ON DAIRY PRODUCTIVITY AT UR
IN THE LATE UR III PERIOD\(^1\)

BY
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1. Introduction—Dairy productivity in the reigns of Shulgi and Shu-Sin

1.1. About ten years ago I. J. Gelb studied a very unique and interesting text, TCL II 5499, which “describes the growth of a herd of cattle from six to thirty-two, in the ten years from” the 39th to the 48th year of Shulgi\(^2\). The herd was under the control of an Idua, son of Issuarik, the sanga of the god Ishtar; neither of them has been documented in any texts of those days so far as I know, although persons with the same name as the father appear in many texts. It is not at all possible to identify this Issuarik with anyone of those with the same name. I should like to draw attention to the average annual dairy output per cow to which the text refers. According to this text, a cow produced 5 sila of ghee and 7\(1/2\) sila of cheese\(^3\). Parallel yearly

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1) Abbreviations used in this article are common in Sumerology. Dates are indicated in parentheses. SS and IS stand for Shu-Sin, the fourth king of the Ur III dynasty, and Ibni-Sin, the last king, respectively. I would like to express my sincere thanks to Professor D. O. Edzard, Munich, for his kind reading a draft of this paper and also for his offering some valuable suggestions. I am also much indebted to my Japanese colleagues, Professors Y. Nakahara, M. Yoshikawa, S. Yamamoto and K. Maekawa, who criticized this paper read at the ninth Sumerologists’ Meeting in Japan held in December, 1978 at the Hiroshima University.

Equivalents of Neo-Sumerian measures are: 1 gur equals 300 sila and 1 sila equals 60 gin. The approximate equivalent of 1 sila is 0.85 litre or almost one-fifth of a gallon.


3) Gelb, ibid., 67 pointed out the slight decrease in amounts of ghee and cheese per cow in the years Shulgi 44-49. Tohru Maeda, “On sipa-amar-ŠUB-ga—The Distribution of Office Duties of Cowherds in the e-mš”, Kodai-Bunka 29-2 (1977), Kyoto, p. 11, note 13 (in Japanese) fully explains this from his assumption that this record must have been composed of yearly balance sheets which had been settled at the end of each year. Accordingly those cows that became adult in the course of a year were excluded from those which could milk all the year round.
yields per cow can be found also in some Ur texts of the same period as Gelb pointed out.

1.2. But it may well be doubted if the two figures obtained from the text express in fact the amounts of ghee and cheese which Idua delivered to the authority. If they are concerned with the amounts which he was required to deliver, it is impossible to gain from the text information concerning dairy productivity during the years Shulgi 39-48. The text, however, contains a phrase nīg-kaša(ŠID)-aka in its colophon. This term implies that ghee and cheese recorded in the text were those Idua had delivered. Therefore we may think that 5 sila of ghee and 7½ sila of cheese reflect actual dairy productivity at that time.

1.3. This is supported by two Umma texts, Kang, SACT II 256 and Fish, MCS 8, p. 88, BM 105375. The former one, the date of which is lost, deals with 51 cattle which are under the control of Urgigir, the cowherd (unu). The amounts of ghee and cheese (ga-UDgunu) are 65 sila and 97½ sila respectively. The other text, BM 105375, is dated the fifth month of the first regnal year of Shu-Sin. Urgigir appears here, too, but this time without any occupation, and receives 90 sila of ghee and 135 sila of cheese. The ratio of these two kinds of dairy products is 2:3 in both the cases.

Neither of these texts gives direct reference to the number of cows which produced ghee and cheese in question. But it is possible to calculate it on the assumption that a cow produced the equal amount of ghee and cheese in both the texts. The following equation is set up: 65/\(x\) = 90/\(y\), where \(x\) and \(y\) mean the number of cows in each text. Being integers, they are 13 and 18 respectively. Consequently, ghee and cheese per cow amount to 5 sila and 7½ sila each.

The British Museum text clearly denotes that Urgigir received (i-dab₅) those products. This positively shows that 5 sila and 7½ sila were by

4) Here ga-UDgunu seems to stand for ga-HAR, for few Umma texts such as Nakahara, Sumerian Tablets Kyoto 40 refer to ga-HAR and both the terms never appear side by side in one and the same text, so far as I know.