

# Medieval agricultural texts from Rasulid Yemen

by Daniel Martin Varisco

Although the Arabian Peninsula is seldom associated with agriculture, a long and successful tradition of cultivation can be documented for Islamic Yemen at the southwestern corner of the peninsula. The famous Marib dam of ancient Saba, worthy of mention in the Quran, made possible a major irrigation system in the eastern part of Yemen. While irrigation was practiced along the major wadis, there was also extensive production based on dryland farming, both rainfed and water runoff harvesting. Many of the traditional practices can still be observed in the Yemen Arab Republic<sup>1</sup>. Fortunately, there are also a number of important texts which describe the agriculture of Yemen.

The zenith of Islamic civilization in Yemen came about with the establishment of the Rasulid dynasty from the 13th through the 15th centuries A.D. Geographically, Yemen was at the periphery of medieval Islamic history. However, the Rasulid sultans ushered in an era of royal patronage and cultivation of the arts and sciences. Several of the sultans were accomplished scholars in such fields as astronomy, astrology, botany, medicine, veterinary medicine and agriculture<sup>2</sup>. The corpus of agricultural texts is probably the most detailed description of a medieval agricultural system for any part of the Arab World. Although this tradition has only recently been studied in any detail it offers a unique portrait of the full range of agriculture in its ecological, economic and historical setting. More can be known about agriculture in Rasulid Yemen than for any other period in the country up to the present.

This article contains an annotated bibliography of the major Rasulid texts concerning agriculture in Yemen. There are undoubtedly a number of other texts as yet uncatalogued and unknown outside the many private libraries in Yemen. However, the extant texts cover a range of subjects from general treatises on agriculture and cultivated crops to tax records. This bibliography is based on research by the author in Cairo (Dār al-Kutub) and Ṣanʿāʾ (Great Mosque, Western Library), as well as texts available in major European libraries<sup>3</sup>.

## *The Rasulid Era*

The year 569/1173 was a major turning point in the political affairs of southern Arabia. At this time an

Ayyubid army of Turks and Kurds invaded the coastal region. At the head of the force, which contained impressive cavalry units, was Tūrānshāh, brother of the famed Saladin. From their base in Egypt the Ayyubids were attracted to Yemen because of the lucrative trade route which passed along its coast. The trade from India and Africa was an important economic factor for Egypt. Thus, control of Yemen, particularly the major southern port of Aden, was of high priority. The Ayyubids were able to subdue much of the Tihāma (coastal zone) and southern highlands, but they were not able to oust the Zaydī imams of the central and northern highlands.

The Ayyubid dynasty was short-lived in Yemen due in part to resupply difficulties from Egypt. In 1220 the last Ayyubid monarch, al-Malik al-Masʿūd, conquered Mecca and gave it as a fief to a trusted emir named Nūr al-Dīn ʿUmar. In eight years time this emir became regent and by 1234 he became recognized as the legitimate ruler of Yemen from the Abbasid caliph al-Mustaʿshir. ʿUmar took the name of al-Malik al-Manṣūr, the first of the Rasulid sultans, who like the Ayyubids were originally from central Asia. This did not stop the Rasulids from consolidating control over most of Yemen and inventing a genealogy which included a Yemeni connection<sup>4</sup>. Al-Malik al-Manṣūr was murdered in 1249 in the town of Janād in southern Yemen. His son, al-Malik al-Muzaffar Yūsuf ruled Yemen at its greatest extent for a period of about 45 years. During this time there was extensive building of mosques and schools<sup>5</sup>. The sultans were great patrons of learning and the royal court attracted scholars from around the known world. Numerous texts were written in Rasulid Yemen, which became one of the major intellectual centers of the period. The dynasty declined in later years and disappeared in 858/1454.

A dynasty as important as the Rasulids was not without its chroniclers. A number of important texts on the period by contemporary or near-contemporary authors have been published. The most famous history of the Rasulids is *The Pearl Strings* of al-Khazrajī (died 812/1409), a work which was edited and translated (by J. W. Redhouse) at the beginning of this century. The history of the Ayyubids and early Rasulids is well covered in the *al-Simʿ al-Ghālī* of Muḥammad ibn Ḥātim (Smith 1974-8). Other important works on the period include Ibn Faḍl Allāh al-ʿUmārī

(1985), a work attributed to Yaḥyā ibn al-Ḥusayn (1968), Ibn al-Dayba' (1977), 'Umāra (1976), al-Janādī (1983-9), and an anonymous text (al-Ḥibshī 1984, Yajima 1974). There are many as yet unpublished texts, although surprisingly little research has been done on this important period in Yemen<sup>6</sup>.

### *The Rasulid Corpus of Agricultural Texts*

This listing covers the known Rasulid texts which treat agriculture in some way. Information can also be obtained from the chronicles and various biographical works. The texts are distinguished according to (I) General Agricultural Treatises; (II) Agricultural Almanacs; (III) Tax Data Records; and, (IV) Miscellaneous Texts and Excerpts.

#### I. General Agricultural Treatises

##### I.A.

*Title:* *Milḥ al-malāḥa fī ma'rifat al-filāḥa.*

*Author:* Al-Malik al-Ashraf 'Umar ibn Yūsuf (died 696/1296).

*Mss:*

(1) Vienna, Glaser Collection, No. 247. 243 pp.

The text is incomplete and breaks off shortly after discussion of the kādhī plant (*Pandanus odoratissimus*). Each page has nine lines in a clear hand. The *ḥarakāt* are often provided for plant names. There is no colophon and the date of the text is uncertain. It was probably copied after the Rasulid period.

(2) Yemen, Private Library.

Copy after 1172-1758. The text is incomplete after discussion of the coconut (*nārājīl*). An edition of this ms. was published by Muḥammad 'Abd al-Raḥīm Jāzm in the journal *al-Iklīl* (Ṣan'ā'), 3 (1985):1:165-207. This edition has a number of printing errors and editorial mistakes. Another edition was published by 'Abd Allāh Muḥammad al-Mujāhid (Damascus: Dār al-Fikr, 1987, 176 pp.), but this is severely flawed and should not be used. Al-Mujāhid did not examine the original ms, but only used a handwritten copy by Jāzm deposited at the Yemen Center for Research and Studies. To further complicate matters this latter edition is full of irrelevant statistical data on current production figures in the Yemen Arab Republic. Since al-Mujāhid did not consult Jāzm before publishing his version, a lively debate ensued in the Yemeni newspaper *al-Thawra* (12/31/87, Thursday, No. 272) in which Jāzm noted the errors in al-Mujāhid's version and complained that his work had been plagiarized. The version of al-Mujāhid is without any scholarly merit.

*Comments:* The reading *Milḥ* is the accepted reading, although Jāzm prefers *Mulaḥ* in the sense of the plural of *malāḥa*. The term *milḥ*, however, with the figurative sense of science (*'ilm*) fits the corresponding usage of *ma'rifa* in the title. Major excerpts of this text

can be found in the *Bughyat al-fallāḥīn* of al-Malik al-Afḍal (see I. C.). The text contains seven chapters dealing with the following subjects: (1) Times for Cultivation, Planting and Preparing Land; (2) Grains; (3) Legumes (*qaṭānī*); (4) Fruit Trees; (5) Flowering and Aromatic Plants; (6) Vegetables; (7) Agricultural Pests. Virtually all the information is relevant for Yemen. A variant title of al-Malik al-Ashraf's text is given in Ibn al-Dayba' (1977:2:51) as *al-Tufāḥa fī ma'rifat al-filāḥa*. The Yemeni historian, Muḥammad al-Akwa' (1971:74) claims to have a copy of this.

##### I.B.

*Title:* *Al-Ishāra fī al-'imāra.*

*Author:* Al-Malik al-Mujāhid 'Alī ibn Dāwūd (died 764/1362).

*Comments:* There is no known copy of this text, but it is quoted extensively by al-Malik al-Afḍal in the *Bughyat al-fallāḥīn*. There is apparently an excerpt from this or *Milḥ al-malāḥa* in the Ambrosiana (Serjeant 1974:26).

##### I.C.

*Title:* *Bughyat al-fallāḥīn fī al-ashjār al-muthmira wa-al-rayāḥīn.*

*Author:* Al-Malik al-Afḍal al-'Abbās ibn 'Alī (died 778/1376).

*Mss.*

(1) Cairo, Dār al-Kutub, Zirā'a 155. 257 pp, 23 lines per page. Incomplete copy. The text has been described by Meyerhoff (1944). A hand copy was made of this ms. for Meyerhoff in 1931.

(2) Ṣan'ā'. Great Mosque, Western Library, Zirā'a 1. 177 pp. Copied 1362/1943. This ms. is said to be by a certain Yaḥyā ibn Ismā'īl al-Ghassānī (sic), and this error is also found in the published catalog for the Western Library.

(3) Tarīm, Private Library. Copy from 1197/1782. This ms. was copied by R.B. Serjeant in 1953-4.

(4) Istanbul, Topkapı, Ahmet III, A. 2432, ff. 177v-225r. Probably copied 1001/1592 by a Kurd at the Turkish court. This text is not listed in the published catalog. It is bound with a copy of *al-Filāḥa al-Rūmīya* of Qusṭūs (Cassianus Bassus) and both are in the same hand. There is no mention in the text or the title or the author's name. This is an incomplete text and full of copyist errors. The copyist clearly was not familiar with many of the Yemeni terms.

(5) Abridged version in Mixed Rasulid Ms. (Ṣan'ā', Private Library), 6 pp. This text was apparently owned by the author, who has marginal notes in the ms.

*Comments:* This is a major medieval text on agriculture with extensive quotes from Cassianus Bassus<sup>7</sup>, Ibn Baṣṣāl<sup>8</sup> and Ibn Waḥshīya<sup>9</sup>. In addition, the author cites the earlier texts of al-Malik al-Ashraf and al-Malik al-Mujāhid. The chapters include: (1) Types of Land and their Quality; (2) Fertilizer; (3) Water; (4) Selection and Clearing of Land for Cultivation; (5)

Agricultural Seasons and Activities (including almanac); (6) Grains<sup>10</sup>; (7) Legumes (*qaṭānī*); (8) Vegetables (*buqūl* and *khadrawāt*); (9) Spices and Herbs; (10) Flowering and Aromatic Plants; (11) Fruit Trees; (12) Pruning of Trees; (13) Grafting of Trees; (14) Properties of Various Plants; (15) Major Uses of Plants; (16) Medicinal Plants. The statement by Ṣāliḥīya (1984:567), who quotes the wrong number for the Ahmet III copy, that this text was not written by a Yemeni is absurd. An edition of this important text is under preparation by Prof. R.B. Serjeant (Cambridge, emeritus). The abridged version will appear in a facsimile edition edited by Serjeant and Varisco for the Gibb Trust.

## II. Agricultural Almanacs

### II. A.

*Title:* *Al-Tabṣira fī 'ilm al-nujūm*.

*Author:* Al-Malik al-Ashraf 'Umar ibn Yūsuf.

*Ms.:* Oxford University, Bodleian Library, Huntington 233 (Uri 905), Chapter 32. pp. 97r-108v.

*Comments:* This text has been edited and translated by Varisco, *Medieval Agriculture and Islamic Science: The Almanac of a Yemeni Sultan* (Cambridge: The Islamic Texts Society, in press). This is the earliest Rasulid almanac, compiled ca. 670/1271. It is also the most detailed and remarkably free of copyist errors. Of added value is a discussion of many of the almanac terms in a separate chapter and further notes on planting times and periods of rain.

### II. B.

*Title:* *Jadwal al-Yawāqūt fī ma'rīfat al-mawāqūt*.

*Author:* Muḥammad ibn Aḥmad ibn al-Ṭabarī, known as Abū al-'Uqūl (fl. ca. A.D. 1300).

*Mss:*

(1) Milan, Ambrosiana Library, No. 302 (C46, vi, 526). Copied 1106/1694-5, 11 pp.

(2) London, British Library, Or. 3747, ff. 13-17.

(3) Ṣan'ā', Great Mosque, Western Library, *Ḥadīth* 59, ff. 347r-366v. Recent copy.

(4) Ṣan'ā', Great Mosque, Western Library, *Majmū'* 77, ff. 17r-27v. Copied 1319/1901.

*Comments:* Abū al-'Uqūl was a court astronomer of al-Malik al-Mu'ayyad (see King 1983: 30-32). An edition of this important almanac is under preparation by Varisco.

### II. C.

*Title:* 'Al-Qawl 'alā shuhūr al-Rūm ...'.

*Author:* Unknown.

*Ms.:* Cairo, Dār al-Kutub, Mīqāt 817, ff. 67r-68r. Copy probably from 14th century.

*Comments:* Almanac for 727/1326-7 with very general information for each month. This was compiled in the reign of al-Malik al-Mujāhid. This is primarily dietary and medicinal in focus with no

information on agricultural activities per se. For a similar almanac, see II. H.

### II. D.

*Title:* *Fuṣūl majmū'a fī al-anwā' wa-al-zurū' wa-al-ḥiṣād*.

*Author:* Unknown.

*Mss:*

(1) Ṣan'ā', Private Library, Mixed Rasulid Ms., two and a half pages, 14th century.

(2) Yemen, Private Library, Xerox copy with R.B. Serjeant. Perhaps 18th century, poor hand.

*Comments:* This almanac is similar to that of al-Malik al-Ashraf (II.A), which was probably one of the sources for it. An edition and a translation are underway by Varisco. A facsimile of the Ṣan'ā' text will be edited by Serjeant and Varisco for the Gibb Trust.

### II. E.

*Title:* Chapter 5 in the *Bughyat al-fallāḥīn* (see I. C.).

*Author:* Al-Malik al-Aḥmad al-'Abbās ibn 'Alī.

*Comments:* This is a partial calendar which provides information mainly for the winter months.

### II. F.

*Title:* *Salwat al-mahmūm fī 'ilm al-nujūm*.

*Author:* Al-Malik al-Aḥmad al-'Abbās ibn 'Alī.

*Ms.:* Ṣan'ā', Private Library, Mixed Rasulid Ms., 25 pp., 14th century.

*Comments:* This is a unique almanac in chart form according to the degrees of the zodiac rather than the solar year: thus it is a perpetual almanac. It was compiled around 777/1375-6 for Ta'izz. This almanac also contains a wealth of astronomical data for Ta'izz. A translation will appear in Varisco and King, 'A Unique Zodiacal Almanac from Rasulid Yemen,' in preparation. The original will be published in facsimile by Serjeant and Varisco for the Gibb Trust.

### II. G.

*Title:* 'Al-Anwā' wa-al-tawqī'āt ...'.

*Author:* Unknown.

*Ms.:* Cairo, Dār al-Kutub, Taymūr Riyāḍiyāt 274, pp. 102-125. 15th century.

*Comments:* This almanac was compiled for 808/1404-5 with astronomical data for Ta'izz. It is clearly derived from II. F. An Arabic edition was published by Varisco, 'Al-Tawqī'āt al-zirā'īya wa-al-'ilmīya bi-al-taqwīm al-majhūl min 'aṣr Banī Rasūl', *Dirāsāt Yamanīya* (Ṣan'ā'), 20 (1985), 192-222. A translation will appear in *Arabian Studies* and this will include corrections of the printing mistakes in the Arabic article.

### II. H.

*Title:* 'Al-Qawl 'alā al-shuhūr al-ithnā 'aṣhr al-Rūmīya ...'.

*Author:* Unknown.

*Ms.:* Cairo, Dār al-Kutub, Taymūr Riyāḍiyyāt 274, pp. 74-75. 15th century.

*Comments:* This is a brief almanac by month with information on diet and medicine, as well as basic astronomical data. It is similar in subject to II. C.

### III. Tax Data Records

#### III.A.

*Provisional Title* (title page missing): *Al-Shāmil li-al-qawānīn al-iqtisādīya fī al-Yaman*.

*Author:* Scribes of al-Malik al-Muzaffar.

*Ms.:* Ṣan'ā', Private Library, ca. 400 pp.

*Comments:* This extremely important document is a type of Doomsday Book for the reign of al-Malik al-Muzaffar (died 694/1295). It consists of tax data and copies of letters relating to taxes sent to the royal court. There is a wealth of information on the local economy, agricultural costs, trade and manufacturing. An edition is under preparation by Muḥammad 'Abd al-Raḥīm Jāzm. Jāzm also has found several similar volumes for the reign of al-Malik al-Muzaffar.

#### III.B.

*Title:* *Faṣl fī ma'rifat al-matānim wa-al-asiqā (?) fī al-Yaman al-maḥrūsa*.

*Author:* Al-Malik al-Afḍal al-'Abbās ibn 'Alī.

*Ms.:* Ṣan'ā', Private Library, Mixed Rasulid Ms., ca. 2 pp. 14th century.

*Comments:* This document was written in 773 1371-2 and represents an agricultural gazetteer, where crop information and tax times are noted by area or major town. An English translation has been published by Varisco, 'A Royal Crop Register from Rasulid Yemen', *JESHO*, in press.

#### III.C.

*Title:* *Mulakhkhaṣ al-fitan wa-al-albāb wa-miṣbāḥ al-hudā li-al-kuttāb*.

*Author:* Al-Ḥasan ibn 'Alī al-Sharīf al-Ḥusaynī (died 815/1412).

*Ms.:* Milan, Ambrosiana Library, H. 130.

*Comments:* This text on Rasulid administrative and tax structure is being edited by R.B. Serjeant. For a discussion of the contents, see Cahen and Serjeant (1957).

### IV. Miscellaneous Texts and Excerpts

#### IV.A.

*Title:* *Al-Mughnī fī al-bayṭara*<sup>11</sup>.

*Author:* Al-Malik al-Ashraf 'Umar ibn Yūsuf.

*Mss.:*

(1) Cairo, Dār al-Kutub, Taymūr 377, 181 pp.

(2) Milan, Ambrosiana, B. 33.

(3) Rome, Vatican Library, V 980, 1128.

(4) Berlin, 6195.

*Comments:* Although this is a veterinary text rele-

vant to Yemen, it also contains important information on fodder crops, especially sorghum.

#### IV.B.

*Title:* *Wujūd fī zahr taqwīm qadīm*.

*Author:* Unknown.

*Ms.:* Ṣan'ā', Private Library, Mixed Rasulid Ms., 1 p. 14th century.

*Comments:* This brief excerpt contains planting times relevant to Wādī Zabīd<sup>12</sup>.

#### NOTES

<sup>1</sup> Traditional agricultural activities are described in detail in Varisco (1982 a.b, 1985 a) based on ethnographic study in the Yemen Arab Republic in 1978-9.

<sup>2</sup> For a listing of the books attributed to the Rasulid sultans, see al-Ḥibshī (1977, 1979).

<sup>3</sup> Research in Cairo was supported by a fellowship from the American Research Center in Egypt. Study of the mss. in the Great Mosque was conducted under a grant from the National Endowment for the Humanities, as a research associate of Dr. David A. King. The author wishes to thank Prof. King for drawing his attention to the rich collection of Yemeni astronomical mss.

<sup>4</sup> The Rasulids claimed a distant descent from Qaḥṭān, legendary ancestor of the Southern Arabs, through Kuhlān, but this was clearly a political invention (See 'Umar ibn Yūsuf 1985:100).

<sup>5</sup> For an excellent discussion of the history of the *madrassa* in Yemen, see Ismā'īl al-Akwa' (1980).

<sup>6</sup> The most significant work has been that of Prof. G.R. Smith (1969, 1974-8). A useful, but not always trustworthy, history of Rasulid literature is provided by al-Ḥibshī (1980).

<sup>7</sup> For a discussion on the Arabic translation of the text of this classical author, see S bath (1930-1).

<sup>8</sup> For the published edition, see Ibn Baṣṣāl (1955).

<sup>9</sup> There is an extensive literature on the *Kitāb al-Filāḥa al-Nabaṭiyya* of Ibn Waḥshīya (see Fahd 1969). An edition is under way by T. Fahd, but a facsimile edition of the Ahmet III copy has been published by F. Sezgin through the Institut für Geschichte der Arabisch-Islamischen Wissenschaften.

<sup>10</sup> This chapter has been translated by Serjeant (1974).

<sup>11</sup> See *GAL*, Suppl. I, p. 901.

<sup>12</sup> Information from this text is presented in Varisco, 'Agriculture in Wādī Zabīd during the Rasulid era', in *Preliminary Report on the City of Zabid*, Toronto: Royal Ontario Museum, in press.

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