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8. <i>The rising of Sirius and what can be forecast from it.</i> Same author.	
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2. <i>Boys are best suited to agriculture. Select workers for their physical suitability to the work, and choose separately those adapted to each task.</i> Varro.	
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4. <i>Finding water.</i> Paxamos.	
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7. *On water and the collecting of rainwater.* Diophanes.
8. *On large farms there should be forested mountains; how to plant them.* Apuleius.
9. *What soil is best.* Berytios.
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12. *What seeds to sow in rich soil, what in middling and what in thinner soil.* Tarantinos.
13. *What kinds of seeds to plant when the soil is wet and what when it is thoroughly dry.* Leontios.
14. *The season for planting wheat and barley.* Didymos.
15. *Forecasting which crops will thrive.* Zoroaster.
16. *The selection of seed, the quality of seed to be sown, and how long it lasts.* Vindanionius.
17. *Seed from one spot should be sown in another.* Didymos.
18. *Ensure that seed is not damaged in any way after sowing.* Africanus.
19. *What to do and what to avoid for a good harvest.* Sotion.
20. *How to achieve an adequate quantity in sowing.* Pamphilos.
21. *On manure.* The Quintilii.
22. *Preparation of manure.* Florentinus.
23. *When to clear each kind of soil.* Varro.
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33. *How to make very nice bread without yeast.* Didymos.
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35. *Broad beans.* Same author.
36. *Chickpeas.* Florentinus.
37. *Lentils.* Same author.
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39. *Lupins.* Same author.
40. *On pulses, hemp, linseed.* The Quintilii.
41. *How to produce beans that will cook easily.* Demokritos.
42. *The lion plant, also called broomrape.* Sotion.
43. *Which crops are spoiled by which weeds.* Paxamos.
44. *The overseer or farm manager.* Florentinus.
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46. *Apportioning farm work*. Same author.
47. *Health of farmers*. Florentinus.
48. *Neither farm workers nor plants should be transferred from better to worse ground*. Didymos.
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7. *The seedless grape*. Demokritos.
8. *The theriac and purging vines*. Florentinus.
9. *The perfumed grape*. Paxamos.
10. *To prevent wasps attacking vines, grapes or other fruit*. Demokritos.
11. *How to keep grapes on the vine until the beginning of spring*. Berytios.
12. *Cleft-grafting vines*. Florentinus.
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26. *How to manure at the time of trenching.* Same author.
27. *Propping.* Didymos.
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35. *Vines that bear no fruit.* Demokritos.
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47. *How to save unripened or otherwise spoiling grapes, and to treat the wine that will be made from them.* Leontinos.
48. *Treatment against pests that damage the vines.* Africanus.
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50. *A Democritean remedy, based on natural antipathy, to prevent vines, fruit trees, standing crops or anything else being infected by any pests, particularly larger creatures.* Demokritos.
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12. *How the vats are filled with must after treading is completed.* Diophanes.
13. *Making the so-called thamna from grapes taken straight from the trough after treading.* Anatolios.
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16. *How to have must throughout the year; testing whether it is watered.* Same author.
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3. *The difference between young and old wine, and between wine from white and black grapes.* Diophanes.
4. *How to cure and stabilize the wine from grapes that have absorbed much water before picking, also from grapes similarly watered after harvesting.* Demokritos.
5. *Opening the vats, and what precautions to take at this time.* Zoroaster.
6. *Racking wine; when to rack wines; the quality of wine that has been replaced in the same vat.* Same author.
7. *When and how to taste wine.* Florentinus.
8. *Testing wine and must for water.* Demokritos.
9. *Separating wine from water.* Africanus.
10. *At what time of year wines usually turn.* Paxamos.
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15. *Signs and predictions that wine will turn or will be stable.* Sotion.
16. *Treating wine that has begun to turn to vinegar.* Tarantinos.
17. *Stabilizing wine for export by sea.* Diophanes.
18. *How to manage grapes so that the wine they yield will be sweet.* Didymos.
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20. *To make wine aromatic and pleasant to the taste.* Pamphilos.
21. *Making white wine black and black wine white.* Varro.
22. *To clarify wine.* Fronto.
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24. *To make aggressively young wine old.* Damegeron.
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32. *How to stop the craving for wine.* Demokritos.
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35. *Making wine without grapes.* Sotion.
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32. *Making the best grape syrup.* Leontinos.
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34. *Making vinegar without wine.* Same author.
35. *Vinegar to promote digestion and good health.* Sotion.
36. *Preparing sweet vinegar.* Same author.
37. *Preparing sour vinegar.* Same author.
38. *To keep sour vinegar.* Apuleius.
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40. *Testing whether vinegar contains water.* Same author.
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5. *The nursery.* Didymos.
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7. *Selecting new olive trees.* Same author.
8. *Making olive trees heavy-fruited.* Africanus.
9. *Care of mature olive trees.* Sotion.
10. *How to make olive trees flourish and fruit heavily, and how to treat them when sick.* The Quintilii.
11. *Olives are planted in many different ways.* Leontinos.
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13. *Pruning olives.* Varro.
14. *The olive-grape.* Africanus.
15. *Manure suitable for olive trees.* Didymos.
16. *Cleft-grafting olives.* Florentinus.
17. *How and when to select and harvest olives.* Paxamos.
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19. *Making unripe olive oil.* Apuleius.
20. *Making aromatic oil.* Diophanes.
21. *How to make olive oil clean.* Tarantinos.
22. *Treating rancid oil.* Same author.
23. *Treating bad-smelling olive oil.* Same author.
24. *Settling cloudy olive oil.* Same author.
25. *If a mouse or other creature falls into the oil and spoils its aroma.* Demokritos.
26. *Imitating Spanish olive oil.* Damegeron.
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28. *Very fine conserved olives.* Florentinus.
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15. *Making peaches red*. Same author.
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20. *Grafting apples*. Diophanes.
21. *Keeping apples*. Apuleius.
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23. *More on growing pears*. Diophanes.
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25. *Keeping pears*. Demokritos.
26. *Growing quinces*. Didymos.
27. *Making quinces take a particular shape*. Demokritos.
28. *Keeping quinces*. Same author.
29. *Planting, treatment, and general care of pomegranates*. Florentinus.
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31. *Growing seedless pomegranates*. Same author.
32. *Pomegranate fronds ward off vermin*. Same author.
33. *Making pomegranates redder*. Didymos.
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35. *Making pomegranates bear plentiful fruit*. Demokritos.
36. *How to tell, after picking a pomegranate, how many segments it contains*. Africanus.
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38. *Keeping and storing pomegranates*. Berytios.
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40. *Keeping plums*. Same author.
41. *Planting cherries*. Florentinus.
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45. *The season for planting figs and their care*. Didymos.
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49. *To tame a wild fig*. Africanus.
50. *Scab on fig trees*. Leontinos.
51. *To produce laxative figs; to produce early figs*. From Demokritos.
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53. *To produce figs that are white on one side and black or red on the other.* Africanus.
54. *How dried figs, called ischades, are kept without going mouldy.* Paxamos
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55. *On olynthoi or unripe figs.* Africanus.
56. *How figs can be kept as fresh as if still on the tree.* Same author.
57. *When to plant Thasia; their care and grafting.* Florentinus.
58. *When to harvest almonds.* Same author.
59. *Making bitter almonds sweet.* Africanus.
60. *Producing almonds with writing.* Demokritos.
61. *Making a barren almond tree bear fruit.* Same author.
62. *Cleft-grafting almonds.* Paxamos.
63. *When to plant chestnuts.* Damegeron.
64. *When to plant walnuts; their care.* Same author.
65. *Cleft-grafting walnuts.* Same author.
66. *To make trees bear walnuts without rinds.* Africanus.
67. *To dry up a walnut or any other tree.* Demokritos.
68. *The Pontic nut or hazelnut.* Didymos.
69. *On mulberries and how to make them white.* Berytios.
70. *On keeping and storing mulberries.* Same author.
71. *Planting medlars.* Didymos.
72. *Planting cornels.* Anatolios.
73. *Explanations of the names of fruits and nuts.* Demokritos.
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75. *When and how to graft trees.* Florentinus.
76. *Crown-grafting and cleft-grafting; what stocks will take what slips in crown and cleft-grafting.* Diophanes.
77. *When and how to bud-graft.* Didymos.
78. *When to prune trees.* Leontinos.
79. *Star-struck trees.* Demokritos.
80. *To keep birds off a tree.* Same author.
81. *Care of young trees.* Varro.
82. *To make all trees fruit more heavily.* Africanus.
83. *To make a barren tree produce fruit.* Zoroaster.
84. *Treatment of trees, curing every malady.* Paxamos.
85. *How one can transplant large trees and those that are carrying fruit.* Anatolios.
86. *How one can keep seeds for a period and then grow them.* Pamphilos.
87. *To prevent trees shedding their fruit.* Sotion.
88. *Treatment of trees that lose their blossom or shed their leaves.*
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89. *A natural Demokritean method to prevent animals damaging plants and seeds.* Demokritos.
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3. *Propagating bay with grafts, seeds and suckers.* Quintilius.
4. *Story of the cypress.*
5. *Planting cypress.* Didymos.
6. *Story of the myrtle.*
7. *Planting myrtle.* Florentinus.
8. *Keeping myrtle berries.* Same author.
9. *Box.* Same author.
10. *Story of the Aleppo pine.*
11. *Planting Aleppo pine.*
12. *The lentisk tree.*
13. *The willow.*
14. *Oak galls.*
15. *Story of the rosemary.*
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17. *Story of the rose.*
18. *Roses; how to make them more aromatic; how to ensure that they do not fade.* Didymos.
19. *Story of the lily.*
20. *Lilies.* Anatolius.
21. *The iris.* Leontios.
22. *Story of the violet.*
23. *Growing violets.* Tarantinos.
24. *Story of the narcissus.*
25. *Growing narcissus.* Didymos.
26. *Growing saffron crocus.* Florentinus.
27. *Marjoram, cost and balm.*
28. *On misodoulon or basil.* Sotion.
29. *Story of ivy.*
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1. *What is sown and what is planted out month by month in the latitude of Constantinople.*
2. *Making a vegetable garden.* Florentinus.
3. *Soil suited to vegetables.* Didymos.
4. *What manure is suitable for vegetables.* Same author.
5. *How all kinds of vegetables can be grown on waterless sites.* Vindanionius.
6. *How to make the garden flourish and flower.* Demokritos.
7. *So that vegetables will not be eaten by flea beetles or damaged by phtheires or birds.* Anatolios.
8. *So that there will not be caterpillars in vegetables or trees.* Apuleius.
9. *How to destroy leek moth larva.* Diophanes.

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10. *Interplanting to help vegetables.* Fronto.
11. *To harm the gardener.* Africanus.
12. *Mallow and its medicinal use in various illnesses.* Damegeron.
13. *Lettuce, its medicinal use, and how to grow it white and shapey.* Florentinus.
14. *How to grow lettuce that produces celery, rocket, basil and the like from the same root.* Didymos.
15. *Beet and how to make it grow bigger.* Sotion.
16. *Various vegetables and their medicinal effects.* Varro.
17. *Cabbage and its medicinal effects.* Paxamos.
18. *Asparagus.* Didymos.
19. *On gourds and melons: their therapeutic uses, how to make them seedless, and how to grow them early.* The Quintilii.
20. *Musk-melons.* Florentinus.
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21. *Turnip and its seed.*
22. *On radishes.* Same author.
23. *Celery.* Florentinus.
24. *Mint.* Same author.
25. *Rue, cultivated and wild.* Same author.
26. *Rocket.*
27. *Cress.* Same author.
28. *Chicory or endive.* Didymos.
29. *Leeks.* Sotion.
30. *Garlic.*
31. *Onions.*
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36. *Grape hyacinth bulbs.* Anatolios.
37. *Squill.* Berytios.
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40. *Purslane.* Paxamos.
41. *Growing mushrooms.* Tarantinos.

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2. *Brouchos.* Didymos.
3. *Weasels.* Africanus.
4. *House mice.* Paxamos.
5. *Field mice.* Apuleius.
6. *A cat.* Sotion.
7. *Mole rats.* Paxamos.
8. *Snakes.* Florentinus.

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9. *Scorpions*. Diophanes.
10. *Ants*. Paxamos.
11. *Mosquitoes*. Demokritos.
12. *Flies*. Berytios.
13. *Bats*. Africanus.
14. *Bugs*. Didymos.
15. *Fleas in the house*. Pamphilos.
16. *Beetles*. Zoroaster.
17. *Leeches*. Anatolios.
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1. *Pigeons*. Florentinus.
2. *To make pigeons stay and mate*. Didymos.
3. *To make pigeons stay and attract others to join them*. Africanus.
4. *To stop the cat disturbing the pigeons*. Sotion.
5. *To stop snakes entering the pigeon-house*. Demokritos.
6. *The pigeon-house*. The Quintilii.
7. *Poultry*. Florentinus.
8. *How to hatch chickens without a hen*. Demokritos.
9. *Caring for chickens*. Didymos.
10. *Producing eggs with writing*. Africanus.
11. *Making hens produce large eggs; keeping eggs*. Leontinos.
12. *To stop cocks crowing*. Same author.
13. *To blind hens*. Berytios.
14. *To prevent abortion in hens*. Pamphilos.
15. *To stop a cat harming a bird*. Africanus.
16. *Cocks*. Florentinus.
17. *Particular treatments for poultry*. Paxamos.
18. *Peacocks*. Didymos.
19. *Pheasants, guinea-fowl, partridges and francolins*. Varro.
20. *Partridges*. Berytios.
21. *Hunting partridges and other game birds*. Anatolios.
22. *Geese*. The Quintilii.
23. *Ducks*. Didymos.
24. *Turtle-doves, quails, thrushes and other small birds*. Same author.
25. *Jackdaws*. Leontinos.
26. *Vultures*. Aristotle.

BOOK FIFTEEN

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1. *Natural sympathy and antipathy*. Zoroaster.
2. *Bees, and how they are 'ox-born', from an ox carcass*. Florentinus.
3. *Bees*. Didymos.
4. *To stop bees flying away*. Same author.
[Seasonal care of bees.]
5. *When to harvest honey*. Same author.

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6. *To avoid being stung when gathering honey.* Paxamos.
7. *Honey and its improvement.* Diophanes.
8. *To prevent enchantment of beehives, fields, houses, animal sheds and workshops.* Leontinos.
9. *To kill the drones.* Demokritos.
[*Box-tree honey.*]
10. *To avoid being stung by wasps.* Paxamos.

BOOK SIXTEEN

299

1. *Horses.* Apsyrtos.
2. *Signs in horses.* Pelagonios.
3. *Cures for various diseases.* Apsyrtos.
4. *Fever.* Same author.
5. *Ophthalmia.* Same author.
6. *Cataract.* Same author.
7. *Nerves.* Same author.
8. *Bowels.* Same author.
9. *Colic.* Hierokles.
10. *Pneumonia.* Same author.
11. *Cough.* Same author.
12. *Unknown illness.* Theomnestos.
13. *Dysuria.* Apsyrtos.
14. *Blood in the urine.* Same author.
15. *Ulceration.* Same author.
16. *Inflammation.* Same author.
17. *Plaster for joints.* Pelagonios.
18. *Mange.* Same author.
19. *Leeches.* Apsyrtos.
20. *Curing the bites of scorpions and other poisonous creatures.* Hippokrates.
21. *Asses suitable for mating.* Apsyrtos.
[*Lameness in asses.*]
22. *Camels.* Didymos.

BOOK SEVENTEEN

309

1. *Cattle.* Florentinus.
2. *Cows or heifers.* Same author.
[*Understanding in cattle.*]
3. *Bulls.* Didymos.
4. *Preventing weakness in oxen.* Demokritos.
[*Injuries.*]
5. *Mating.* The Quintilii.
6. *Predicting the offspring.* Africanus.
7. *Horsefly or gadfly.* Sotion.
8. *Care of calves.* Didymos.
9. *Preventing exhaustion in working oxen.* Demokritos.
10. *From what age cattle must be prevented from mating.* Varro.

LIST OF BOOKS

11. *Preventing cattle being troubled by flies.* Africanus.
12. *Fattening cattle.* Sotion.
13. *Care; to prevent them swallowing bones.* Paxamos.
14. *Unknown illness.*
15. *Headache.*
16. *Diarrhoea.*
17. *Indigestion.*
18. *Bouprestis.*
19. *Colic.*
20. *Feverishness.* Didymos.
21. *Coughing.*
22. *Suppuration.*
23. *Lameness.* Florentinus.
24. *Mange.*
25. *Bile.*
26. *Chill.*
27. *Grubs.*
28. *Poor appetite.*
29. *Ticks. [Blisters.]*

BOOK EIGHTEEN

317

1. *Selecting sheep; judging males and females.* Florentinus.
2. *Their care and survival.* Same author.
3. *Mating and lambing.* Didymos.
4. *To make sheep follow you.* Africanus.
5. *To prevent a ram attacking.* Same author.
6. *To diagnose the colour of the lamb that a ewe is carrying.* Demokritos.
7. *To keep lambs free of illness.*
8. *When and how to shear sheep.* Didymos.
9. *Male and female goats.* Florentinus.
10. *How to make goats give more milk.* Same author.
11. *Preventing the loimike nosos in sheep and goats.* The Quintilii.
12. *Milk, and how to make farm animals yield plenty of milk.* Africanus.
13. *Treatment of diseases of sheep.* Leontinos.
14. *Hunting wolves.* Diophanes.
15. *Scab.* Didymos.
16. *Ticks.* Same author.
17. *Various diseases.* Anatolios.
18. *Herd of goats.* Berytius.
19. *Cheesemaking.* Same author.
20. *Testing milk.* Same author.
21. *Quick way to make melke.* Paxamos.

BOOK NINETEEN

325

1. *Dogs.* Varro.
2. *More on dogs.* Fronto.

3. *Care of dogs.* Theomnestos.
4. *Hares.* Demokritos.
5. *Deer.* Xenophon.
6. *Pigs.* Florentinus.
7. *Treatment of pigs.* Didymos.
8. *Wild boar.* Demokritos.
9. *Salting of all kinds of meat.* Didymus.

BOOK TWENTY

331

1. *Keeping fish.* Florentinus.
2. *Bringing fish together.* Oppianos.
3. *Catching river fish.* Didymos.
4. *Collecting all kinds of fish in one place.* Demokritos.
5. *For all fish.*
6. *Fishing.* Tarantinos.
7. *Bait for fish.*
8. *The compound for bait is:*
9. *Another, excellent bait for very large tilapia.*
10. *For river fish, as used by ...anos.*
11. *A bait to attract fish readily.*
12. *Small river fish for fish traps.*
13. *Schall.*
14. *Eels.*
15. *Bait for marine grey mullet.*
16. *Marine grey mullet bait.*
17. *Another for success in catching mature grey mullet and no other fish.*
18. *The 'Ptollatos', a concoction to bring sea fish to one place.*
19. *For red mullet and large parrot-wrasse: to be used in the water, and owing to its speed unsuited to small fish; a compound that works by sympathy.*
20. *For all large sea fish, such as bluefish, dogfish, grouper and others like them.*
21. *For moray.*
22. *For octopus and cuttlefish.*
23. *Catch eels and bony fish as follows.*
24. *Bait for all fish at any season.*
25. *For small fry caught with rods.*
26. *General bait.*
27. *For all fish.*
28. *For traps.*
29. *Another for traps.*
30. *Marine grey mullet.*
31. *Rascasse only.*
32. *Sea bream.*
33. *Garfish.*
34. *Tunny only.*

LIST OF BOOKS

35. *Picarel.*
36. *Sting-rays.*
37. *Another for the same species.*
38. *Saupe.*
39. *Bluefish, bonito, barbier.*
40. *Horse-mackerel, oblade.*
41. *Grey mullet, cephalus.*
42. *Octopus.*
43. *Cuttlefish only.*
44. *Crayfish, morme.*
45. *Oblade.*
46. *Making gara.*

List of Sources Cited in *Geoponika*

This list sorts the references to and citations of the various ancient sources relied upon by the compilers. In the majority of cases, the source is indicated in the chapter heading, but there are many instances of sources being referred to in the body of the text. In this list, no distinction is made between the two forms of citation.

Africanus is Sextus Julius Africanus, prolific Roman author of the early 3rd century AD, part of whose miscellany *Kestoi* survives. He was fascinated – as the reader will soon see – by the paranormal, the unexplained and the downright untrue.

1.14, *On hail*; 1.15, *More on hail*; 1.16, *On thunderbolts*; 2.18, *Ensure that seed is not damaged in any way after sowing*; 2.7, *On water and the collecting of rainwater*; 2.28, *To increase the volume of grain stored in granaries*; 4.2, *More on tree-trained vines*; 5.24, *Good fruiting and good wine*; 5.30, *To stop the vine producing phtheires or caterpillars and prevent damage by frost*; 5.45, *When to harvest the grapes; signs that they are ripe*; 5.48, *Treatment against pests that damage the vines*; 5.49, *Against kantharides and larger pests that damage the crop*; 7.9, *Separating wine from water*; 7.14, *An infallible verse to ensure that wine never turns*; 7.29, *To spoil wine*; 7.30, *So as not to smell of wine after drinking*; 7.31, *So as not to be drunk after drinking a lot of wine*; 9.8, *Making olive trees heavy-fruiting*; 9.14, *The olive-grape*; 10.9, *How to make citrons take the form of any kind of bird, or of a human face or that of any animal*; 10.16, *Making peaches stoneless*; 10.30, *So that pomegranates will not split*; 10.31, *Growing seedless pomegranates*; 10.32, *Pomegranate fronds ward off vermin*; 10.36, *How to tell, after picking a pomegranate, how many segments it contains*; 10.49, *To tame a wild fig*; 10.53, *To produce figs that are white on one side and black or red on the other*; 10.55, *On olynthoi or unripe figs*; 10.56, *How figs can be kept as fresh as if still on the tree*; 10.59, *Making bitter almonds sweet*;

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10.66, *To make trees bear walnuts without rinds*; 10.82, *To make all trees fruit more heavily*; 12.11, *To harm the gardener*; 12.38, *Sorrel*; 13.3, *Weasels*; 13.13, *Bats*; 13.18, *Frogs*; 14.3, *To make pigeons stay and attract others to join them*; 14.10, *Producing eggs with writing*; 14.15, *To stop a cat harming a bird*; 17.6, *Predicting the offspring*; 17.11, *Preventing cattle being troubled by flies*; 18.4, *To make sheep follow you*; 18.5, *To prevent a ram attacking*; 18.12, *Milk, and how to make farm animals yield plenty of milk*.

Amphiaraos was a legendary figure, revered as a healer and seer at his shrine at Oropos. He was King of Argos, the son of Oecles and Hypermnestra, and husband of Eriphyle.

2.35, *Broad beans*.

Anatolios see *Vindanionius Anatolius Berytius*.

Apsyrtos, otherwise unknown, is among the writers on horses quoted in book 16.

16.1, *Horses*; 16.3, *Cures for various diseases*; 16.4, *Fever*; 16.5, *Ophthalmia*; 16.6, *Cataract*; 16.7, *Nerves*; 16.8, *Bowels*; 16.13, *Dysuria*; 16.14, *Blood in the urine*; 16.15, *Ulceration*; 16.16, *Inflammation*; 16.19, *Leeches*; 16.21, *Asses suitable for mating*.

Apuleius shares a name with the author of the fantasy novel *Metamorphoses* (also known as *The Golden Ass*) and with the compiler of a Latin herbal, but no link is visible between those surviving writings and the citations in the *Geoponika*.

1.5, *Predicting whether the spring will come early or late*; 1.14, *On hail*; 2.8, *On large farms there should be forested mountains; how to plant them*; 2.18, *Ensure that seed is not damaged in any way after sowing*; 2.39, *Lupins*; 5.33, *On rust*; 6.11, *Duties of those responsible for the kanthelia; treading the grapes; how the treading team should work in the troughs*; 7.26, *To stop moistness in wine*; 8.38, *To keep sour vinegar*; 8.39, *Making pepper vinegar*; 8.40, *Testing whether vinegar contains water*; 9.19, *Making unripe olive oil*; 10.21, *Keeping apples*; 12.8, *So that there will not be caterpillars in vegetables or trees*; 13.5, *Field mice*; 13.8, *Snakes*; 13.9, *Scorpions*.

Aratos is a Greek poet of the 3rd century BC. His astronomical poem

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Phenomena actually contains the information credited to him in the *Geoponika*.

11.2, *Signs of calm weather*; 1.3, *Signs of bad weather; how to foretell rain*; 1.4, *Signs of a long winter*.

Aristotle, philosopher of the 4th century BC, is credited in the *Geoponika* for four details that are not found in his surviving works.

13.16, *Beetles*; 14.26, *Vultures*; 15.1, *Natural sympathy and antipathy*; 15.9a, *Box-tree honey*.

Asklepios is cited only in the mysteriously useless chapter 20.6; the known individuals who bore this name have no link with the subject of that chapter.

20.6, *Fishing*.

Berytios see *Vindanionius Anatolius Berytius*.

Cassianus Bassus, dated to the 6th century AD, was the compiler of a farming manual that is the direct ancestor of the *Geoponika*.¹

5.6, *When to plant vines*; 5.36, *Star-struck vines*.

Damegeron is a Greek farming writer of whom nothing else is known.

2.30, *Keeping barley: how to make it last as long as possible in the granary*; 2.31, *Keeping flour*; 5.21, *Care of vines*; 5.22, *How many shoots to leave on a four-year vine; what vine-props to tie in to*; 5.37, *Diseased vines*; 7.13, *A wonderful preparation to stabilize wines, called 'panacea'*; 7.24, *To make aggressively young wine old*; 9.18, *How to make oil without olives*; 9.26, *Imitating Spanish olive oil*; 10.12, *More on planting pistachios*; 10.63, *When to plant chestnuts*; 10.64, *When to plant walnuts; their care*; 10.65, *Cleft-grafting walnuts*; 11.30, *Growing ivy*; 12.12, *Mallow and its medicinal use in various illnesses*; 12.35, *Spearmint*.

Demokritos shares a name with a Greek philosopher of the early 4th century BC. The writings on natural history and on antipathy that are attached to this name seem to belong in truth to a Hellenistic Egyptian author,

1. In addition to these citations, he is also named, in the Greek text, in the tables of contents to books 7, 8, 9.

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Bolos of Mendes.¹

1.5, *Predicting whether the spring will come early or late*; 1.12, *The twelve year cycle of Jupiter*; 2.6, *Finding water*; 2.14, *The season for planting wheat and barley*; 2.41, *How to produce beans that will cook easily*; 2.42, *The lion plant*; 4.7, *The seedless grape*; 4.10, *To prevent wasps attacking vines, grapes or other fruit*; 5.2, *Vine varieties*; 5.4, *The lie of the land*; 5.5, *Seaside and riverside districts*; 5.35, *Vines that bear no fruit*; 5.43, *How to find out before the vintage whether it will be plentiful and good, or poor*; 5.44, *Hedging*; 5.45, *When to harvest the grapes; signs that they are ripe*; 5.50, *A Democritean remedy, based on natural antipathy, to prevent vines, fruit trees, standing crops or anything else being infected by any pests, particularly larger creatures*; 6.19, *Helping must that is turning sour*; 7.4, *How to cure and stabilize the wine from grapes that have absorbed much water before picking, also from grapes similarly watered after harvesting*; 7.8, *Testing wine and must for water*; 7.27, *Curing wine spoiled by vermin venom*; 7.32, *How to stop the craving for wine*; 8.31, *Making konditon*; 8.41, *Stretching vinegar*; 9.12, *So that olive trees do not shed their fruit*; 9.25, *If a mouse or other creature falls into the oil and spoils its aroma*; 10.5, *How to make date palms fruit plentifully*; 10.14, *Making persika carry writing*; 10.15, *Making peaches red*; 10.25, *Keeping pears*; 10.27, *Making quinces take a particular shape*; 10.28, *Keeping quinces*; 10.29, *Planting*; 10.35, *Making pomegranates bear plentiful fruit*; 10.47, *Producing figs with writing*; 10.48, *To ensure that a fig tree does not shed its fruit*; 10.51, *To produce laxative figs; to produce early figs*; 10.60, *Producing almonds with writing*; 10.61, *Making a barren almond tree bear fruit*; 10.67, *To dry up a walnut or any other tree*; 10.73, *Explanations of the names of fruits and nuts*; 10.74, *The difference between opora and akrodrya*; 10.79, *Star-struck trees*; 10.80, *To keep birds off a tree*; 10.89, *A natural Demokritean method to prevent animals damaging plants and seeds*; 11.5, *Planting cypress*; 11.13, *The willow*; 11.16, *Growing rosemary*; 11.18, *Roses; how to make them more aromatic; how to ensure that they do not fade*; 12.6, *How to make the garden flourish and flower*; 13.1, *Locusts*; 13.8, *Snakes*; 13.9, *Scorpions*; 13.11, *Mosquitoes*; 13.14, *Bugs*; 14.5, *To stop snakes entering the pigeon-house*; 14.8, *How to hatch chickens without a hen*; 15.2, *Bees*; 15.7, *Honey and its improvement*; 15.9, *To kill the drones*; 17.4, *Preventing weakness in oxen*; 17.9, *Preventing exhaustion in working oxen*; 17.14, *Unknown illness in cattle*; 18.6, *To diagnose the colour of the*

1. See Columella, *On Agriculture* 7.5.17; Palladius, *Agriculture* 14.32.6.

lamb that a ewe is carrying; 19.4, Hares; 19.7, Treatment of pigs; 19.8, Wild boar; 20.4, Collecting all kinds of fish in one place; 20.6, Fishing.

Didymos is a Greek farming writer of whom nothing else is known.

1.5, *Predicting whether the spring will come early or late; 2.3, In what places and exposures you should site the farm buildings, and facing what star; and on baths; 2.14, The season for planting wheat and barley; 2.17, Seed from one spot should be sown in another; 2.26, Making the threshing-floor; 2.33, How to make very nice bread without yeast; 2.35, Broad beans; 2.48, Neither farm workers nor plants should be transferred from better to worse ground; 4.3, How layered vines can be planted on easily and quickly; 4.13, Grafting by piercing; 4.14, To make the same vine bear different fruits (grapes), both white and black or tawny; 5.3, The nursery; 5.14, The difference between layered vines and those from cuttings; 5.27, Propping; 6.5, Testing pitch; 6.6, Preparing pitch; 6.10, Equipment for the vintage; 6.18, Using gypsum; 7.18, How to manage grapes so that the wine they yield will be sweet; 7.19, How to produce sweet wine from the must; 8.22, Making Aminaean wine; 9.5, The nursery; 9.6, Planting holes for olives; 9.7, Selecting new olive trees; 9.15, Manure suitable for olive trees; 9.31, Conserve of olives with grape pressings; 9.32, Bruised olives; 9.33, Kolymbades; 10.3, Which trees are to be grown from seed, which from cuttings; which from slips, and which from branches; 10.6, Use of palm stems in weaving; 10.11, Planting pistachios; 10.17, Grafting peaches; 10.20, Grafting apples; 10.26, Growing quinces; 10.33, Making pomegrates redder; 10.37, Grafting pomegranates; 10.43, Growing jujubes; 10.45, The season for planting figs and their care; 10.46, To ensure when planting figs that they will be free of maggots; 10.68, The Pontic nut or hazelnut; 10.71, Planting medlars; 10.76, Crown-grafting and cleft-grafting; what stocks will take that slips in crown and cleft-grafting; 10.77, When and how to bud-graft; 10.84, Treatment of trees; 10.87, To prevent trees shedding their fruit; 10.90, Avoiding damage to trees and vines by grubs and other pests; 11.5, Planting cypress; 11.18, Roses; how to make them more aromatic; how to ensure that they do not fade; 11.25, Growing narcissus; 12.3, Soil suited to vegetables; 12.4, What manure is suitable for vegetables; 12.14, How to grow lettuce that produces celery, rocket, basil and the like from the same root; 12.18, Asparagus; 12.22, On radishes; 12.24, Mint; 12.25, Rue, cultivated and wild; 12.27, Cress; 12.28, Chicory or endive; 13.2, Brouchos; 13.4, House mice; 13.14, Bugs; 14.2, To make pigeons stay*

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and mate; 14.9, *Caring for chickens*; 14.18, *Peacocks*; 14.23, *Ducks*; 14.24, *Turtle-doves, quails, thrushes and other small birds*; 15.3, *Bees*; 15.4, *To stop bees flying away*; 15.5, *When to harvest honey*; 16.22, *Camels*; 17.3, *Bulls*; 17.8, *Care of calves*; 17.20, *Feverishness*; 18.3, *Mating and lambing*; 18.8, *When and how to shear sheep*; 18.15, *Scab*; 18.16, *Ticks*; 19.7, *Treatment of pigs*; 19.9, *Salting of all kinds of meat*; 20.3, *Catching river fish*.

Dionysios. This is not Cassius Dionysius of Utica (2nd century BC), who made the Greek translation in 20 books of Mago's 28-book Punic farming manual (the translation from which Diophanes worked). The only passage for which 'Dionysios' is cited is 1.11, and it is not about farming but about the Greek names of winds.

1.11, *On the names of the winds, how many there are, and where they blow from*.

Diophanes (1st century BC) wrote a summary in 6 books, dedicated to king Deiotarus of Galatia, of the 20-book translation by Cassius Dionysius (see **Dionysios**) of Mago's 28-book Punic farming manual.

1.6, *On the lunar month*; 2.7, *On water and the collecting of rainwater*; 2.11, *More on testing the soil*; 5.7, *How to predict what kind of wine a future vineyard will produce*; 5.31, *Preventing damage to vines from hoar-frost and rust*; 5.44, *Hedging*; 6.12, *How the vats are filled with must after treading is completed*; 6.15, *Settling must rapidly for use*; 7.3, *The difference between young and old wine, and between wine from white and black grapes*; 7.17, *Stabilizing wine for export by sea*; 9.20, *Making aromatic oil*; 10.11, *Planting pistachios*; 10.20, *Grafting apples*; 10.23, *More on growing pears*; 10.29, *Planting*; 10.76, *Crown-grafting and cleft-grafting: what stocks will take what slips in crown and cleft-grafting*; 11.3, *Propagating bay with grafts*; 11.26, *Growing saffron crocus*; 12.9, *How to destroy leek moth larva*; 13.9, *Scorpions*; 15.7, *Honey and its improvement*; 18.14, *Hunting wolves*.

Florentinus is a Roman author on farming of the early 3rd century AD, one of the favourite sources of the *Geoponika* or its predecessors.¹

1.1, *On the subdivisions of the year, the solstice and equinoxes*; 1.11, *On the names of the winds*; 2.22, *Preparation of manure*; 2.25, *When to harvest*; 2.32, *Assaying wheat; how to verify the weight of bread*; 2.33a,

1. See Dalby 1996 pp. 80, 100, 150.

[Other notes on yeast and bread.] 2.34, *Ptisane*; 2.36, *Chickpeas*; 2.37, *Lentils*; 2.38, *Millet*; 2.39, *Lupins*; 2.44, *The overseer or farm manager*; 2.45, *The supervisor should keep a journal of farm work; how he should organize working parties*; 2.46, *Apportioning farm work*; 2.47, *Health of farmers*; 4.1, *Tree-trained vines*; 4.8, *The theriac and purging vines*; 4.12, *Cleft-grafting vines*; 5.1, *Soil suited to vines*; 5.2, *Vine varieties, terrains and soils*; 5.9, *How to plant vines; how to make them root more quickly; whether to plant upright or aslant*; 5.12, *Depth of planting for vines*; 5.13, *Whether to plant one or two cuttings in the planting hole*; V.14, *The difference between layered vines and those from cuttings*; 5.17, *The differences between grape varieties*; 5.51, *Oinanthé*; 5.52, *Making raisins*; 6.1, *The trough; the collecting vats for wine and oil*; 6.2, *The wine store; sinking the vats*; 6.7, *General instructions on pitching*; 6.8, *Another useful method for pitching vats*; 6.14, *Preventing must from overflowing*; 6.15, *Settling must rapidly for use*; 6.16, *How to have must throughout the year; testing whether it is watered*; 7.7, *When and how to taste wine*; 8.23, *Making Thasian wine*; 9.2, *Planting and care of olive trees; olive-growing the best of pursuits*; 9.3, *Suitable air for olives; layout of orchards*; 9.4, *When to plant olives and in what soils*; 9.14, *The olive-grape*; 9.16, *Cleft-grafting olives*; 9.28, *Very fine conserved olives*; 9.29, *Conserve in oxymeli*; 9.30, *Conserve in must*; 10.1, *The pleasure garden*; 10.2, *At what season and in which part of the month to plant trees*; 10.4, *Growing dates*; 10.7, *When to plant citrons, their care, and how to make them produce red fruit*; 10.13, *Planting and care of peaches*; 10.29, *Planting, treatment, and general care of pomegranates*; 10.37, *Grafting pomegranates*; 10.41, *Planting cherries*; 10.42, *Keeping cherries*; 10.51, *To produce laxative figs; to produce early figs*; 10.52, *Cleft-grafting fig trees*; 10.57, *When to plant Thasia; their care and grafting*; 10.58, *When to harvest almonds*; 10.66, *To make trees bear walnuts without rinds*; 10.75, *When and how to graft trees*; 10.76, *Crown-grafting and cleft-grafting; what stocks will take that slips in crown and cleft-grafting*; 10.90, *Avoiding damage to trees and vines by grubs and other pests*; 11.7, *Planting myrtle*; 11.8, *Keeping myrtle berries*; 11.9, *Box*; 11.18, *Roses; how to make them more aromatic; how to ensure that they do not fade*; 11.20, *Lilies*; 11.26, *Growing saffron crocus*; 12.2, *Making a vegetable garden*; 12.13, *Lettuce, its medicinal use, and how to grow it white and shapely*; 12.20, *Musk-melons*; 12.23, *Celery*; 13.8, *Snakes*; 13.9, *Scorpions*; 13.14, *Bugs*; 14.1, *Pigeons*; 14.7, *Poultry*; 14.16, *Cocks*; 15.2, *Bees, and how they are 'ox-born', from an ox carcass*; 16.22, *Camels*; 17.1, *Cattle*;

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17.2, *Cows or heifers*; 17.23, *Lameness*; 18.1, *Selecting sheep; judging males and females*; 18.2, *Their care and survival*; 18.9, *Male and female goats*; 18.10, *How to make goats give more milk*; 19.6, *Pigs*; 20.1, *Keeping fish*.

Fronto is a Roman author on farming of whom nothing else is known.\

5.15, *Grape varieties should not be grown intermixed, particularly not white and black grapes*; 7.12, *Precautions to ensure that wine stabilizes and does not turn*; 7.22, *To clarify wine*; 12.10, *Interplanting to help vegetables*; 19.2, *More on dogs*.

Hesiod, dated to about 700 BC, author of *Works and Days*, is quoted once.

7.6, *Racking wine; when to rack wines; the quality of wine that has been replaced in the same vat*.

Hierokles is a Greek writer on horses, cited frequently in the *Hippiatrika* and occasionally in the *Geoponika*.

16.9, *Horse Colic*; 16.10, *Horse Pneumonia*; 16.11, *Horse Cough*.

Hippokrates shares a name with the semi-legendary medical writer; otherwise unknown, he is cited once.

16.20, *Curing the bites of scorpions and other poisonous creatures*.

Homer, legendary author of the 7th century bc Iliad and Odyssey, is quoted three times.⁴

7.31, *So as not to be drunk after drinking a lot of wine*; 10.87, *To prevent trees shedding their fruit*; 11.13, *The willow*.

Juba, king of Numidia and Mauretania in the early 1st century AD, wrote copiously on African history and geography and other topics.

15.2, *Bees*.

Leontinos or **Leontios** is a Greek farming writer of whom nothing else is known.

2.13, *What kinds of seeds to plant when the soil is wet and what when it is thoroughly dry*; 2.24, *Earthing over and weeding after sowing*; 5.47, *How to save unripened or otherwise spoiling grapes, and to treat the wine*

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that will be made from them; 7.34, Aside from wine, certain other beverages are also intoxicating; 8.32, Making the best grape syrup; 9.11, Olives are planted in many different ways; 10.4, Growing dates; 10.50, Scab on fig trees; 10.52, Cleft-grafting fig trees; 10.78, When to prune trees; 11.21, The iris; 12.33, Pennyroyal; 14.11, Making hens produce large eggs; keeping eggs; 14.12, To stop cocks crowing; 14.25, Jackdaws; 15.8, To prevent enchantment of beehives, fields, houses, animal sheds and workshops; 18.13, Treatment of diseases of sheep.

Mago (before 150 BC), the Carthaginian farming writer, is not cited in the *Geoponika* but some of his work survives here indirectly in texts attributed to Diophanes.

Manetho is cited only in the mysteriously useless chapter 20.6; the known individuals who bore this name have no link with the subject of that chapter.

20.6, *Fishing.*

Nestor of Laranda in south-western Anatolia was a minor Greek poet of the early 3rd century AD. He is cited on medicines and antidotes.

12.16, *Various vegetables and their medicinal effects; 12.17, Cabbage and its medicinal effects; 15.1, Natural sympathy and antipathy.*

Oppianos of Korykos in south-eastern Anatolia, a Greek poet who wrote on fishing in the 2nd century AD, is probably the author credited at 20.2 and perhaps also at 20.10.

20.2, *Bringing fish together.*

Orpheus a figure of myth connected with medicine, agriculture, music and astrology. He is cited once, on beans.

2.35, *Broad beans.*

Pamphilos

2.20, *How to achieve an adequate quantity in sowing; 5.23, Pruning; 7.20, To make wine aromatic and pleasant to the taste; 10.39, Growing plums; 10.40, Keeping plums; 10.86, How one can keep seeds for a period and then grow them; 13.15, Fleas in the house; 14.14, To prevent abortion*

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in hens; 15.1, *Natural sympathy and antipathy*.

Paxamos was a Greek author on cookery and other technical subjects who worked in Rome. He must have been (very roughly) contemporary with Cato, but independent of him; occasional resemblances can be seen between the preoccupations of these two authors, including a shared enthusiasm for cabbage. Paxamos is cited for certain details of vine and olive growing, and for one recipe, but his real utility to the *Geoponika* was apparently in his extensive knowledge of wild plants, including prescriptions for their use in human and animal medicine and in agriculture.¹

10.54, *How dried figs, called ischades, are kept without going mouldy*; 2.4, *Finding water*; 2.43, *Which crops are spoiled by which weeds*; 4.9, *The perfumed grape*; 5.29, *Second thinning*; 7.10, *At what time of year wines usually turn*; 7.23, *To make wine go further in mixing, so that a smaller quantity will serve more people*; 9.17, *How and when to select and harvest olives*; 10.12, *More on planting pistachios*; 10.34, *How to make a sour pomegranate sweet*; 10.62, *Cleft-grafting almonds*; 10.84, *Treatment of trees, curing every malady*; 12.17, *Cabbage and its medicinal effects*; 12.32, *Hartwort*; 12.40, *Purslane*; 13.4, *House mice*; 13.7, *Mole rats*; 13.10, *Ants*; 14.17, *Particular treatments for poultry*; 15.6, *To avoid being stung when gathering honey*; 15.10, *To avoid being stung by wasps*; 17.13, *Care; to prevent them swallowing bones*; 18.21, *Quick way to make melke*; 20.6, *Fishing*.

Pelagonios was a 4th century AD Latin author on veterinary medicine.

16.2, *Signs in horses*; 16.17, *Plaster for joints*; 16.18, *Mange*.

Philostratos was possibly a Greek historian, but it is not clear from what kind of text the one citation in the *Geoponika* derives.

1.14, *On hail*.

Plato, the 4th century BC philosopher, is cited twice.

15.1, *Natural sympathy and antipathy*; 16.2, *Signs in horses*.

Plutarch, prolific Greek author of the 2nd century AD, is cited twice.

1. See Dalby 1996 pp. 164-165.

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13.9, *Scorpions*; 15.1, *Natural sympathy and antipathy*.

Ptolemy (Claudius Ptolemaeus), 2nd century AD Greek writer on astronomy and geography, is cited once.

1.13, *On the sun and moon*.

Pythagoras, the philosopher and mathematician of the 6th century BC, was notorious for his refusal to eat beans.

2.35, *Broad beans*; 8.42, *Making squill vinegar*.

The Quintilii (Sextus Quintilius Valerius Maximus and Sextus Quintilius Condianus) were brothers who famously did everything together. Their political careers, in the Roman Empire of the 2nd century AD, ran closely parallel until both were murdered on the orders of the emperor Commodus; their farming and their agricultural writing was also the work of both equally. One reference (11.3) is to a single Quintilius.

1.9, *Rising and setting of major stars*; 2.21, *On manure*; 2.40, *On pulses, hemp, linseed*; 3.1, *Calendar of work to be done during each month; January*; 3.2, *February*; 3.3, *March*; 3.4, *April*; 3.5, *May*; 3.6, *June*; 3.7, *Making khondros*; 3.8, *Making tragos*; 3.9, *Making ptisane*; 3.10, *July*; 3.11, *August*; 3.12, *September*; 3.13, *October*; 3.14, *November*; 3.15, *December*; 5.8, *Selection of stems for cuttings; from what part of the vine they should be taken, and whether from young or ageing vines*; 5.14, *The difference between layered vines and those from cuttings*; 7.1, *How grape harvests differ*; 7.2, *What kind of wines should be in the open air, and what kind under a roof*; 9.10, *How to make olive trees flourish and fruit heavily, and how to treat them when sick*; 10.2, *At what season and in which part of the month to plant trees*; 10.22, *The planting of pears, their care, and how to prevent grittiness in the fruit*; 10.88, *Treatment of trees that lose their blossom or shed their leaves*; 11.3, *Propagating bay with grafts, seeds and suckers*; 12.19, *On gourds and melons: their therapeutic uses, how to make them seedless, and how to grow them early*; 14.6, *The pigeon-house*; 14.22, *Geese*; 17.5, *Mating*; 18.11, *Preventing the loimike nosos in sheep and goats*.

Sotion is a Greek farming writer of whom nothing else is known.

1.13, *On the sun and the moon*; 2.19, *What to do and what to avoid for a good harvest*; 2.29, *To prevent ants attacking the heaped grain*; 2.42,

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The lion plant, also called broomrape; 5.10, At what date in the lunar month to plant vines; 5.16, The vineyard should not have a single variety but several, planted separately; 5.19, How to work the soil; 5.20, Trenching; 5.28, Thinning; 5.38, Weeping vines; 5.39, Vines that shed their fruit; 5.40, Vines that run to wood; 6.17, Testing whether must contains water; 7.6, Racking wine; when to rack wines; the quality of wine that has been replaced in the same vat; 7.15, Signs and predictions that wine will turn or will be stable; 7.25, So that wine does not have anthos; 7.35, Making wine without grapes; 8.35, Vinegar to promote digestion and good health; 8.36, Preparing sweet vinegar; 8.37, Preparing sour vinegar; 9.9, Care of mature olive trees; 9.27, Imitating Istrian olive oil; 10.10, Keeping and storing citrons; 10.87, To prevent trees shedding their fruit; 11.28, On misodoulon or basil; 12.15, Beet and how to make it grow bigger; 12.29, Leeks; 13.6, A cat; 14.4, To stop the cat disturbing the pigeons; 17.7, Horsefly or gadfly; 17.12, Fattening cattle.

Tarantinos is a Greek farming writer of whom nothing is known except that his name connects him with the southern Italian city of Taras, modern Taranto.

2.12, What seeds to sow in rich soil, what in middling and what in thinner soil; 2.27, On the granary or horreum and the storage of wheat; 4.4, The myrtle-grafted grape; 4.5, The early grape; 4.6, The late grape; 5.11, What else to grow in vineyards; 7.16, Treating wine that has begun to turn to vinegar; 9.21, How to make olive oil clean; 9.22, Treating rancid oil; 9.23, Treating bad-smelling olive oil; 9.24, Settling cloudy olive oil; 10.24, Cleft-grafting pears; 11.23, Growing violets; 12.41, Growing mushrooms; 13.4, House mice; 13.8, Snakes; 13.9, Scorpions; 20.6, Fishing.

Theomnestos of Nicopolis is cited twice on veterinary medicine. A Greek writer on veterinary matters (specifically horses) from the 4th century AD, his work has not survived except as part of later compilations.

16.12, Unknown illness [in horses]; 19.3, Care of dogs.

Theophrastos, Aristotle's successor and a major writer on botany of the late 4th century BC, is cited three times.

3.3, Calendar of work. March 3.4, Calendar of work. April; 15.1, Natural sympathy and antipathy.

Varro was a Roman politician and polymath of the 1st century BC. He wrote a handbook on farming – the citations in the *Geoponika* have no close resemblance to this surviving work – and a great deal else. Varro and the Quintilii together are credited with the farming calendar of book 3.

1.1, *On the subdivisions of the year*; 2.2, *Boys are best suited to agriculture; Select workers for their physical suitability to the work, and choose separately those adapted to each task*; 2.23, *When to clear each kind of soil*; 2.49, *Smiths, carpenters and potters need to be at the farm or nearby*; 3.1, *Calendar of work to be done during each month*; January; 3.2, February; 3.3, March; 3.4, April; 3.5, May; 3.6, June; 3.7, *Making khondros*; 3.8, *Making tragos*; 3.9, *Making ptisane*; 3.10, July; 3.11, August; 3.12, September; 3.13, October; 3.14, November; 3.15, December; 5.17, *The differences between grape varieties*; 5.41, *Vines that rot their fruit*; 5.42, *Vines injured by the fork*; 6.9, *Aromatizing the vats*; 7.21, *Making white wine black and black wine white*; 8.33, *Making a different vinegar; how to make wine into vinegar*; 8.34, *Making vinegar without wine*; 9.13, *Pruning olives*; 10.81, *Care of young trees*; 12.16, *Various vegetables and their medicinal effects*; 12.39, *Artichokes*; 14.19, *Pheasants, guinea-fowl, partridges and francolins*; 15.2, *Bees*; 17.10, *From what age cattle must be prevented from mating*; 19.1, *Dogs*.

Vergil, Rome's 'national poet' if that concept is not anachronistic, is cited twice in the *Geoponika*.

2.18, *Ensure that seed is not damaged in any way after sowing*.

Vindanionius Anatolius Berytius (apparently one person, variously cited under three names: Berytius means 'from Beirut') was the author of a farming manual directly ancestral to the *Geoponika*. He wrote in the 4th century AD and apparently had a Roman political career. The citations are divided between the three attributions in the text itself.

Anatalios

2.10, *Testing the soil*; 5.10, *At what date in the lunar month to plant vines, and whether with the moon above or below the earth*; 5.18, *How to plant layers*; 5.25, *When to dig mature vines; the benefits of digging*; 5.26, *How to manure at the time of trenching*; 6.3, *Preparing vats*; 6.4, *When and how to pitch*; 6.13, *Making the so-called thamna from grapes taken straight from the trough after treading*; 7.28, *Settling wine that is full of lees or cloudy*; 10.8, *More on growing citrons*; 10.18, *The season for planting*

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apples and their general care; 10.72, *Planting cornels*; 10.85, *How one can transplant large trees and those that are carrying fruit*; 11.20, *Lilies*; 12.7, *So that vegetables will not be eaten by flea beetles or damaged by phtheires or birds*; 12.36, *Grape hyacinth bulbs*; 13.4, *House mice*; 13.12, *Flies*; 13.17, *Leeches*; 14.21, *Hunting partridges and other game birds*; 18.17, *Various diseases*.

Berytios

2.9, *What soil is best*; 4.11, *How to keep grapes on the vine until the beginning of spring*; 5.11, *What else to grow in vineyards*; 5.33, *On rust*; 7.33, *To restore sobriety in drunkards*; 8.24, *Making Coan wine*; 10.19, *How to make apples red*; 10.38, *Keeping and storing pomegranates*; 10.69, *On mulberries and how to make them white*; 10.70, *On keeping and storing mulberries*; 12.37, *Squill*; 13.12, *Flies*; 14.13, *To blind hens*; 14.20, *Partridges*; 18.18, *Herds of goats*; 18.19, *Cheesemaking*; 18.20, *Testing milk*.

Vindanionius

11.16, *The selection of seed, the quality of seed to be sown, and how long it lasts*; V.34, *Treatment for vines that dry their fruit*; VII.36, *An infallible preparation for wine that maintains health until old age*; X.43, *Growing jujubes*; X.44, *Keeping jujubes*; XII.5, *How all kinds of vegetables can be grown on waterless sites*.

Xenophon, Athenian historian of the 5th and 4th centuries BC. Among other works, he composed books on the household and agriculture (*Oeconomicus*), *On Horsemanship*, and *On Hunting*.

19.5, *Deer*.

Zoroaster shares a name with the prophet of the *Avesta*, a semi-legendary figure of the 6th century BC. The Zoroaster of the *Geoponika* wrote about astrology and magic.

1.7, *The importance of knowing whether the moon is above or below the earth*; 1.8, *The rising of Sirius and what can be forecast from it*; 1.10, *Schedule of forecasts from the first thunder after the rising of Sirius in any year*; 1.12, *The twelve year cycle of Jupiter, and what its presence in each of the twelve houses of the zodiac foretells*; 2.15, *Forecasting which crops will thrive*; 5.46, *What house the moon must be in at vintage; Grapes must be harvested when the moon is waning and is under the earth*; 7.5, *Opening the vats, and what precautions to take at this time*; 7.6, *Racking wine; when*

to rack wines; the quality of wine that has been replaced in the same vat; 7.11, How to ensure that wines are not turned by thunder and lightning; 10.83, To make a barren tree produce fruit; 11.18, Roses; how to make them more aromatic; how to ensure that they do not fade; 13.9, Scorpions; 13.16, Beetles; 15.1, Natural sympathy and antipathy.