For a detailed account of earlier authors and literature, see Sten Hedberg's article in Columella 2009, "Columella och hans verk i den latinska lantbrukslitteraturen. Idéer, tradition och efterföljd", pp. 457 ff.

³ For the Latin editions of the various books on which the Swedish translation is based and with three different editors, see Lundström 1902–1968.

⁴ The most recent Swedish translation dates from 1989; see Vergilius Maro 1989.



Figure 3. Pastoral. Goatherd and flock on scanty mountain pasture. Mosaic from Hadrian's Villa, Tivoli, c. 130 AD. Vatican Museums.



Figure 4. Peaches. The peach (*Prunus persica*), first mentioned by Pliny the Elder and Columella, was introduced in Rome during the first century of the Christian era. Detail of a painting in Pompeii, 1st century AD. National Museum (Museo Archeologico Nazionale di Napoli), Naples.

contemporaries, seeing his advice, has declared a differing opinion, he defends himself or presents a more detailed argument. He further endeavours to make his language as varied as possible by means of various rhetorical refinements, and is at pains to indicate his sources when referring directly to previous authors. One refreshing trait serving both ends is his frequent quotation of lines from Publius Vergilius Maro's rural poem *Georgica*⁴ as a parallel or introduction to his own text.

Columella's work was completed in about 70 AD and spread quickly. Pliny the Elder, who was killed in about 79 AD, mentions it in his *Natural History*. We know little about subsequent developments, but we do know that Palladius (5th century AD) borrowed a good deal from Columella's work for his own presentation of things a farmer should do during the different months of the year. Palladius then became the most widely current of Latin authors throughout the Middle Ages, until manuscripts of Columella's work were rediscovered during the Renaissance. During the succeeding centuries, Cato, Varro, Columella and Palladius were several times published together in Latin, forming the basis of the practical handbooks which were then published in the vernacular tongues in several European countries.⁵ As a rule, however, it is impossible to tell which material has been borrowed from which of the four authors.

Twelve Books of Agriculture

Sweden, it is worth noting, already had cursory translations from and adaptations of Columella in the Vadstena monk Peder Månsson's *Bondakunst*, based on the many notes he made while living in Rome between 1507 and 1523.⁶ In 1807 the farmers of Denmark gained access to a Danish translation by Jens Frechland, but he excluded all plants not grown in Denmark, such as vines and olives.⁷

Today we are witnessing a resurgence of interest in such things as organic farming, traditional medicine and slow food. These are just a few of the subjects on which Columella's is worth reading, but he was writing in a completely different age, and so the modern reader needs help in order to understand the text properly. The present translation is therefore accompanied by twelve specially written essays by contemporary Swedish experts, four of whom are or have been active within SLU. The authors have also contributed stylistic, terminological and factual comments on the translation.

The political, social and economic conditions of farmers in Italy in Columella's time are the subject of two of the essays, by archaeologist Örjan Wikander (Lund University) and economic historian Bertil Andersson (Göteborg/Gothenburg University). Agrarian historian Janken Myrdal (SLU) contributes two essays with a partly

historiographical focus, dealing with the techniques and implements appearing in Columella's work in various connections.

By far the weightiest part of the commentary is concerned with plants and their cultivation. In it, horticultural historian Kjell Lundquist (SLU) has gone over the terminology with a toothcomb, as well as analysing and endeavouring to identify the 280 or so different plants mentioned and commenting on Columella's advice to growers. In addition to the essay, his labours have also resulted in a plant index, showing where each plant is mentioned in the translation.

Livestock geneticist Jan Rendel (SLU and FAO) has similarly elucidated the three books which Columella devotes to farm livestock. There are fewer species here than in the case of the plants, but what we are told is important enough: Columella's pronouncements on characteristics, the need for stabling and suchlike, breeding, the training of draught animals, the treatment of injuries and diseases and the economics of animal husbandry provide occasion for comment. Another two essays deal with animals, namely a brief commentary by zoologist and fisheries expert Hans Ackefors (Stockholm University) on the two chapters of Book 8 dealing with fish farming, and a description by research apiarist Erik Husberg (Göteborg/Gothenburg University) of bee-keeping in the ancient world, focusing on

⁵ Op. cit., pp. 467 ff.

⁶ Peder Månsson 1913–15 and Peder Månsson 1983.

⁷ Frechland 1806–07.



Figure 5. Paradise garden. Bird in a plantation of laurel (*Laurus nobilis*), roses (*Rosa* sp.) and possibly Solomon's seal (*Polygonatum multiflorum*), camomile (*Matricaria chamomilla*) and opium poppy (*Papaver somniferum*), from the House of the Golden Bracelet, Pompeii, 1st century AD.

Columella's ninth book.

The two most important products have been made the subjects of individual essays. The production, sale and use of wine in the Roman Empire is the theme taken by oenologist Paulina Rytkönen (Södertörn University College), who has researched the globalisation of the food sector, with special reference to the wine trade. Similarly, economic historian Ulrica Söderlind (Stockholm University), who has studied diet and meals in a historical perspective, addresses the subject of the olive and olive oil. In addition, together with microbiologist Sven Lindgren (the Swedish National Food Administration and SLU), she has drawn conclusions from Columella's advice on diet and the

treatment of foodstuffs.

The introductions are completed by a general presentation, in terms of the history of ideas and literature, of agrarian literature down to about 1600 in general and of Columella's life and personality in particular, contributed by the Latin scholar Sten Hedberg (Uppsala University), and a preface, focusing on today's view of culture, history in general and modern archaeology, by classical scholar Hans Furuhausen.

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