

Joseph Deckers, *Recherches sur l'histoire des brasseries dans la région mosane au moyen âge*. Le Moyen Âge, T. 76, 1970, 445-491.

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Studies on the history of breweries in the Mosan region during the Middle Ages.

Beer is the beverage of choice in non-wine-producing regions and has been repeatedly mentioned in sources since the early Middle Ages. In spite of this fact, it is curious to note that the history of breweries has not received any special attention from scholars. To the best of our knowledge, no comprehensive work has been devoted to it so far. Indeed, apart from general histories of beer production (1), historians have generally concentrated on describing the breweries of a town (2), those belonging to

(*) The following acronyms have been used in the body of this article:

A.E.L. : Archives de l'Etat à Liège; A.EN. : Archives de l'Etat à Namur ; A.H.E.B. : Analectes pour servir à l'histoire ecclésiastique de la Belgique ; A.S.A.N. : Annales de la Société Archéologique de Namur ; B.C.R.H. : Bulletin de la Commission Royale d'Histoire ; B.I.A.L. : Bulletin de l'Institut Archéologique Liégeois ; C.S.L. : S. BORMANS, E. SCHOOLMEESTERS and E. PONCELET, *Cartulaire de Saint-Lambert de Liège* ; F.A.M. : E. PONCELET, *Le Livre des fiefs de l'Eglise de Liège sous A. de la Marck* ; G.A.G. : SIGEBERT DE GEMBLoux, *Gesta abbatum Gemblacensium (940-1048)*, Continuation par GODESCALC (1048-1136), éd. L. Bethmann, M.G.H., SS, t. VIII, pp. 523-563 ; R.O.P.L. : L. POLAIN et S. BORMANS, *Recueil des Ordonnances de la Principauté de Liège (976-1794)*, Bruxelles, 1855-1878, 6 vol., in-fol.

(1) From the abundant literature, we shall mention the works of F.A. KING, *Beer has a history*, Londres, 1947 ; M. HOFFMANN, *5000 Jahre Bier*, Nürnberg, 1956 ; A. HALLEMA et J.A. EMMENS, *Het bier en zijn brouwers. De geschiedenis van onze oudste volksdrank*, Amsterdam, 1968 and especially the work of E. URION et F. EYER, *La bière. Art et tradition*, Paris-Strasbourg, 1969.

(2) J.-C. VAN LOENEN, *De Haarlemse brouwindustrie voor 1600*, Amsterdam, 1950 et R. VAN UYTVEN, *Stadsfinanciën en stadseconomie te Leuven van de XII^e tot het einde der XVI^e eeuw*, Bruxelles, 1961, pp. 313-335.



a personality (3), or, even more frequently, they have studied the fiscal (4) or social (5) aspects of the issue. For the Mosan region, we have only a few articles (6) and a few pages in the urban histories (7).

In order to fill this gap, we have devoted a study to the breweries of the Middle Meuse River region between the 9th and the mid-14th century. We would like to ascertain from the sources the importance of the production and, secondarily, the sale of this beverage. We are particularly interested in finding the places where beer was made. In this way, we can not only trace the stages of the brewery's expansion, but also determine the geographical distribution of the breweries with some precision. In addition to the economic aspect of the problem, we have also tried to shed light on the origin and development of the taxation that affected both the preparation and the trade of this beverage.

(3) H. SOLY, *De Brouwerijenonderneming van Gilbert van Schoonbeke (1552-1562)*, *Revue Belge de Philologie et d'Histoire*, t. XLVI, Bruxelles, 1968, pp. 337-392 et 1166-1204.

(4) P. SMOLDERS, *Heerlijke rechten op het bier in 't Loonsche*, *Bulletin de la société scientifique et littéraire du Limbourg*, t. XXXNII, 1923, pp. 29-42; G. DOORMAN, *De middeleeuwse brouwerij en de gruit*, La Haye, 1955; C. VAN DE KIEFT, *Gruit en ban*, *Tijdschrift voor Geschiedenis*, Groningen, 1964, pp. 158-168.

(5) R. VAN SANTBERGEN, *Les bons métiers des meuniers, des boulangers et des brasseurs de la cité de Liège*, Liège, 1949.

(6) G. SIMENON, *Les brasseurs de Liège et l'hôpital de Saint-Mathieu*, *Leodium*, t. VII, Liège, 1908, pp. 89-95; F. KURRIS, *De Nederlandsche brouw-nijverheid in vroegere eeuwen en die van Maastricht in het bijzonder*, *Het bier*, t. XXIV, Eindhoven, 1926, p. 2 and following; H. BANENS, *Maastrichtse huisnamen brouwerijen*, *De Limburgse Leeuw*, t. VIII, 1960, pp. 82-91.

(7) Generally, every local history monograph, every urban history, devotes a paragraph to the brewery. Unfortunately, these are often only fragmentary and disparate notes. Some historians, however, with more abundant sources or based on a much more complete investigation, have gone into the subject in some depth. This is notably the case of A. JORIS, *La ville de Huy au Moyen Age. Des origines à la fin du XIV^e siècle*, Paris, 1959, pp. 145-146, 284-286, & 294 and especially of J.L. CHARLES, *La ville de Saint-Trond au Moyen Age. Des origines à la fin du XIV^e siècle*, Paris, 1965, pp. 213, 219-220, 224-226 & 333-339. The latter, indeed, was able to exploit appropriately an exceptionally rich documentation on this matter.

Before tackling the topic itself, it was essential to study the vocabulary used in Mosan texts relating to brewing, to specify the date of appearance of the first breweries and to detail the manufacturing processes in use in the Meuse valley.

We have first of all proceeded with the most systematic examination possible of all the printed diplomatic sources; then we have examined the polyptychs and accounts (several of which are still unpublished) which provide abundant information from the middle of the 13th century. Finally, among the narrative sources, the *Gesta Abbatum Trudonensium*, a chronicle whose value is unanimously recognised, has provided us with a great deal of information (8). A wide range of sources was therefore available. Despite their interest, it must be admitted that they are rather disparate, sometimes unspecific and generally indirect. Indeed, it should be noted that almost no diplomatic act deals expressly with breweries. Most of the time, they are mentioned in the formula listing the constituent components of the estate. Without affecting the scope of our research, this state of affairs makes the interpretation of the data trickier.

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(8) This chronicle has had several editions ; we follow that of C. DE BORMAN, *Chronique de l'abbaye de Saint-Trond*, 2 vol., Liège, 1872-1877 (*Bibliophiles liégeois*) and we refer to it in this article as G.A.T. For its significance see : S. BALAU, *Etude critique sur les sources de l'histoire de Liège au moyen âge*, Bruxelles, 1903, pp. 364-370.

The consumption of beer goes back to a very distant past (9). The first mention of this beverage in Western Europe is found in Pliny (10) and Tacite (11).

As far as the Mosan region is concerned, our first information is based on archaeological finds. Excavations carried out notably in the Namur region (12), show that the Roman villas of the 3rd and 4th centuries were equipped with annexes where beer was made. In addition, the Arlon Museum has a 3rd century bas-relief showing the *cervisarii* at work (13). All this suggests that beer was already being made and consumed in the Belgo-Roman period.

It was not until five centuries later that traces of beer production were found in the Mosan region. It was in a private deed dated 21 March 866 (14) that the term used in the Middle Ages to describe the brewery

(9) Apart from the works already quoted in note 1, one can also consult on this topic A. MAURIZIO, *Geschichte der gegorenen Getränke*, Berlin, 1933, pp. 103-146 and C.A. FORBES, *Beer. A sober account*, *The Classical Journal*, t. XLVTI, 1951, pp. 281-285.

(10) PLINE (23-79), *Histoire naturelle*, XXII, 164, édition LOEB, t. VI, Londres, 1951, pp. 408, 410 mentions for the first time the term *cervesia* which will be used throughout the Middle Ages.

(11) TACITE (55-120), *de Germania*, chap. XXIII, édition LOEB, Londres-New York, 1914, p. 296.

(12) Excavations were undertaken in Ronchinne (dependency of Crupet, province and canton of Namur) cf. A. BEQUET, *La villa romaine de Ronchinne et sa brasserie (IIIe et IVe siècles)*, *Annales de la société archéologique de Namur*, t. XXI, 1895, pp. 117-208 ; in Anthée (province of Namur, canton of Florennes) cf. E. DEL MARNOL, *La villa d'Anthée*, *Annales de la société archéologique de Namur*, t. XV, 1881, pp. 1-40 ; in Mettet (province of Namur, canton of Fosse) cf. A. MAHIEU, *La villa belgo-romaine de Bausellenne à Mettet*, *Annales de la société archéologique de Namur*, t. XXXIII, 1919, pp. 49-207. See also the comments on these excavations by R. DE MAEYER, *De Romeinsche villa's in België. Een archeologische studie*, Anvers, La Haye, 1937, pp. 31-32 and R. DE MAEYER, *De overblijfselen der romeinsche villas in België. De archeologische inventaris*, Anvers, La Haye, 1940, p. 229 ff. (Anthée) and p. 273 ff. (Mettet).

(13) Cf F. CUMONT, *Comment la Belgique fut romanisée*, Bruxelles, 2e éd, 1919, pp. 132-133.

(14) This deed of 21 March 866, the original preserved in the public library of Leningrad, reports the cession by Ermenfridus and his wife Guodila to the abbey of

appears: *camba* (15). This fact does not seem to be accidental and is probably not the result of documentary gaps. Indeed, we are able to prove that the problem of documentation plays only a minor role here and that the brewery appears in the texts around the year 800 in the Mosan region as well as everywhere else.

Between the 8th and 10th centuries, the writers of charters made extensive use of the forms composed in the 7th and 8th centuries (16). The deeds contained in them generally list all the components constituting the estate. However, we have seen that the word *camba* is never found in them. On the other hand, the deed of 866, which copies almost word for word (17) the formula known as: *donatio ad casam dei des Formulae Lindenbrogenses* (18), contains the word *camba*, although the latter does not appear in the aforementioned formula (19).

Cornelimünster of a property in Ville-en-Hesbaye (province of Liège, canton of Hannut) and Ohey (province of Namur, canton of Andenne). This deed was most recently studied and published by A. JORIS & G. DESPY, *Etude sur une charte privée rédigée à Huy en 866 pour l'Abbaye de Cornelimünster*, *Bulletin de la Commission Royale d'Histoire*, t. CXXVI 160, pp. 103-134.

(15) Neither in classical nor in Late Roman Latin was there a specific word for brewery; the expression *locus, officina ubi cerevisia coquitur* is often used. The word *camba* appears in documents at the beginning of the 9th century. For J.F. NIERMEYER, *Mediae latinitatis lexicon minus*, sub verbo *camba*, the first mention is dated 810, cf. M.G.H., *Capitularia*, t. I, éd. A. BORETIUS-KRAUSE, chap. 25, p. 254. DU CANGE, *Glossariun mediae et infimae latinitatis* sub verbo *camba* quotes the polyptych of Irminon (806-829). This term probably derives from the Celtic *camma* and is found in late Latin in the form of *camum* to mean a kind of beer. See also the *Mittellateinisches Wörterbuch ...*, t. II, Munich, 1968, col. 102.

(16) K. ZEUMER, *Formulae merovingici et karolini aevi*, Hanovre 1886 (M.G.H. *Leges*, t. V).

(17) See in this respect A. Joris & G. DESPY, *op. cit.*, pp.106-107.

(18) *Formulae Lindenbrogenses*, éd. K. ZEUMER, *op. cit.* Hanovre 1886, p. 266.

(19) See about this form ultimately W. WATTEMACH & W. LEVISON, *Deutschlands Geschichtsquellen im Mittelalter Vorzeit und Karolinger. Beiheft: Die Rechtsquellen* par R. BUCHNER, Weimar, 1953, pp. 53-54.



It must therefore be assumed that this word appeared between the date of writing of the formula and the year 866 (20).

It is possible to narrow down these chronological limits and to show that the word *camba* does not actually appear in the sources until the beginning of the 9th century. In the capitulary *de villis*, which was probably written shortly before 800, the production of beer is mentioned, but the word *camba* is not mentioned (21). However, the term appears in the *Brevium exempla* from the end of Charlemagne's reign or the beginning of his son's reign (22).

It seems that the word *camba* appears at the beginning of the first half of the 9th century.

Finally, the question arises as to why the word 'brewery' is absent from the traditional enumeration of the components of the estate before 800 and why it appears after that date. The explanation probably lies in the design that inspired Charlemagne when he promulgated the capitulary *de villis*. It is possible to believe that in anticipation of possible food shortages

(20) It should be noted, however, that a brewery (*camba*) is already mentioned in a document dated 2 April 805 in which Nevelong gives the monastery of Saint-Denis everything he owns in Grand-Axhe (province of Liege, canton of Waremme). This act is also based, at least in part, on the same forms. Unfortunately, we do not have it kept in its original edition and its veracity is not proven. It has been published by J. DOUBLET, *Histoire de l'abbaye de Saint-Denis en France*, t. II, Paris, 1625, p. 724 and M. FELIBIEN, *Histoire de l'abbaye de Saint-Denis*, pièces justificatives, Paris, 1706, p. XLV, n° LVI.

(21) M.G.H., *Capitularia regum francorum*, t. 1, n° 32, *capitulare de villis*, chap. 45, p. 87 ; chap. 61, p. 88 and chap. 62, p. 89. On the dating of this capitulary see F.L. GANSHOF, *Recherches sur les capitulaires*, 1958, p. 110 et A. VERHULST, *Karolingische agrarpolitik. Das capitulare de villis und die Hungersnote von 792/93 und 805/806*, *Zeitschrift für Agrargeschichte und Agrarsoziologie*, XIII, 1965, pp. 175-189.

(22) *Brevium exempla ad describendas res ecclesiasticas et fiscales*, éd. A. BORETIUS, *Capitularia*, t. I, n° 128, pp. 254-255.

and, in particular, a lack of wine, the sovereign decided that every important estate should be provided with a brewery (23).

Although the word *camba* was used for a very long time (24) in documents from both the Romanic and Germanic parts of the Mosan basin, it is important to note that it was not the only one. In the 12th century, a more popular term appeared: *braxina* (25).

In the second half of the 13th century, when the vernacular languages were used for the drafting of documents, the words *camba* and *braxina*

(23) Some articles of the capitulary of Villis deal directly with the manufacture of cervesa. For example, article 45: « ...ut unusquisque iudex in suo ministerio bonos artifices, ...siceratores, id est qui cervisam vel pomatium sive piratium vel aliud quodcumque liquamen ad bibendum aptum fuerit facere sciant... » and article 61: « ...ut unusquisque iudex quando servierit suos bracios ad palatium ducere faciat ; et simul veniant magistri qui cervisam bonam ibidem facere debeant. ». In these two articles, Charlemagne asks his *judices* to entrust the preparation of beer to specialists (*bonus artifex* or *magister*). In our opinion, this implies the presence of a brewhouse at least in the royal estates that were likely to be visited by the king.

(24) Indeed, in the sources of the Mosan country, this term is exclusively used until 1136. But it is still mentioned between 1312 and 1351. See L. GALESLOOT, *Le livre des feudataires de Jean III duc de Brabant*, Bruxelles, 1865, pp. 27, 37, 179, 274.

(25) This word is based on the root *bracis*: malt or germinated barley, an essential element in the manufacture of beer. After J.F. NIERMEYER, *op. cit.*, sub verbo *braxina*, the first mention of the term is found in 893. In the Mosan countries, it was not until the middle of the 12th century that the term was used in the G.A.T., t. I, *contin. 1*, l. IX, c. 14, p. 153. It should be noted, however, that the change from *camba* to *braxina* lasted about a century. This illustrates quite well the floating and sometimes unspecific nature of the medieval language. Indeed, if we find the expression *camba quoque que alio nomine brachina dicitur* in a diploma written between 1164 and 1170 cf. S. BORMANS & E. SCHOOLMEESTERS. *Cartulaire de l'église de Saint-Lambert à Liège*, t. I, Bruxelles, 1893, pp. 86-87, n° 50, a similar expression can be found again : *camba sive braxina* in another diploma dated 7 December 1261 : cf. C. PIOT, *Cartulaire de l'abbaye de Saint-Trond*, t. I, Bruxelles, 1870, p. 299, n° 251.

were replaced, in the Romanic part, by *cambe* (26) or *bressine* (27) and in the Germanic part by *bruwers huse* (28) or more generally *panhus* (29). For the sake of completeness, we should also point out that there are other, less commonly used terms: *braciarium* (30), *braciatorium* (31), *braxatorium* (32) and *bassina* (33).

Before moving on to the actual examination of our documents, we must briefly summarise the technical aspect of beer production, establish the stage reached by the medieval brewery and highlight its specific features in the Mosan valley, particularly with regard to the cereals and auxiliary products used.

(26) The term *cambe*, *chambre*, or *chambe bresseresse* is used exclusively from 1265 onwards in deeds relating to the county of Namur and especially in D. BROUWERS, *Cens et rentes du Comté de Namur au XIII siècle*, 2 t. en 3 vol., Namur, 1910-1921.

(27) The term *bressine* is first mentioned by the Mosan sources in a diploma dated 22 June 1260, cf. Documents relatifs à la léproserie de Cornillon, *Analectes pour servir à l'histoire ecclésiastique de la Belgique*, t. XVI, Louvain, 1890, p. 154, n° VI, and its equivalent *brassine* in a deed of 6 July of the same year, cf. A. DELESCLUSE & D. BROUWERS, *Catalogue des actes de Henri de Gueldre*, Bruxelles, 1900, pp. 300-304, n° 92.

(28) One of the first mentions of this term in H. VAN WERVEKE, *De Gentsche Stadsfinanciën in de Middeleeuwen*, Bruxelles, 1934, pp. 390-391.

(29) In a Mosan document written in Dutch, the term *panhus* is first used in 1286, cf. J. BUNTINX et M. GYSSELING, *Het oudste goederenregister van Oudenbiezen (1280-1314)*, Tongres, 1965, p. 66. However, in the Latin sources, we already find this term in January 1254, cf. M.A. ERENS, *De oorkonden der abdij Tongerlo*, t. I, pp. 233-235, n° 178.

(30) According to J.F. NIERMEYER, *op. cit.*, sub verbo *braciarium*, first mention in 812 in M.G.H., *Epistolae*, IV, c. 16, p. 550.

(31) For J.F. NIERMEYER, *op. cit.*, sub verbo *braciatorium*, first mention in M. GYSSELING & A.C.F. KOCH, *Diplomata Belgica ante annum millesimum centesimum scripta*, n° 34, *Polyptyque de Saint-Bertin (844-864)*, p. 64.

(32) In our documents, we find this word for the first time in a diploma of 21 May 1294, cf. P. DOPPLER, *Verzameling van charters en bescheiden betreffende het vrij rijkskapittel van Sint-Servaas te Maastricht*, 1^e partie, Maastricht, 1930, p. 135, n° 232.

(33) In this particular sense, ignored by NIERMEYER, we find this term in *Le Livre de l'abbé Guillaume de Rijckel (1249-1272)*, edition H. PIRENNE, Bruxelles, 1896, p. 359.

The brewing process today consists of four essential operations (34).

The first is the conversion of barley into malt (35): This is called malting. The second stage is the actual brewing, which comes in two variants: either the crushed malt is poured into hot water, which is called infusion brewing; or the mixture is boiled and this is called decoction brewing. The resulting liquid is called wort, to which hops are added and which is then heated for two hours to 100°C. This is called boiling and hopping. The next stage involves cooling and fermentation. The wort is taken from the boiler and placed in cooling tanks. The yeast is then added and left to ferment for three to fifteen days. Once these operations are completed, the beer is clarified by filtration and put into barrels (racking). These are the modern methods for making beer.

Obviously, this has not always been the case. Millennia ago, the Babylonians and Egyptians knew not only fermentation and filtration, but also malting, the basic process for making beer (36). However, it should be

(34) Most of our information on this topic is taken from the following articles and works: *La grande encyclopédie ...*, t. VI, pp. 771-790 ; *Encyclopédie Larousse méthodique*, t. II, pp. 887-888 ; *Le grand Larousse encyclopédique...* t. II, pp. 129-130 ; J. VENE & H. LE CORVAISIER, *La bière et la brasserie*, Que sais-je, Paris, 1950 ; E. URION et F. EYER, *La bière. Art et tradition*, Paris-Strasbourg, 1969.

(35) Artificially germinated barley is called malt, which is dried and then ground into flour. This is not a simple operation because it requires three important items: firstly, a room where germination can take place; secondly, a kiln to dry the grain; and thirdly, a mill to reduce it to flour.

(36) With regard to the production of beer in antiquity, we refer the reader to the article by the *Encyclopedia Britannica*, t. IV, pp. 163-167 ; to that of C.A. FORBES, *Beer. A sober account*, *The Classical Journal*, t. XLVI, 1951, pp. 281-285, and to the books of V. HEHN, *Kulturpflanzen und Haustiere in ihrem Übergang aus Asien nach Griechenland und Italien sowie in das übrige Europa*, Berlin, 8 éd., 1911, pp. 144-156; A. MAURIZIO, *Geschichte der gegorenen Getränke*, Berlin, 1933, p. 110 ff.; R.J. FORBES, *Studies in ancient technology*, vol. 3, Leyde, 1955, pp. 125.130.

noted that it was not invented for brewing purposes, but for the needs of the bakery. The combination of these two elements can be seen not only in the brewing methods of very ancient times (37), but also in the Late Roman Empire (38) and the early Middle Ages (39).

In the light of all these data, we are entitled to ask ourselves whether, as M.A. Arnould rightly points out, beer in antiquity was not a simple infusion or decoction (40). We will go even further; we believe that this beverage constituted a particular way of consuming cereals in the miss of any other method.

In the Middle Ages, this stage was well out-dated and it is clear that, with the exception of the use of hops, beer was brewed in much the same way as it is now. At least that is what emerges from the few texts that deal

(37) This method is very well explained by the 4th century BC alchemist Zosimos of Panopolis whose work was published by C.R. GRUNER, *Zosimi de zythorum confectioe fragmentum.*, Sulzbach, 1814. The process was as follows: with the malt and the aromatic substances, a kind of paste was formed; it was cooked lightly and thus a kind of bread was obtained. This was then crumbled, moistened and placed in a vat to ferment, after which the mixture was filtered.

(38) The process detailed in note (37) is still found in Ulpian in the 3rd century: ULPIEN, *Dig.*, 33, 6, 9. « ...Zythum quod in quibusdam provinciis ex tritico vel ex hordeo vel ex pane conficitur ... » see on this topic J. ANDRE, *L'alimentation et la cuisine à Rome*, Paris, 1961, p. 179, note 154.

(39) In the plan of the abbey of St. Gall, dated around 820, two of the three breweries are still attached to the bakery. This could be explained by the common use of the oven. See in this respect J. MULLER, *Das Bier in den älteste Geschichtsquellen des Klosters St Gallen, Schweizer Brauerei Rundschau*, t. LII, 1941, p. 79. In medieval Mosan texts, however, we have found no trace of this correlation.

(40) M.A. ARNOULD, *Histoire de l'alimentation, Vie médicale* t. XXXVIII, p. 66.

with this problem (41). It should be noted that they place special emphasis on cooking and the use of aromatic plants.

The production of beer also requires special facilities. In addition to the premises where the beverage is prepared, there is usually a mill (42) and sometimes a malt house (43) close by. We would have liked to give details of the equipment used in a brewery; unfortunately, we do not have any sources for the Mosan region that could give us information on this point (44).

It seems that this equipment was quite simple and consisted, most of the time, of one or more vats (45).

(41) For instance, in the 7th century ISIDORE DE SEVILLE, *Etymologies*, XX, III, 18, *Patrologie Latine*, éd. MIGNE, t. LXXXII, col. 713-714 and in the 12th century, HILDEGARDE DE BINGEN, *Physique*, III, 27, *Patrologie Latine*, éd. MIGNE, t. CXCVII, col. 1236.

(42) Thus, of the 63 estates with a brewery mentioned in the Mosan charters up to 1247, there is a mill in 41 cases.

(43) A *braiserio domus* is mentioned in Liege in a will dated 8 June 1281; see M. YANS, *Un testament de bourgeois liégeois du XIIIe siècle*, *Bulletin de Commission Royale d'Histoire*, t. CII, Bruxelles, 1937, p. 12. At the end of the 14th century, the texts mention the existence of a brain or brewery sprouter in Outremeuse at Huy, cf. L.F. GENICOT, *Un censier de la fabrique de Notre Dame à Huy de la fin du XIVe siècle*, *Bulletin de l'Institut Archéologique Liégeois*, t. LXXIV, Liège, 1961, p. 264.

(44) The presence of tools is highlighted in the documents by the expression *braxina cum utensilia*. However, this is hardly explicit and is only mentioned four times in the Mosan sources. In 1250: J.G. SCHOONBROODT, *Inventaire analytique et chronologique des chartes du chapitre de Saint-Martin à Liège*, Liège, 1871, p. 15, n° 51 and L. LAHAYE, *Fragment d'un polyptyque de la collégiale Saint Jean l'Evangeliste à Liège, de l'an 1250*, *Bulletin de la Commission Royale d'Histoire*, t. CVII, Bruxelles, 1942, p. 248. Le 27 juillet 1251 : S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, t. II, pp. 12-13, n°495 and in October 1313: L. LAHAYE, *Inventaire analytique des chartes de la collégiale Saint Jean l'Evangeliste à Liège*, t. I, Bruxelles, 1921, p. 139, n° 279.

(45) The *caldaria*, cauldrons or vats, are mentioned in particular in deeds from 1214, see J. BORGNET et S. BORMANS, *Cartulaire de la commune de Namur ...*, t. I. Namur, 1871, pp. 9-14, n° 5 et du 21 mai 1294 : P. DOPPLER, *Verzameling van charters ...*, 1^e partie, p. 135, n° 232.

Although documentation is lacking, it can be assumed that the technique used in the Mosan Valley in the Middle Ages was similar to that used elsewhere and did not differ much from that used today.

Let us now try to determine which cereals and aromatic plants were used in the Mosan valley to prepare beer.

The most important element in the production of beer is grain. Nowadays, thanks to the ease of transport, breweries are sometimes located very far from production centres and the most commonly used cereal is usually barley.

In the Middle Ages, in the Mosan region, it seems that locally grown cereals were used.

In order to determine which grains were used to prepare beer, we have recorded all the royalties paid in kind by the brewers. We can, in fact, reasonably assume that they gave as due rent [*cens* or tax paid by an early medieval tenant] a part of the grain they used in their trade.

In this way, it will be possible to determine to some extent whether a particular region practised monoculture or polyculture. Until the end of the 13th century, various cereals were used, in order of importance barley (*hordeum*), oats (*avena*), spelt (*espeate*), wheat (*frumentum*) and rye (*sigilinum*).

In the polyptychs of the second half of the 13th century, spelt is the classic royalty in the Namur region (46);

(46) Based on the study of the censiers and accounts of the abbeys of Villers-la-Ville, Géronsart, Malonne and Salzinnes and on the polyptych of the county domain of Namur of 1265. L. Génicot had noted that the county of Namur was really the domain of the spelt. See L. GENICOT, *La limite des cultures du froment et de l'épeautre dans le Namurois au bas moyen âge*, *Namurcum*, t. XXII, 1947, pp. 17-24.

on the other hand, in Hesbaye, several cereals are always mentioned: wheat, spelt and barley (47).

Does this mean that beer was generally made from three cereals: barley, spelt and wheat? Should we assume that polyculture prevailed in Hesbaye? One can assume so, but it is not certain.

It should not be forgotten that the royalties paid by the brewers are not only in cereals, but also in *cerevisia*, *bracis* [malt] and even in money (48).

*

* *

Even in ancient times, spices and various plants were added to beer to improve its taste and shelf life. The brewers of the main Mosan centres introduced a mixture of marsh plants known by various names, especially *grutum* or *gruit*, into the preparation of beer at least as early as the 10th century (49).

(47) We must point out that the examination of the Liège polyptychs does not allow us to reach such clear conclusions for Hesbaye as those drawn by L. Génicot for the Namur region.

(48) This method of payment was already common in 866 for the breweries of the Lobbes abbey estates, cf. J. WARICHEZ, Une « descriptio villarum » de l'abbaye de Lobbes à l'époque carolingienne, *Bulletin de la Commission Royale d'Histoire*, t. LXXVIII, 1909, pp. 245-267. More than half of the royalties paid by the Mosan brewers were in silver, especially from the 13th century onwards.

(49) Depending on the region, various terms were used to describe this product. The terms *gruit* or *grut* and their Latinisation *grutum* are found exclusively in the Germanic dialect regions. The earliest mention of it is in a diploma from Otto III for the church in Utrecht dated 11 April 999, cf. S. MULLER et A.C. BOUMAN, *Oorkondenboek van het Sticht Utrecht tot 1301*, t. I, Utrecht, 1920, pp. 146-147, n° 149. In contrast, in the Romanic part of the Mosan region, the term *materia* was mainly used (one of the first mentions at Fosse in 974, S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, t. I, pp. 18-19, n° 13). It is sometimes found under the spelling *mairia* (Tournai, *Continuatio Herimanni*, M.G.H. SS, t. XIV, 3, p. 318), *maceria* (Nivelles, 5 juin 1040, M.G.H., *Diplomata regum et imperatorum Germaniae*, t. V, *Henrici III Diplomata*, pp. 66-68, n° 52), or even in the



Outside the Mosan basin, the same product was used throughout Rhineland Germany, the Netherlands and northern France.

Much has been written about the problem of its composition and properties. In our opinion, the question had already been resolved at the beginning of the 20th century (50).

However, some scholars have argued that *grutum* was not a collection of marsh plants that made beer taste better, but malt or grains used to activate fermentation (51). Although we fully agree with the conclusions of E. Pauls and A. Schulte, we note, however, that they borrow the majority

vernacular form of *maire* (Dinant, 1047-1064 ; F. ROUSSEAU, *Actes des comtes de Namur de la première race*, 3^e partie, Bruxelles, 1937, pp. 87-91, n° 1).

In Huy, the term *pigmentum* is used (1068, S. BORMANS et E. SCHOOLMEESTERS, Notice sur un cartulaire de l'ancienne église collégiale et archidiaconale de Notre-Dame de Huy, *Bulletin de la Commission Royale d'Histoire*, 4^e série, t. I, 1873, pp. 98-100, n° III) et à Dinant *polenta cervisie* (F. ROUSSEAU, *op. cit.*, 3^e partie, pp. 87-91, n° 1).

(50) Indeed, E. PAULS, *Wirtschaftsgeschichtliches aus dem Herzogtum Jülich*, Zeitschrift des Aachener Geschichtsvereins, t. XXII, 1900, pp. 280-282 and especially A. SCHULTE, *Vom Grutbiere. Eine Studie zur Wirtschafts- und Verfassungsgeschichte*, *Annalen des historischen Vereins für den Niederrhein*, t. 85, 1908, pp. 118-146 have proven that *gruit* is a collection of herbs added to beer in order to increase its shelf life and impart a pungent flavour. Other historians have endorsed these explanations: R.J. FORBES, *Studies in ancient technology*, t. III, p. 127 ; W. JAPPE ALBERTS, *Bijdrage tot de geschiedenis der accijnzen te Arnhem in de Middeleeuwen*, *Tijdschrift voor Geschiedenis*, t. LXIV, 1951, p. 338; G. DOORMAN, *op. cit.*, pp. 37; A. JORIS, *op. cit.*, p. 286, note 296; C. VAN DE KIEFT, *op. cit. Tijdschrift voor Geschiedenis*, 1964, pp. 158-168.

(51) This thesis is argued by E. VERWIJS et J. VERDAM, *Middelnederlandsch woordenboek*, t. II, La Haye, 1889, col. 2198-2200 : G. DES MAREZ, *La ville dans la période pré-constitutionnelle. Dinant, Etudes inédites*, Bruxelles, 1936, p. 75 and J. CUVELIER, *La formation de la ville de Louvain des origines à la fin du XIV^e siècle*, Bruxelles, 1935, pp. 86-88.

of their evidence from 14th century documents (52) whereas the *gruit* is already mentioned in the 10th century (53).

To bring this discussion to a close, we will examine two texts from the Mosan country that have not attracted the attention of scholars. We believe that we can prove that the *grutum* is indeed a group of plants that grow in water and that it is intended to improve the quality of beer.

In 1068 (54), Théoduin, bishop of Liège, authorises the brewers of the town of Huy to obtain wherever they wish the *pigmentum (grutum)*

(52) The 14th century accounts of Dutch and German cities published by C. KRAUS, *Entwicklung des Weseler Stadthausbaldes von 1342-1390*, Wesel, 1907 and J. DOORNINCK, *Cameraarsrekeningen van Deventer*, Deventer, 1888, have detailed all the ingredients that go into making *gruit*. In addition to the essential ingredients of Brabant myrtle and wild rosemary, there are berries, resin, *siler montanum* or *serpentine*, a plant from the Jura or the Alps. Based on the fact that the first mention of *gruit* appears in a document of the '*comitatus Teisterbant*', DOORMAN has put forward the hypothesis that the essential element could be gagel, which grew in abundance in this region, cf. G. DOORMAN, *op. cit.*, pp. 8-31. In support of this hypothesis, we point out that the abbey of Sint-Truiden - which used *gruit* from the middle of the 11th century onwards - also owned land in the Teisterbant, cf. C. PIOT, *Cartulaire de l'abbaye de Saint-Trond*, t. I, pp. 29-33, n° 22.

(53) It existed before, but it is mentioned in the texts at the time when the right to supply this product is granted by the emperor. It is important to note - and we will discuss this later - that all the terms cited refer not only to the ingredient but also to the duty that must be paid to obtain it.

(54) « ...Sed quia Hoyensibus aquis qualia usus eorum expostulit fieri non possunt, multis modis cervisarii gravabantur quia et que eis non proderant pigmenta emere cogebantur superfluo et ne res eorum et labor simul periclitarentur aliunde comparare necessario... » cf. S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, *Bulletin de la Commission Royale d'Histoire*, 4^e série, t. I, 1873, pp. 93-100, n° III. With regard to this document, it is necessary to reject an erroneous interpretation given by L. DE JAER who considers that *pigmentum* has no connection with the waters of Huy. For him, it is simply a reference to hops and it is appropriate to replace in the diploma *aquis* by *agris*; this would therefore be a misreading of the editors. We do not agree with this assertion and we consider with A. Joris that the reason given by Théoduin can be explained by the fact that the violence of the course of the river Hoyoux and to a lesser extent that of the river Meuse did not facilitate the cultivation of these marsh plants in Huy. Moreover, hops could not have been used in Huy in 1068 as they only appeared in the Mosan

because the waters of Huy are not suitable for the cultivation of these plants. This confirms what A. Schulte said, namely that the plants used in the composition of *gruit* are aquatic plants.

In the same deed of 1068, *grutum* is called *pigmentum*, which means colouring matter, aromatics or spice (55).

In addition, the brewers complain that the *pigmentum* produced in Huy is not suitable for the use they want to make of it, and that the lack or poor quality of this plant risks destroying their business and their work. This "plant" therefore plays an essential role in the preparation of their beverage (56).

However, a somewhat earlier deed is even more explicit. In 1060, when the monks of Saint-Trond asked the bishop of Metz Adalberon for confirmation of their right of *grutum*, they gave the following reason: "our beverage, which up to now has been of poor quality, will become better" (57).

Here there is no doubt: *gruit* is a product that improves the quality of beer. This mixture, which in medieval Germany was called *gruit* or *grutum*,

region in the 14th century, cf. A. JORIS, *op. cit.*, p. 286, note 296 and L. DE JAER, *Considérations sut une charte de Huy relative aux brasseurs de cette ville, Chronique archéologique du pays de Liège*, t. XXIX, 1938, pp. 55-57.

(55) cf. J.F. NIERMEYER, *op. cit.*, sub verbo *pigmentum*.

(56) cf. supra note 54.

(57) This deed was last published by M. GYSSELING et A.C.F. KOCH, *Diplomata Belgica ...*, t. I, pp. 364-365, n° 216. « ... Hoc ego Adelbero successor eius et cognatione et ordine quamvis immeritus, in loco supradicto constitutus advertens, simulque causam et necessitatem pro qua praedicti fratres hoc ab eodem domino meo episcopo expostulabant, considerans, scilicet ut eorum potus qui eatenus vilior habebatur, postea quodammodo melioraretur... ».

was used almost until the end of the Middle Ages. However, the beverage made from it was never called beer, but *cerevisia* or *cervoise* (58).

Towards the end of the Middle Ages, another plant came into competition with *gruit*: hops. The use of hops was the greatest innovation in brewing in the Middle Ages. Not only did it make the beer taste better, but it also made it lighter and clearer, and allowed for longer storage and thus for transport and trade over longer distances. Hops had been known for a very long time (59) but were used either as a medicinal plant (60), or as a vegetable (61). The use of hops in the preparation of beer is explicitly mentioned for the first time in a 12th century document (62).

(58) This word, which was used throughout the Middle Ages, is first mentioned in PLINY, *Natural History*, XXII, 164. Etymologically, it seems to derive from the name of the ancient goddess of vegetation, especially of cereals, *Ceres*, and from the classical Latin *vis*. Like all the other terms used from the first century onwards (*zythum*, *camum*, *caelia*, *cerea*), it designates a beverage in which plants other than hops are used.

(59) It is thought to have come from Babylonia and to have penetrated the western countries by two routes : a western route, Gaul, and an eastern route, Hungary. As is still the case today, it was mainly cultivated in central Europe, cf. G. DOORMAN, *op. cit.*, p. 39.

(60) This is at least what appears from the text of PLINY, *Natural History*, XXI, 86, éd. LOEB, t. VI, 1951, p. 222 (*lupus salictarius*) and XIX, 145, éd. LOEB, t. V, 1950, p. 514 (*asparagus*). This view is defended by S. KILLERMAN, *Zur Geschichte des Hopfens*, *Tageszeitung für Brauerei*, t. XXXI, 1933, pp. 320-321 et 403-404.

(61) This is the opinion of P. LINDEMANS, *Geschiedenis van de Landbouw in België ...*, t. II, Anvers, 1962, p. 144.

(62) Hops is already mentioned in a diploma of September 768 granted by Pepin the Short to the abbey of Saint-Denis cf. M.G.H. *Diplomata Karolinorum*, Hanovre, 1906, pp. 38-40, n° 28. In 822, the abbot of Corbie exempted the millers from the obligation to grind wort (sic! malt) and hops, cf. ADALHARD DE CORBIE, *Statuta antiqua sancti Petri Corbeiensis*, I, 7, *Patrologie Latine*, éd. MIGNE, t. CV, col. 542.

On this topic, see the critical study by A.E. VERHULST & J. SEMMLER, *Les statuts d'Adalhard de Corbie de l'an 822*, *Le Moyen Age*, t. LXVIII, Bruxelles, 1962, pp. 91-123 et 233-269. Hops is still mentioned in the 9th century as a royalty in the polyptych of Irminon, cf. B. GUERARD, *Polyptyque de l'abbé Irminon*, VI, 66, Paris, 1844, p. 187 et XX, 30, 32, 35, 42, p. 212 and in 866 in the incomes of the estates of the abbey of Lobbes: cf. J. WARICHEZ, *op. cit.*, *Bulletin de la Commission Royale d'Histoire*, t. LXXVIII, 1909, pp. 279-250. In none of these cases do hops appears to be used in the manufacture of beer. It

The hopped beer first appeared in Germany towards the end of the 13th century (63). From there, the process spread to Holland at the beginning of the 14th century (64) and reached the Liège area at the end of that century (65). As soon as hops were used in the preparation of the mixture, the resulting beverage could then indeed be called beer (66).

Furthermore, the use of hops enabled the brewery to take a major step forward in its history. Coinciding with the appearance of the trades, it brought great prosperity to the beer industry and trade. With the exception of mechanical and chemical improvements and the introduction of bottom fermentation, the current technique is quite similar to that used in the Mosan valley since the end of the 14th century.

If we look closely at the formula in the charters that traditionally lists the components that make up an estate, we can see that everything listed is likely to have an economic benefit.

is explicitly mentioned in the 12th century in HILDEGARDE DE BINGEN, *Physique*, III, 27, *Patrologie Latine*, éd. MIGNE, t. 197, col. 1236 « ...Quod si etiam cerviseam de avena parare volueris absque hoppen, sed tantum cum grusz et plurimis foliis de Asch additis coque ... ».

(63) A. MAURIZIO, *op. cit.*, p. 143. According to him, hopped beer was known in 1300 in Lübeck, Hamburg and Bremen, i.e. in the Hanseatic countries. Moreover, the Hanseatic League was already shipping hoppy beer in 1274, cf. A. SCHULTE, *op. cit.*, p. 142.

(64) Hopped beer is reported in Dordrecht in 1322, in Delft in 1326 and in Haarlem in 1327, cf. A. SCHULTE, *op. cit.*, p. 140. Towards the end of the 14th century, hops are cultivated in the Heusden region. In Holland, the first crops are mentioned in Gouda and Breda in 1373, cf. G. DOORMAN, *op. cit.*, pp. 39-42.

(65) Hopped beer is first mentioned in the Liège region in 1394, see on this subject *La chronique de 1402*, éd. E. BACHA, Bruxelles, 1900, p. 427.

In Brabant, it appeared in the last decade of the 14th century cf. H. SOLY, *op. cit.*, *Revue Belge de Philologie et d'Histoire*, t. XLVI, 1968, p. 338. In Leuven, it is mentioned in 1368, cf. R. VAN UYTVEN, *Stadsfinanciën en Stadseconomie te Leuven*, p. 314.

(66) After O. BLOCH et W. von WARTBURG, *Dictionnaire étymologique de la langue française*, 2^e éd., Paris, P.U.F., 1950, p. 68. The first mention of this term is found in a regulation of 1 April 1435.

When, at the beginning of the 9th century, it was decided to equip the most important estates with a brewery, the owner had to contribute to the creation of the brewery himself. This was because the tenants could not raise the necessary capital to set up such workshops. The owners of estates who established breweries had to invest considerable sums of money to do so. This movement undoubtedly helped to improve quality, increase production and satisfy consumption. However, the landowners who had done this and tied up a fairly large amount of capital wanted to recover it or at least make a profit. To recover the capital invested, various means were available to them, including the levying of a tax on manufacturing. This manufacturing requires the use of certain commodities and the application of a particular technical process. It is therefore no coincidence that the taxes will be levied on these basic products, particularly on cereals, and on the brewing itself. It is in documents from the tenth century that we find the first mention of the tax on beer production: the right of *grutum* (67).

As mentioned above, *grutum* consists of vegetable products intended for the manufacture of beer. The duty on it will have the same name (68). At the time it appears in the documents, it is conceded by the emperor to bishops (69);

(67) The right of *grutum* is mentioned for the first time in a forged document dated 20 September 946 and issued by Otto I for the abbey of Gembloux. cf. C.G. ROLAND, *Les chartes ... Gembloux*, pp. 1-8, n° 1. According to C. VAN DE KIEFT, *op. cit.*, *Tijdschrift voor Geschiedenis*, 1964, pp. 163-164, this deed was written after 979. The first reliable mention is in the diploma of Otto II of 974 for Fosse, cf. S. BORMANS & E. SCHOOLMEESTERS, *op. cit.*, t. I, pp. 18-19, n° 13.

(68) cf. *supra* note 49.

(69) Notably to that of Liège by Otto II in 974, cf. S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, t. I, pp. 18-19, n° 13 and to that of Utrecht by Otto III in 999, cf. S. MULLER & A.C. BOUMAN, *op. cit.*, t. I, pp. 146-147, n° 149.

later, it will be found in the hands of secular princes (70) of abbeys (71). Although we only know about this tax from the time it was granted, it is likely that it is older and was probably introduced at the same time as or shortly after the establishment of the breweries. What is the source of this tax? It is possible that it derives from the right that the prince had over everything that grew on uncultivated land and in the streams: but this is, of course, only a hypothesis.

What exactly did this right stand for? How was it collected? What did it bring in?

The right of *grutum* consists in the monopoly of supply of the material necessary for the manufacture of the beer (72). However, in the chronicle of Saint-Trond, we find a much more accurate definition which does not seem to have caught the attention of scholars. At the beginning of the 12th century, the abbot Rodulphe inserts, in the confirmation charter of 1060

(70) This right is mentioned in the register of rights of the Count of Namur in Dinant drawn up between 1047 and 1064, cf. F. ROUSSEAU, *op. cit.*, 3^e partie, pp. 87-91, n° 1.

(71) In 1060, the Bishop of Metz, Adalberon III, confirmed the donation of the right of *grutum* that his predecessor Thierry II had made to the abbey of Sint-Truiden probably in 1045-1046, cf. M. GYSSELING et A.C.F. KOCH, *op. cit.*, t. I, pp. 364-365, n° 216.

(72) In 999, the Emperor Otto III gave the bishop of Utrecht the domain of Bommel, including the "negocium generale fermentatae cervisiae quod vulgo grut nuncupatur". cf. S. MULLER et A.C. BOUMAN, *op. cit.*, t. I, pp. 146-147, n° 149.

Between 1047 and 1064, we read in the registry of the rights of the county of Namur in Dinant "polenta cervisie que vulgo maire, in omnia villa sua est...". Cf. F. ROUSSEAU, *op. cit.*, 3^e partie, pp. 87-91, n° 1.

At Huy in 1068, the bishop Theoduin declared that "... moris fuit hactenus hoyi pigmenta fieri et a cervisiariis per singulas cervisias tribus denariis comparari ..." cf. S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, *Bulletin de la Commission Royale d'Histoire*, 4^e série, t. I, 1873, pp. 93-100, n° III.

which he reproduced in a letter, the definition of *scrutum* (73): the power to appoint and dismiss the maker of the mash used to make beer and the right to take six measures of beer from each brew made in the city (74). Thus, the right of *grutum* appears to be a tax on beer brewing; perhaps it is only a step towards the establishment of a right on it.

The sources from Sint-Truiden make it known in great detail.

This duty (75) was levied every week and according to the third continuator of the abbey's chronicle, the abbey also owned the house where the 'product' was made (76).

(73) The word *scrutum* occurs only once in an deed of the abbey of Sint-Truiden dated 1060 and published by M. GYSSELING et A.C.F. KOCH, op. cit., t. I, pp. 364-365, n° 216.

This is a false spelling for *grutum*. According to H. PIRENNE, it is explained by the fact that the scribe wrote under dictation. He wrote phonetically and transformed under the influence of the phonetic connection which struck his ear *servientibus grutum* into *servientibus scrutum*, cf. H. PIRENNE, *Scrutum, Bulletin DuCange*, t. II, 1935, pp. 97-98.

(74) Cf G.A.T., t. I, *Rod. litt. II ad Waleramnum ducem*, pp. 267- 268 : « ... hoc est potestatem ponere et deponere illum qui materiam faceret, unde levarentur cervisiae, et de singulis cervisiis quae brasciarentur in oppido nostro sex picarios ad opum fratrum suscipere... ».

(75) In Sint-Truiden, this right is mentioned for the first time in 1060 in the form of *scrutum*, cf. M. GYSSELING & A.C.F. KOCH, op. cit., t. I, pp. 364-365, n° 216.

In 1107, 1161 and 1179, the bulls speak of *cambatum de toto oppido*, cf. C. PIOT, op. cit., t. I, pp. 29-33, n° 22; pp. 97-100, n° 74 and pp. 134-137, n° 98. The analogy with *camba* is striking, but the term is not included in any dictionary. Only in 1140 does the form *grutum* or *census grutae* appears, see C. PIOT, op. cit. p. 58, n° 44. The second continuator speaks of *Kaedgruyt*, voir G.A.T., t. II, *contin. 2*, L. I, c. 2, pp. 12-13 and finally in 1255, the abbot William of Rijckel named this right *pangins*, see *Le Livre de l'abbé Guillaume de Rijckel ...*, ed. H. PIRENNE, p. 344. On this problem of terminology see J.L. CHARLES, op. cit., pp. 336-340.

(76) G.A.T., t. II, *contin. 3*, p. 2, L.I, c. 12, p. 144 and c. 22, p. 150.

This tax was not levied directly by the abbot but by one of his *ministeriales*: the *grutarius* (77). The latter was responsible for making gruit and levying the tax on all the breweries in the town and the free zone (78). This office of *grutarius* is also found in Louvain (79), Tournai (80) and Liège (81). However, this office seems to have disappeared everywhere in the middle of the 13th century, but the duty continues to be levied after 1350 (82).

This would confirm our hypothesis that, initially, the gruit was not supplied in return for a monetary fee, but in return for a portion of the beer brewed; later on, the authority would no longer supply the gruit and would simply levy a tax on the beer brewed (83).

(77) This office appears in the texts in the first third of the 12th century but, in our opinion, it is at least fifty years earlier. G.A.T. t. I, *contin.* 1, L. IX, c. 22, pp. 159-160 ; C. PIOT, *op. cit.*, t. I, pp. 47-48, n° 37 and pp. 65-66, n°47.

(78) The duties of the latter are described in detail in a document of 1139, cf. C. PIOT, *op. cit.*, t. I, pp. 52-53, n° 3 et G. SIMENON, *L'organisation économique de l'abbaye de Saint-Trond ...*, Bruxelles, 1913, pp. 575-576.

(79) R. VAN UYTVEN, *op. cit.*, p. 314.

(80) P. ROLLAND, *Les origines de la commune de Tournai*, Bruxelles, 1931, pp. 108-109.

(81) E. PONCELET, *Les domaines urbains de Liège*, Liège, 1947, pp. 77-79.

(82) It is still paid in Sint-Truiden in 1363, cf. F. STRAVEN, *Inventaire analytique et chronologique des archives de la ville de Saint-Trond*, t. I, Saint-Trond, 1886, pp. 47-50.

(83) It would still have been necessary to investigate whether the right of gruit was a regalian or a banality right. We shall study this problem in a future article. In any case, the studies devoted to this problem by Th. E. JENSMA, *Bronnen tot de geschiedenis van het recht van de gruit in het graafschap Holland, het bisdom Utrecht en het hertogdom Gelre, Verslagen en Mededeelingen tot uitgaaf der bronnen van bet Oud-Vaderlandsch Recht*, t. XII, 1960, pp. 167-215 et C. VAN DE KIEFT, *op. cit.*, *Tijdschrift voor Geschiedenis*, 1964, pp. 158-168, are reluctant to settle this question. For our part, we believe that the right of *gruit* is an integral part of the banalities, at least from the middle of the 11th century. For example, in Huy in 1068, it is described as *prava et inveterata consuetudo* and these *bad customs* clearly refer to the banalities, cf. S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, *Bulletin de la Commission Royale d'Histoire*, 4 série, t. I, 1873, pp. 98-100, n° III.

This tax will be called *cambagium* (84). If we compare this word with the word *paencijns*, which in Sint-Truiden refers to the right of *gruit*, we can see that etymologically they indicate exactly the same thing: (*cambajus/pan-cijns*) right over the brewery. Although already mentioned in 1100 by J.F. Niermeyer (85), we do not find it in our sources until the 13th century (86).

Having cereals at one's disposal was not enough to make beer; they also had to be transformed into malt and ground. The water mill, if it is of ancient origin, will only spread, as we know, in the Middle Ages (87). Its installation requires the investment of a fairly large capital. At the beginning, the brewers used the only existing mills, namely those of the

(84) This duty, which in its Romance form is known as *cambage*, *chambage*, *cambaige* or *chambaige*, is indeed, contrary to what was thought, a duty levied on the manufacture of beer, cf. D. BROUWERS, *op. cit.*, t. I, p. 23: «..... et si a li cuens le cambage, c'est de cascune cambe à cascune fie c'on y brasse, 2 jales de cervoise.. »

(85) J.F. NIERMEYER, *op. cit.*, sub verbo *cambagium*, considers that this term is found for the first time in a diploma dated 1100 and published by F. VERCAUTEREN, *Actes des comtes de Flandre...*, Bruxelles, 1938, pp. 70-74, n° 24. The veracity of this deed of the Count of Flanders Robert II, of which neither the original nor copies are available today, has been questioned by F. VERCAUTEREN. According to the editor, some passages are indeed written in a very undiplomatic style and contain expressions that were unacceptable for the time. The presence of the word *cambagium* would add an additional element of suspicion because, according to our research, this term does not appear until the 13th century. DUCANGE, who cites numerous examples, provides only one from the middle of the 12th century.

(86) In our sources, we only find it in 1219, cf. J. PAQUAY, De oudste oorkonden van Beerlingen, *Bulletin de la Société scientifique et littéraire du Limbourg*, t. XLII, 1928, pp. 58-59.

(87) See on this subject M. BLOCH, *Avènement et conquêtes du moulin à eau*, *Annales d'histoire économique et sociale*, t. VII, 1935, pp. 538- 5635 ; A. BICHER CAARTEN, *De molen in ons volksleven*, Leyde, 1958 : A.M. BAUTIER, Les plus anciennes mentions de moulins hydrauliques industriels et de moulins à vent, *Bulletin Philologique et historique du comité des travaux historiques et scientifiques*, 1960, vol. 2, Paris, 1961, pp. 567-568.

landowner, and as a result, they had to pay a royalty on the milling (88). In the course of time, they will be compelled (89) to use these mills and even when this obligation is abolished, it will be maintained for the service of the brewers (90).

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* *

Let us now turn to the central problem: ascertaining the extent of beer production in the Mosan region. After going through hundreds of documents, we have reduced their information to revealing figures. Nevertheless, before subjecting these to a detailed analysis, we must deplore the gaps in the documents. These are attributable, on the one hand, to the fact that written evidence only began to acquire a legal value from the twelfth century onwards and, on the other hand, to the chance of preservation.

(88) Although there is no trace of it in the documents, this right was probably implemented at the same time as the right to brew. It should be noted that in some cases, notably in Dinant in the middle of the 11th century, the brewers were compelled to use the landlord's oven. This is probably due to the fact that the lord owned the forests, which were a source of fuel for the ovens, cf. F. ROUSSEAU, *op. cit.*, 3^e partie, pp. 87-91, n° 1.

(89) The banal grinding appears in the texts from the time when it is the object of an imposition and at the time when this imposition needs to be clarified and renewed. It is reported in Maastricht as early as 1122, see C. DE BORMAN, Notice sur un cartulaire du chapitre de Saint-Servais à Maastricht, *Bulletin de la Commission Royale d'Histoire*, 3^e série, t. IX, 1867, pp. 16-17; in Tongeren on 19 August 1241, see J. DARIS, *Notices historiques sur les églises du diocèse de Liège*, t. XI, 1883, p. 10; in Liège in June 1250, see S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, t. I, pp. 568-571, n° 471 ; in Sint-Truiden on 10 July 1304, see C. PIOT, *op. cit.*, t. I, pp. 418-419, n° 3 and J.L. CHARLES, *op. cit.*, appendix 1, II, art. 14, p. 431; in Namur on 10 June 1322, see J. BORGNET, Des corps de métiers..., *Messenger des sciences historiques*, Gand, 1847, p. 71 ; and in Huy, on 23 August 1387, see A.E. HUY, *Fonds Vierset Godin, Archives du château d'Abée*, reg. 512, f° 111 v°.

(90) Notably in Liège and Jupille. See on this matter R. VAN SANTBERGEN, Le statut des moulins liégeois de 1257, *Revue Belge de Philologie et d'Histoire*, t. XXVI, 1948, pp. 97-117.

In addition, we have also come up against a problem of internal criticism: how much credence is to be given to the so-called 'formularly' enumeration of the components constituting the estate? In all the contracts that concern it, the scribe has often detailed these elements in great detail, usually borrowing them from forms.

For our part, we would first point out that the estate, in many cases, could indeed consist of all the components listed since it was supposed to be self-sufficient. Secondly, in the specific case of the brewery, we believe that when it is mentioned, it actually exists. Indeed, we found that the brewery is mentioned in only two out of ten enumerations, while many other components are found in all (91).

It is therefore reasonable to assume that, if it was a formula, the term *camba* would be found in a much higher number of diplomas. However, the form of the quotation in the ablative plural does not allow us to determine the number of breweries. But this plural is most likely a form, since all the elements of the enumeration are in this case. One can therefore assume that, despite the plural, only one brewery is often referred to. However, in our tables, we have retained the minimum number each time; this restricts the error ratio to a certain extent.

To sum up, we believe that as far as the existence of the brewery is concerned, the formula designates a reality; on the other hand, the plural is often of a formal nature.

Moreover, this question only arises for records prior to 1100; after that date, the number of breweries is often specified and the term *camba* is then almost always used in the singular, if necessary.

(91) This is particularly the case for the words *domibus, campis, silvis, pratis, terris cultis et incultis, pascuis aquarumve decursibus ...* found in all inventories.



Our counting has enabled us to determine for each century the number of localities where one or more breweries are mentioned and has given us the following results:

Survey of places where breweries are mentioned (92)

Siècles	IX ^e s.	X ^e s.	XI ^e s.	XII ^e s.	XIII ^e s.	XIV ^e s. →1350	Total
Nombre total de localités (par siècle)	16	18	20	15	63	71	203
Localités déjà citées anté- rieurement	—	—	1	2	3	21	27
Localités supplémentaires .	—	—	19	13	60	50	176

It is immediately apparent that the increase is growing, except in the 12th century, and a very strong increase can be seen in the 13th century. It should also be noted that of the sixty localities mentioned in the thirteenth century, forty-three are mentioned after 1247. In other words, the number of breweries increases considerably after 1250. From the 9th to the middle of the 14th century, the texts thus provide us with one hundred and seventy-six names of localities where a brewery actually existed.

However, we considered our investigation incomplete. The manufacture of beer can, in fact, be detected in other documents, in particular in those which mention either the rights levied on the manufacture (93), or the activity of brewers (94).

(92) Cf. appendix n° 1.

(93) Thus, when the emperor granted the *materia* de Fosse to the bishop of Liège, no breweries are explicitly mentioned, but this donation most probably implies their existence. S. BORMANS & E. SCHOOLMEESTERS, *op. cit.*, t. I, pp. 18-19, n° 13.

(94) Similarly, when Théoduin in 1068 granted certain advantages to the *cervisarii* of Huy, it is reasonable to assume that this implies the existence of several breweries, cf.

Survey of locations where beer duties are mentioned (95)

Siècles	X-XII ^e s.	1200-1350	Total
Nombre total de localités	5	26	31
Localités ou sont mentionnées également des brasseries	4	15	19
Localités supplémentaires	1	11	12

Survey of places where brewers are mentioned (96)

Siècles	X-XIII ^e s.	XIII ^e s.	XIV ^e s. →1350	Total
Nombre total de localités	6	26	41	73
Localités ou sont mentionnées également des brasseries	6	22	22	50
Localités supplémentaires	0	4	19	23

Thirty-five new places are therefore added to the previously established figure. Between 800 and 1350, there are therefore two hundred and eleven places where beer was actually brewed. The number of breweries should also be established. However, this proves more difficult where only brewers or duties over beer brewing are mentioned. The figures obtained will consequently always be minimum figures.

Thus, between the 9th and the middle of the 14th century, a total of 378 breweries are recorded, spread over 176 localities. The increase is quite regular between the 9th and the 12th century: to the 20 breweries operating in 16 localities during the 9th century, are added 24 breweries in 18 other localities during the 10th century, 33 breweries in 19 other localities during the 11th century, 26 breweries in 13 localities during the 12th century. The movement accelerated after 1200, with 178 additional

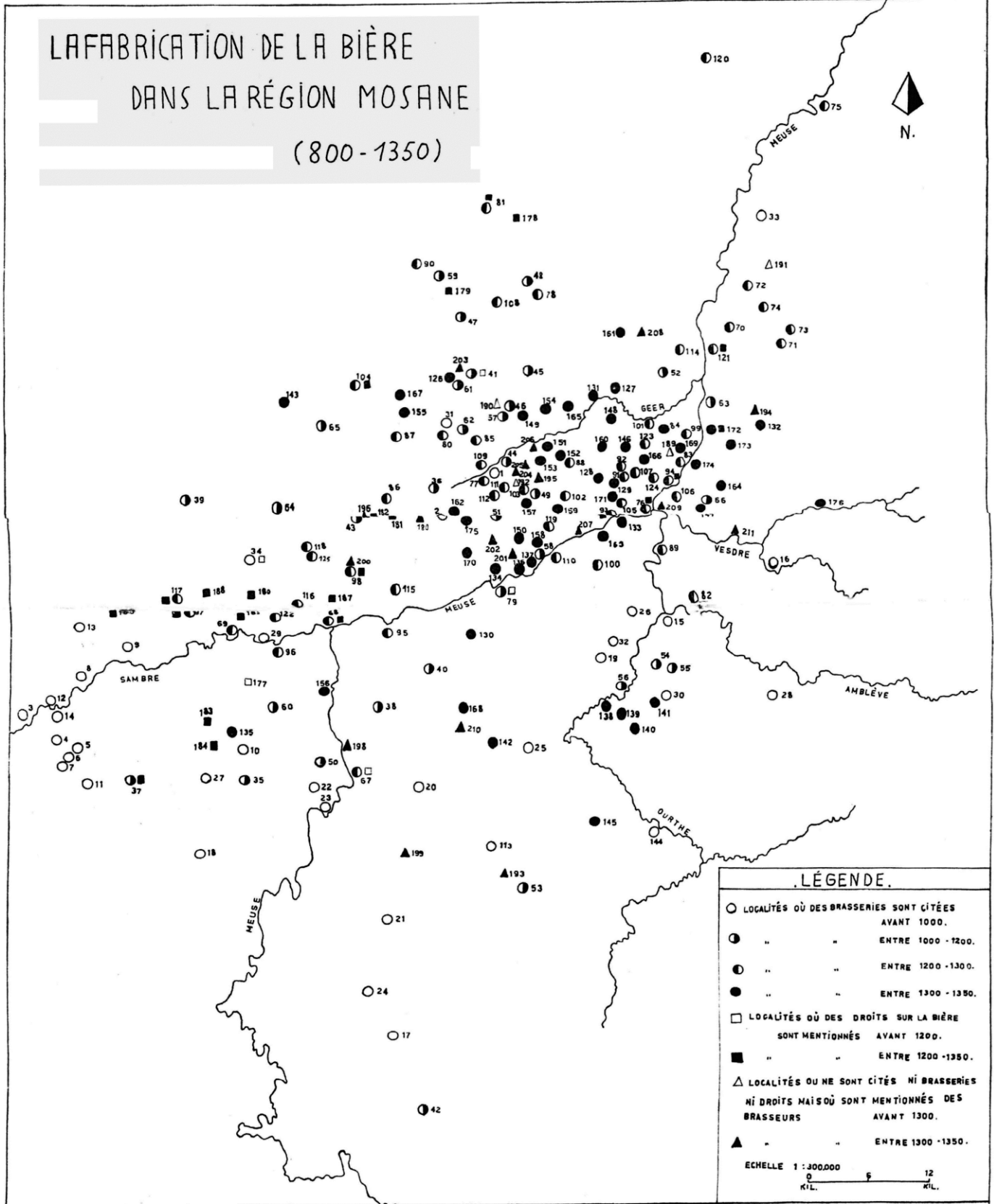
S. BORMANS et E. SCHOOLMEESTERS, *op. cit.*, *Bulletin de la Commission Royale d'Histoire*, 4^e série, t. I, 1873, pp. 98-100, n° III.

(95) Cf. appendix no 2.

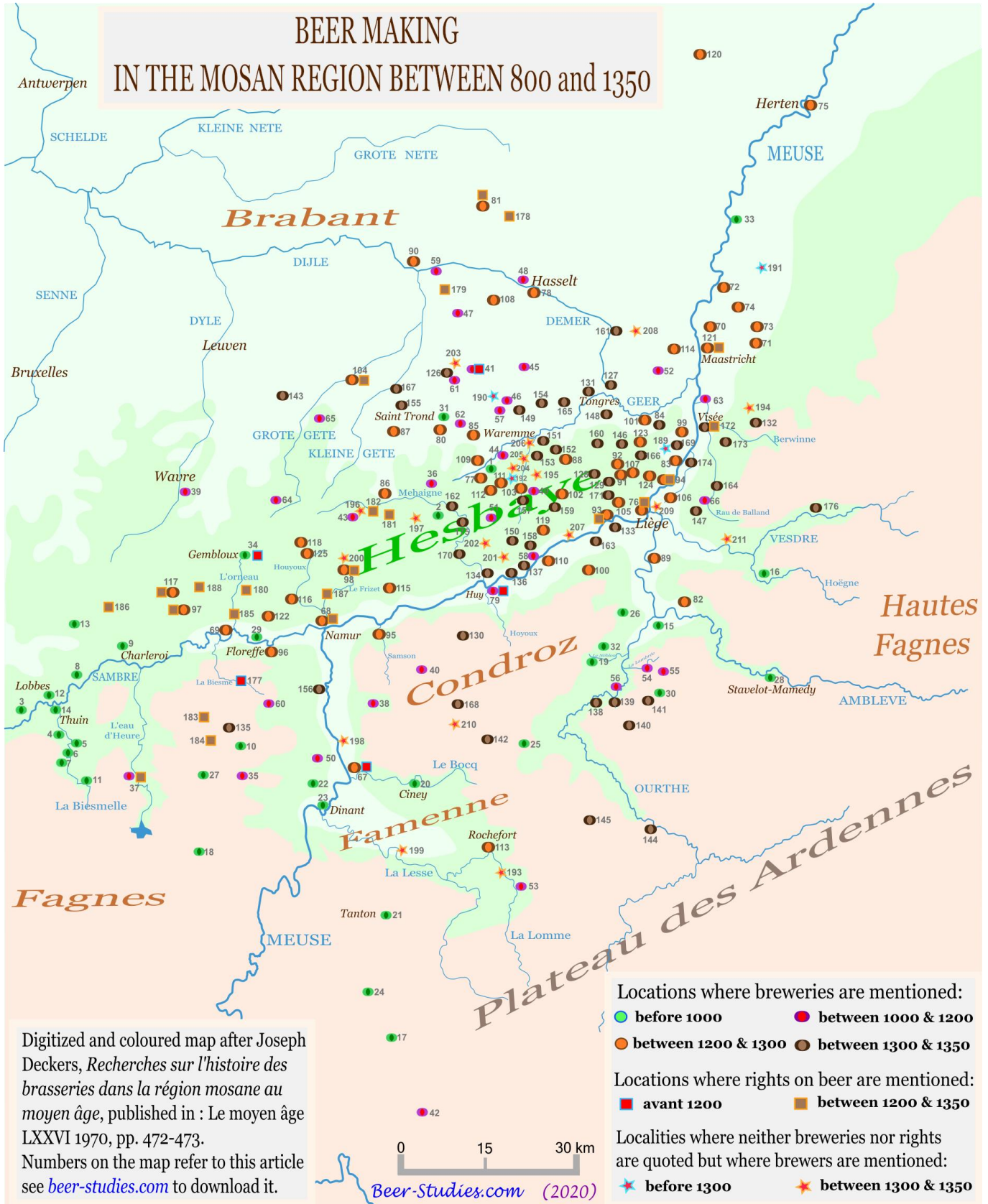
(96) Cf. appendix no 3.

BEER MAKING IN THE MOSAIN REGION (800-1350)

[Coloured and complemented version [infra](http://Beer-Studies.com) by Beer-Studies.com]



J. DECKERS' map digitised and complemented by Beer-Studies.com.
It highlights the location of breweries along rivers and their tributaries.



breweries reported in 60 new settlements during the 13th century and 101 breweries in 50 new settlements in the period from 1300 to 1350.

Until the 12th century, most of the documentation consists of charters; their number is quite small. In the 13th century, the number of charters and diplomas increases, but much more information is found in the polyptychs. These documents, which provide a detailed description of all the assets of an institution or a person, were mostly written in the second half of this century. However, not everything can be explained by the volume or nature of the documentation. We believe that the middle of the 13th century is indeed a turning point in the history of brewing. In cities such as Sint-Truiden (97), Namur (98), and Liège (99), the number of breweries is impressive in the second half of the 13th century. This is undoubtedly related to the increase of the urban population and to the fact that the vineyards in the Mosan valley did not extend so far (100).

Let us now try to determine the distribution of breweries in the geographical area studied. This area essentially encompasses two large regions separated by the Sambre-Meuse Rivers furrow; in the North, the Hesbaye, in the South, the Condroz, to which Famenne area and part of the Ardennes should be joined. If we examine the distribution century by century, we can see that before the year 1000, the few existing breweries are quite scattered, although some are grouped in the vicinity of Lobbes

(97) In 1253, the abbey of Sint-Truiden received the income from 30 *bassinae vel cambae* in the town, cf. *Le Livre de l'abbé Guillaume de Rijckel*, éd. H. PIRENNE, p. 359.

(98) In 1265, 10 *cambes* are mentioned in Namur and 23 in 1289, D. BROUWERS, *op. cit.*, t. I, pp. 22-23 and t. II, 2^e partie, pp. 247-249.

(99) In a deed of 15 June 1299, 36 *braxinae* are mentioned in Liège, but these are only those that refuse to pay the tax, cf. G. SIMENON, *op. cit.*, *Leodium*, t. VII, 1908, pp. 89-95.

(100) On vine growing, see H. VAN WERVEKE, *Comment les établissements religieux belges se procuraient-ils du vin au haut moyen âge ?* *Revue Belge de Philologie et d'Histoire*, t. II, 1923, pp. 643-662 and J. HALKIN, *Etude historique sur la culture de la vigne en Belgique*, *Bulletin de la Société d'Art et d'histoire du diocèse de Liège*, t. IX, 1895, pp. 1-146.

and along the river Ourthe. In the 11th and 12th centuries, they already tended to be located in Hesbaye. In the 13th century, they almost all appeared to the north of a line from Maastricht to Liège to Jemeppe on the Sambre. Finally, in the 14th century, the highest density is found in the region between the Geer and Meuse Rivers.

If, apart from the timeframe, we look at the map as a whole, we notice that a large number of breweries are located in Hesbaye and mainly concentrated between the rivers Geer and Meuse. On the other hand, in Condroz, there are fewer and more scattered. How can we explain this phenomenon?

The Hesbaye, with its richer soil, was significantly more populated than the Condroz, which was still very wooded. The abbeys of Liège therefore aimed above all to build up their estates in Hesbaye. A glance at the map of the estate of the cathedral chapter of Saint-Lambert at the end of the 13th century shows that the vast majority of its possessions were in Hesbaye (101). It is therefore not surprising to find more breweries in this area.

However, this statement must be mitigated. An examination of the map of the estates belonging to the abbey of Stavelot-Malmedy drawn up for the period before 1200 shows that this abbey had almost all its estates in the Condroz and the Ardennes (102). How can we explain why the majority of Hesbaye estates have a brewery, which is not the case for estates outside Hesbaye?

(101) This map is based upon the data provided in the polyptych of the cathedral, cf. D. VAN DERVEEGHDE, *Le polyptyque de 1280 du chapitre de la cathédrale Saint-Lambert à Liège*, Bruxelles, 1958. Concerning the nature and date of this document, see the review of the publication of Miss Van Derveeghde by A. JORIS, *Revue Belge de Philologie et d'Histoire*, t. XXXNII, Bruxelles, 1959, pp. 813-817.

(102) Cf. J. HALKIN et C.G. ROLAND, *Recueil des chartes de l'abbaye de Stavelot-Malmedy*, t. I, Bruxelles, 1909.

It is likely that the brewery indirectly benefited from the exceptional geographical conditions and the richness of the soil in this region. Not only did the region produce the cereals necessary for beer production, but there were also many waterways. Half of the places provided with breweries were located on a river (103).

While this fact certainly affects the location of the settlement, it does not explain the clear difference between the Condroz and Hesbaye areas. More likely, the presence of water influenced the location of the breweries within the towns and villages (104).

Moreover, although the most important brewery centres (105) are located along the Meuse River, the main trade route in the Mosan region, it is in the centre of the Hesbaye region that the first and most important beer production centre is to be found: Saint-Trond.

However, by the end of the 13th century, the latter was overtaken by the city of Liège, which enjoyed a very privileged situation.

(103) This is difficult to discern on the map. This would have required the addition of all the tributaries and small rivers. We have not done this in order not to overcomplicate the map. [Beer-Studies.com has digitised and complemented J. DECKERS' map to show the location of the Mosan breweries along the rivers and their tributaries. [See above.](#)]

(104) The breweries are sometimes located near a fountain: in Liege in 1250, the brewery *ad fontem Sancti Lamberti* cf. J.G. SCHOONBROODT, *Inventaire analytique et chronologique des chartes du chapitre de Saint-Martin à Liège*, Liège, 1871, p. 15, n° 51; near a well: in Maastricht in 1334, a brewery is located *iuxta puteum sancti Georgii* cf. P. DOPPLER, *Schepenbrieven van het kapittel van Sint-Servaas te Maastricht*, 1^e partie, p. 150, n° 268 ; most often along a river or a stream; thus in Waremme in 1082 cf. E. PONCELET, *Inventaire analytique des chartes de la collégiale Sainte-Croix à Liège*, t. I, pp. 6-7, n° 7 ; at Huy in 1238 cf. J. CUVELIER, *Cartulaire de l'abbaye du Val Benoît*, Bruxelles, 1906, p. 85, n° 72 and at Liège in 1233 cf. S. BORMANS & E. SCHOOLMEESTERS, *op. cit.*, t. I, pp. 316-318, n° 246.

(105) In order of magnitude : Liège, Maastricht, Namur and Huy.

Within these centres, we have noticed that dissemination prevails: this is the case in Sint-Truiden, Maastricht, Namur and especially in Liège (106). Sometimes the breweries are grouped together in the same district; this is notably the case in Huy and Coronmeuse (ban of Herstal).

In Huy, the brewers gathered in a place that had certain advantages, for example from the point of view of sales (107).

The settlement in Coronmeuse is motivated by tax reasons (108).

The brewing of beer was therefore of great importance in the Mosan region, and its development was particularly evident in Hesbaye. Was this production consumed entirely on the spot or was it traded?

Made possible by the use of hops, the international beer trade appeared at the end of the 13th century.

(106) In the document of 15 June 1299, breweries are mentioned in fifteen Liège parishes, cf. G. SIMENON, *op. cit. Leodium*, t. VII, 1908, pp. 89-95.

(107) The « brasseurue », which originated in the market, is already mentioned on 6 September 1314, cf. E. PONCELET, *Le livre des fiefs de l'Eglise de Liège sous Adolphe de la Marck*, Bruxelles, 1898, p. 150. However, it is much older since this is where Maurice de Neufmoustier alludes to when he locates *ad veteres cambas in foro Hoiensi*, the home of the skinner Herbert, father of Arlette and supposedly grandfather of William the Conqueror, cf. M. de NEUFMOUSTIER, éd. J. BRASSINNE, *Bulletin de la Société d'Art et d'Histoire du diocèse de Liège*, t. XII, 1900, p. 134 et AUBRY DE TROIS-FONTAINES, *Chronicon*, M.G.H., SS, t. XXIII, pp. 784-785. Maurice de NEUFMOUSTIER probably lived until 1251 and annotated Aubry's chronicle, which was written between 1232 and 1241, see on this subject S. BALAU, *op.cit.* pp. 469-473 and F. BAIX, *La légende d'Arlette mère de Guillaume le Conquérant, Narmurcum*, t. XXVIII, 1954, pp. 1-12. About the « brasseurue » in Huy, see A. JORIS, *op. cit.* p. 145 and note 68 and R. DUBOIS, *Les rues de Huy*, Huy, 1910, p. 74 ff.

(108) Since the end of the 11th century, Herstal was a Brabant possession. On 25 March 1265, Henri de Louvain, lord of Herstal, granted the inhabitants of this place the privilege of brewing cervesie freely, cf. E. PONCELET, *Trois documents relatifs à la paroisse de Wandre*, *Bulletin de la Société d'Art et d'Histoire du diocèse de Liège*, t. XIII, 1902, n° 2, p. 105.

The first beer exporters will be the Hanseatic cities (109). Nevertheless, while there are traces of this trade with the Flemish ports, there is no mention of it in the Meuse valley. With the exception of one case (110), there does not seem to have been any regional trade in beer. From the examination of the texts, it follows that the brewery produced exclusively for local consumption. At most, it may have been working for an 'urban' market with a fairly small radius. The sale of beer on the local market is attested in important centres since the 11th century (111). This sale of beer was subject to a tax levied by the local lord. It should be noted that sales on the local market were still subject to a system of fixed prices (112) and to sanitary regulations (113), which was at least the case in Liège.

In addition, another duty was imposed on the sale of beverages, and in particular that of the "cervoise": le *forage* (114). It was a tax levied on

(109) Bremen has been exporting hopped beer to Bruges since 1274, cf. P. DOLLINGER, *La Hanse*, Paris, 1964, pp. 56, 275, 283. The other Hanseatic towns exported to Antwerp and Holland from the beginning of the 14th century, cf. H. SOLY, *op. cit.*, *Revue Belge de Philologie et d'Histoire*, t. XLVI, 1968, p. 346 et A. HALLEMA and J.A. EMMENS, *op. cit.*, pp. 34,48,53.

(110) At Biesme in 1289 « ... Encor i a li cuens le forage de vin, de chascune pièche 4 los de vin, et do mies aussi 4 los et dele cervoise c'on i brasse at li cuens 16 los et dele cervoise c'om amaine de defors 4 los », cf. D. BROUWERS, *op. cit.*, t. II, 2^e partie, p. 352. [“Still he has the cens of forage on wine, of each piece (barrel) 4 los of wine, and of me also 4 los and of the beer that one brews there he has as cens 16 los and of the beer that one brings from outside 4 los.” A los is a volume unit, unknown value].

(111) This was the case, for example, in Dinant from the middle of the 11th century, cf. F. ROUSSEAU, *op. cit.*, 3^e partie, pp. 87-91, n° 1.

(112) It appears in Liège as early as 1196 ; confirmation of this deed on 3 June 1208, cf. G. KURTH, *Origine de la commune de Liège*, B.I.A.L. t. XXXV, 1905, pp. 304-309, et le 9 avril 1230 cf. E. FAIRON, *Chartes confisquées ...*, pp. 48-50.

(113) In a regulation from the first half of the 13th century, an article is written as follows : “quiquionques brasse cervoise que ons appelle rahiers, il est escommengniez ...” cf. E. PONCELET, *Mélanges*, B.I.A.L., t. XXIII, 1892, p. 470. [“to anyone who brews cervoise that we call rahiers, it is ordered ...”]

(114) There is a clear reference to this as early as the middle of the 11th century in the list of rights of the Count of Namur in Dinant, cf. F. ROUSSEAU, *op. cit.*, 3^e partie, pp. 87-91 ; « ...si quis vinum vel alium potum vendere voluerit, ministerialis sui licentia vas

the tapping of barrels. In summary, we believe we can state that the Mosan brewery produced exclusively to satisfy the local consumption

The status of breweries still needs to be defined, and we will study this problem in another article. However, we agree with other historians that the medieval beer brewing was a banality activity from the middle of the 11th century (115).

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The breweries appeared in the Mosan valley, as elsewhere, at the beginning of the 9th century. From the beginning, they were probably submitted to certain duties. However, these are only explicitly mentioned in the texts from the 10th century onwards; they are regarded as a banality right as early as the middle of the 11th century. Among them, a distinction must be made between the duties levied on production (the *grutum* and the *cambagium*), on milling and on sale. Beer production was of considerable importance in the Mosan basin. Our research has enabled us to identify more than 200 localities where beer was made and almost 400

perforabitur et de perforatione, secundum quod jus suum est, ei respondebitur. » Nevertheless, it is mostly found as early as 1265, in Cens et rentes du Comté de Namur, éd. D. BROUWERS, 2 t. in 3 vol. Namur, 1910-1921.

(115) J. BEHETS, Het banale « Paenhuys » of de banale brouweri; in het graafschap Loon en het omliggende, *Album Dr. M. Bussels*, Hasselt, 1967, pp. 79-86, and L. GENICOT, Les premières mentions de droits banaux dans la région de Liège, *Bulletin de la classe des Lettres et des sciences morales et politiques*, 5° série, t. LIV, Bruxelles, 1968, pp. 56-65.



breweries are mentioned in the documents. In addition, there is a very high concentration of breweries in Hesbaye, no doubt because of the fertility of the soil. The number of breweries became very large in the middle of the 13th century, which is obviously related to the increase in the population. Finally, it does not appear that there was any export trade in beer because, until the 14th century, the breweries of the Middle Meuse River produced exclusively for the local consumption*.

Liège

J. DECKERS

(*) I thank Professor F. VERCAUTEREN and Mr A. JORIS, associate lecturer at the University of Liège, for the advice they gave me during the writing of this article.

HISTORY OF THE BREWERIES
APPENDIX No 1

Locations where breweries are mentioned between 800-1350

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
1	2-4-805 ?	Grand-Axhe	Lg	Waremmes	J. DOUBLET, <i>Histoire de l'abbaye de Saint-Denys...</i> , t. 2, p. 724.
2	21-3-866	Ville-en-Hesbaye	Lg	Hannut	A. JORIS et G. DESPY, <i>op. cit.</i> , B.C.R.H., t. CXXVI, 1960, pp. 132-134.
3	866	Roelx départ. de Sars-La-Buissière	H	Merbes-le-Château	J. WARICHEZ, <i>op. cit.</i> , B.C.R.H., t. LXXVIII, 1909, pp. 249-250.
4	866	Ragnies	H	Thuin	<i>Ibidem</i> , p. 251.
5	866	Thuillies	H	Thuin	<i>Ibidem</i> , pp. 251-252.
6	866	Donstiennes	H	Thuin	<i>Ibidem</i> , p. 252.
7	866	Strée	H	Thuin	<i>Ibidem</i> , p. 253.
8	866	Leernes	H	Fontaine-L'Evêque	<i>Ibidem</i> , p. 255.
9	866	Jumet	H	CH.L.C.	<i>Ibidem</i> , p. 260.
10	866	Biesmerée	N	Florennes	<i>Ibidem</i> , p. 262.
11	866	Castillon	N	Walcourt	<i>Ibidem</i> , p. 263.
12	866	Lobbès	H	Thuin	<i>Ibidem</i> , pp. 264-265.
13	866	Trazegnies	H	Fontaine-L'Evêque	<i>Ibidem</i> , p. 265.
14	866	Thuin	H	CH.L.C.	<i>Ibidem</i> , p. 266.
15	6-9-885	Oneux s. Comblain au Pont ?	Lg	Nandrin	J. HALKIN et C.G. ROLAND, <i>Recueil des chartes de... Stavelot-Malmédy</i> , t. 1, pp. 105-107, n° 42.
16	8-10-898	Theux	Lg	Spa	C.S.L., t. 1, pp. 8-9, n° 6.
17	14-4-915	Oizy ?	N	Gedinne	J. HALKIN et C.G. ROLAND, <i>op. cit.</i> , t. 1, pp. 126-129, n° 53.
18	11-5-(915-923)	Villers en Fagne	N	Philippeville	<i>Ibidem</i> , t. 1, pp. 129-131, n° 54.
19	3-10-(932)	Genneret départ. Bende	Lx	Durbuy	<i>Ibidem</i> , t. 1, pp. 142-144, n° 60.
20	24-4-943	Reux départ. de Conneux	N	Ciney	J. DARIS, <i>Notices historiques sur les églises du diocèse de Liège</i> , t. IX, pp. 9-10.
21	(26-4/6-8) 943	Tanton départ. de Froidfontaine	N	Beauraing	J. HALKIN et C.G. ROLAND, <i>op. cit.</i> , t. 1, pp. 153-156, n° 66.

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APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
22	2-6-946	Melin dép. Onhaye	N	Dinant	G. DESPY, <i>Les chartes de l'abbaye de Waulsort</i> , t. 1, pp. 324-325, n° 2.
23	19-9-946	Waulsort	N	Dinant	<i>Ibidem</i> , t. 1, pp. 325-327, n° 3.
24	19-9-946	Louette Saint Denis	N	Gedinne	<i>Ibidem</i> .
25	19-9-946	Heure	N	Rochefort	<i>Ibidem</i> .
26	19-9-946	Anthisnes	Lg	Nandrin	<i>Ibidem</i> .
27	19-9-946	Florennes	N	CH.L.C.	<i>Ibidem</i> .
28	31-10-953	Basse-Bodeux	Lg	Stavelot	J. HALKIN et C.G. ROLAND, <i>op. cit.</i> , pp. 169-171, n° 74.
29	964	Soye	N	Namur	C.G. ROLAND, <i>Chartes de l'abbaye de Gembloux</i> , pp. 19-21, n° 7.
30	24-1-966	Villers Ste. Gertrude	Lx	Durbuy	M.G.H., DOI, n° 318, pp. 432-433.
31	24-1-966	Gingelom	Lb	Saint-Trond	<i>Ibidem</i> .
32	17-3-966	Ouffet	Lg	Nandrin	J. HALKIN et C.G. ROLAND, <i>op. cit.</i> , t. 1, pp. 183-185, n° 82.
33	ap. 979	Obbicht (Pays-Bas)	Lb		C.G. ROLAND, <i>op. cit.</i> , pp. 1-8, n° 1.
34	991 ?	Gembloux	N	CH.C.L.	G.A.G., M.G.H. ss. t. VIII, p. 531.
35	1018	Corenne	N	Florennes	U. BERLIERE, <i>Documents inédits...</i> , t. 1, pp. 9-11, n° IV.
36	2-11-1023	Villers Le Peuplier	Lg	Hannut	M. GYSSELING et A.C.F. KOCH, <i>Diplomata Belgica</i> , t. 1, pp. 362-363, n° 214.
37	1-6-1026	Walcourt	N	CH.L.C.	L. LAHAYE, <i>Cartulaire de la commune de Walcourt</i> , pp. 1-3, n° 1.
38	1028	Crupet	N	Namur	G. DESPY, <i>op. cit.</i> , t. 1, pp. 333-334, n° 8.
39	(1040-1048)	Beaurieux dép. Court-St.-Etienne	Br	Wavre	C.G. ROLAND, <i>op. cit.</i> , p. 41, n° 26.
40	(1050)	Gesves	N	Andenne	M. HOUTART, <i>Le village de Gesves...</i> , A.S.A.N., t. XLI, 1934, pp. 248-249, n° IV.
41	15-4-1064	Saint-Trond	Lb	CH.L.C.	M.J. WOLTERS, <i>Codex diplomaticus Lossensis</i> , n° 43, pp. 30-31.

HISTORY OF THE BREWERIES
APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
42	ap. 1069	Bouillon	Lx	CH.L.C.	G. KURTH, <i>Chartes de l'abbaye de Saint-Hubert</i> , t. 1, p. 28, n° 25.
43	Ap. 17-7-1070	Taviers	N	Eghezée	<i>Ibidem</i> , pp. 34-35, n° 30.
44	5-2-1079	Waremmes	Lg	CH.L.C.	C.S.L., t. 1, pp. 38-43, n° 26.
45	5-2-1079	Berlingen	Lb	Looz	<i>Ibidem</i> .
46	5-2-1079	Klein Gelmen	Lb	Looz	<i>Ibidem</i> .
47	5-2-1079	Rummen	Br	Leau	<i>Ibidem</i> .
48	5-2-1079	Curange	Lb	Hasselt	<i>Ibidem</i> .
49	1084	Donceel	Lg	Waremmes	J. DE CHESTRET DE HANEFFE, <i>La terre franche de Haneffe</i> , BIAL, t. 38, 1908, p. 114, n° 1.
50	1085	Sommière	N	Dinant	L. LAHAYE, <i>Chartes de l'abbaye de Brogne</i> , pp. 6-9, n° 2.
51	1095	Vaux et Borset	Lg	Jehay-Bodegnée	J. BARBIER, <i>Documents... chapitre de Fosses</i> , A.H.E.B., t. IV, 1867, pp. 396-398.
52	1096	Riemst	Lb	Tongres	M. GYSSELING et A.C.F. KOCH, <i>op. cit.</i> , t. 1, pp. 376-377, n° 225.
53	1-11-1098 ?	Grupont	Lx	Nassogne	K. HANQUET, <i>Cantatorium</i> , p. 239.
54	1105	Ferot dép. de My	Lx	Durbuy	J. HALKIN et C.G. ROLAND, <i>op. cit.</i> , t. 1, pp. 279-281, n° 137.
55	1105	Fagnoul dép. de Ferrières	Lg	CH.L.C.	<i>Ibidem</i> .
56	1109	Bomal	Lx	Durbuy	G. KURTH, <i>op. cit.</i> , t. 1, pp. 93-94, n° 77.
57	(1095-1116)	Marsnil dép. Gelinden	Lb	Saint-Trond	L. VON WINTERFELD, <i>Ein Original-urkunde... St. Jacob</i> , BCRH, t. 83, 1920, pp. 223-231.
58	1118	Flône	Lg	Jehay-Bodegnée	A. EVRARD, <i>Documents... Flône</i> , pp. 16-18, n° 5.
59	1146	Haelen	Lb	Herck-La-Ville	C. PIOT, <i>op. cit.</i> , pp. 70-71, n° 52.
60	(9-3/24-6) 1154	Saint-Gerard	N	Fosse	F. ROUSSEAU, <i>op. cit.</i> , pp. 22-30, n° 9.

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APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
61	(1147-1155)	Hamaal	Lb	Saint-Trond	C. PIOT, <i>op. cit.</i> , t. 1, pp. 74-75, n° 54.
62	1167	Borlo	Lb	Saint-Trond	J. STIENNON, <i>Documents...</i> , BCHR, t. CXIV, 1949, p. 181.
63	1178	Eysden (Pays-Bas)	Lb		J.G. SCHOONBROODT, <i>Inventaire... St.-Martin</i> , p. 4, n° 7.
64	1185	Orbais	Br	Perwez	J. BARBIER, <i>Histoire... Floreffe</i> , 2 ^e éd., t. II, p. 41.
65	Fin XII ^e s.	St. Remy-Geest	Br	Jodoigne	P. BONENFANT, <i>Les chartes de Régnard...</i> , BCRH, t. CV, 1940, pp. 359-363, n° 7.
66	XII ^e s.	Retinne	Lg	Fléron	S.P. ERNST, <i>Histoire du Limbourg</i> , t. VI, pp. 83-84.
67	1202	Dinant	N	CH.L.C.	G. DESPY, <i>op. cit.</i> , t. 1, pp. 412-413, n° 1.
68	1214	Namur	N	CH.L.C.	J. BORNET et S. BORMANS, <i>Cartulaire de... Namur</i> , pp. 9-14, n° 5.
69	19-12-1221	Jemeppe-sur-Sambre	N	Gembloux	E. PONCELET, <i>Actes de Hugues de Pierrepont</i> , pp. 191-193, n° 196.
70	(1145-1222)	Meersen (Pays-Bas)	Lb		B. GUERARD, <i>Polyptyque de Saint-Remi de Reims...</i> , p. 109, n° 6.
71	(1145-1222)	Schin-sur-Geulle (<i>id.</i>)	Lb		<i>Ibidem</i> , p. 109, n° 7.
72	(1145-1222)	Beek (<i>id.</i>)	Lb		<i>Ibidem</i> , p. 110, n° 8.
73	(1145-1222)	Klimmen (<i>id.</i>)	Lb		<i>Ibidem</i> , p. 110, n° 9.
74	(1145-1222)	Schimmert (<i>id.</i>)	Lb		<i>Ibidem</i> , p. 110, n° 10.
75	(1145-1222)	Herten (Pays-Bas)	Lb		<i>Ibidem</i> , p. 110, n° 17.
76	26-7-1227	Liège	Lg	CH.L.C.	C.S.L., t. 1, pp. 316-318, n° 246.
77	19-3-1230	Hollogne-sur-Geer	Lg	Waremme	D. BROUWERS, <i>Chartes et Règlements...</i> , t. 1, pp. 37-39, n° 68.
78	Mai 1232	Hasselt	Lb	CH.L.C.	R.O.P.L., 1 ^{re} série, 1855, p. 39.
79	18-5-1238	Huy	Lg	CH.L.C.	J. CUVELIER, <i>Cartulaire du Val-Benoît</i> , p. 85, n° 72.
80	1238	Niel bij St. Truiden	Lb	Saint-Trond	G. HANSOTTE, <i>Inventaire... Jehay-Bodegnée</i> . BSAHL. t. XL. 1958. pp. 3-22.

HISTORY OF THE BREWERIES
 APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
81	1239	Beringen	Lb	CH.L.C.	R.O.P.L., 1 ^{re} série, pp. 40-41.
82	Janvier 1245	Sprimont	Lg	Louveigné	J. HALKIN et C.G. ROLAND, <i>op. cit.</i> , t. 2, pp. 45-46, n ^o 330.
83	1245	Vivegnis	Lg	Fexhe-Slins	E. PONCELET, <i>Inventaire... Saint-Pierre</i> , p. 13, n ^o 35.
84	21-10-1247	Houtain St. Siméon	Lg	Fexhe-Slins	J. RUWET, <i>Cartulaire... Val Dieu</i> , pp. 75-76, n ^o 92.
85	1250	Goyer	Lg	Saint-Trond	L. LAHAYE, <i>Fragments d'un polyp-tyque...</i> , BCRH, t. CVII, 1942, p. 230.
86	1250	Merdorp	Lg	Hannut	<i>Ibidem</i> , p. 238.
87	1250	Racour	Lg	Hannut	<i>Ibidem</i> , p. 248.
88	1250	Kemexhe	Lg	Hollogne-aux-Pierres	<i>Ibidem</i> , p. 275.
89	27-7-1251	Mery dép. de Tilff	Lg	Seraing	C.S.L., t. 2, pp. 12-13, n ^o 495.
90	1253	Webbekom	Br	Diest	H. PIRENNE, <i>op. cit.</i> , p. 332.
91	22-6-1260	Waroux dép. Alleur	Lg	Fexhe-Slins	<i>Documents... Cornillon</i> , AHEB, 1890, p. 154, n ^o IV.
92	6-7-1260	Lantin	Lg	Fexhe-Slins	A. DELESCLUSE et D. BROUWERS, <i>Catalogue... H. de Gueldre</i> , pp. 300-304, n ^o 99.
93	7-12-1261	Jemeppe sur Meuse	Lg	Hollogne-aux-Pierres	C. PIOT, <i>op. cit.</i> , t. 1, p. 299, n ^o 251.
94	25-3-1264	Herstal (Coronmeuse)	Lg	CH.L.C.	A. COLLART-SACRE, <i>op. cit.</i> , t. II, p. 169.
95	1265	Samson dep. Thon	N	Andenne	D. BROUWERS, <i>op. cit.</i> , t. 1, p. 75.
96	1265	Floreffe	N	Fosse	<i>Ibidem</i> , t. 1, p. 156.
97	1265	Fleurus	H	Gosselies	<i>Ibidem</i> , t. 1, p. 10.
98	1265	Waret-la-Chaussée	N	Eghezée	<i>Ibidem</i> , t. 1, p. 101.
99	1270	Haccourt	Lg	Fexhe-Slins	M.J. WOLTERS, <i>Notice... Munsterbilsen</i> , pp. 61-63, n ^o 13.
100	1271	Ehein	Lg	Nandrin	J. HALKIN, <i>Documents...</i> , BCRH, 5 ^e série, t. IV, 1894, pp. 182-184, n ^o V.
101	1280	Boirs	Lg	Fexhe-Slins	D. VAN DERVEEGHDE, <i>Le polyptyque...</i> , pp. 41-42.

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APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
102	1280	Voroux Goreux	Lg	Hollogne-aux-Pierres	<i>Ibidem</i> , p. 74.
103	1280	Limont	Lg	Waremmé	<i>Ibidem</i> , p. 80.
104	1280	Tirlemont	Br	CH.L.C.	<i>Ibidem</i> , p. 130.
105	1280	Montegnée	Lg	Hollogne-aux-Pierres	<i>Ibidem</i> , p. 132.
106	1280	Jupille	Lg	Grivegnée	<i>Ibidem</i> , p. 140.
107	1280	Rocourt	Lg	Fexhe-Slins	<i>Ibidem</i> , p. 200.
108	1280	Stevoort	Lb	Herck-La-Ville	J. DARIS, <i>Notices...</i> , t. VI, pp. 148-151, n° 4.
109	27-3-1281	Berloz	Lg	Waremmé	C.S.L., t. 2, p. 329, n° 719.
110	9-10-1284	Hermalle s. Huy	Lg	Nandrin	J.G. SCHOONBROODT, <i>Inventaire... Val Saint-Lambert</i> , t. 1, p. 140, n° 378.
111	17-2-1285	Faimés dep. Celles-lez-Waremmé	Lg	Waremmé	C.S.L., t. 2, p. 391, n° 761.
112	17-2-1285	Celles-Lez-Waremmé	Lg	Waremmé	<i>Ibidem</i> .
113	Août 1285	Rochefort	N	CH.L.C.	C. LAMOTTE, <i>Etude... comté de Rochefort</i> , pp. 519-533.
114	1286	Kesselt dep. Weldwezelt ?	Lb	Bilzen	J. BUNTINX et M. GYSSELING, <i>Het oudste goederenregister van Oudenbieten</i> , p. 66.
115	1289	Hingeon	N	Eghezée	D. BROUWERS, <i>Cen et rentes</i> , t. 2, 2 ^e partie, p. 179.
116	1289	Rhisnes	N	Eghezée	<i>Ibidem</i> , t. 2, 2 ^e partie, pp. 63-64.
117	1289	Brigode St. Amand	H	Gosselies	<i>Ibidem</i> , t. 2, 2 ^e partie, p. 73.
118	1289	Liernu	N	Eghezée	<i>Ibidem</i> , t. 2, 2 ^e partie, pp. 142-143.
119	Février 1291	Yernawe dep. St Georges	Lg	Jehay-Bodegnée	J.G. SCHOONBROODT, <i>op. cit.</i> , t. 1, p. 145, n° 388.
120	21-5-1294	Weert (Pays-Bas)	Lb		P. DOPPLER, <i>Verzameling...</i> , p. 135, n° 232.
121	1294	Maastricht (Pays-Bas)	Lb		H. BANENS, <i>op. cit.</i> , <i>Limburgse Leeuw</i> , 1960, pp. 82-91.
122	1294	Temploux	N	Namur	D. BROUWERS, <i>op. cit.</i> , t. 1, p. 204.

HISTORY OF THE BREWERIES
 APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
123	1294	Fexhe-Slins	Lg	CH.L.C.	A.E.L., <i>Pauvres en île</i> , reg. 13, folios 74v ^o -76v ^o .
124	1294	Vottem	Lg	Herstal	<i>Ibidem</i> , folio 117 r ^o .
125	(XIII ^e s.)	Matignée dep. St Germain	N	Eghezée	A.E.N., Abbaye de Géronsart, <i>Registre aux planchettes</i> , n ^o 3359, folio 50 r ^o .
126	1300	Wilderen ?	Lb	Saint-Trond	J. BUNTINX et M. GYSSELING, <i>op. cit.</i> , pp. 80-81.
127	1300	Berg ?	Lb	Tongres	<i>Ibidem</i> , pp. 86-87.
128	29-6-1301	Awans	Lg	Hollogne-aux-Pierres	C.S.L., t. 3, pp. 2-5, n ^o 892.
129	29-6-1301	Loncin	Lg	Hollogne-aux-Pierres	<i>Ibidem</i> .
130	19-6-1304	Perwez-lez-Andenne	N	Andenne	C.S.L., t. 3, pp. 46-50, n ^o 924.
131	21-4-1309	Tongres	Lb	CH.L.C.	J. PAQUAY, <i>Cartulaire collégiale... Tongres</i> , pp. 301-307.
132	(1280-1314)	Fouron St. Pierre	Lb	CH.L.C.	J. BUNTINX et M. GYSSELING, <i>op. cit.</i> , p. 153.
133	26-5-1314	Seraing	Lg	CH.L.C.	E. PONCELET, F.A.M., p. 10.
134	1-8-1314	Antheit	Lg	Huy	<i>Ibidem</i> , p. 108.
135	17-9-1314	Thozée dep. Mettet	N	Fosse	<i>Ibidem</i> , p. 13.
136	19-12-1314	Ampsin	Lg	Huy	<i>Ibidem</i> , p. 156.
137	19-12-1314	Amay	Lg	Huy	<i>Ibidem</i> , p. 156.
138	1314	Durbuy	Lx	CH.L.C.	J. GROB et J. VANNERUS, <i>Dénombrements...</i> , t. 1, p. 552.
139	1314	Barvaux	Lx	Durbuy	<i>Ibidem</i> , p. 553.
140	1314	Weris	Lx	Durbuy	<i>Ibidem</i> , p. 555.
141	1314	Aisne dep. Heyd	Lx	Durbuy	<i>Ibidem</i> , p. 555.
142	1314	Scy	N	Ciney	<i>Ibidem</i> , p. 558.
143	12-4-1315	Beauvechain	Br	Jodoigne	E. PONCELET, F.A.M., p. 164.
144	1315	Laroche	Lx	CH.L.C.	J. GROB et J. VANNERUS, <i>op. cit.</i> , pp. 528-529.
145	1315	Lignière dep. Roy	Lx	Marche en Famenne	<i>Ibidem</i> , p. 533.
146	9-1-1317	Juprelle	Lg	Fexhe-Slins	E. PONCELET, F.A.M., p. 181.
147	10-11-1317	Fléron	Lg	CH.L.C.	<i>Ibidem</i> , p. 199.

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APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
148	19-7-1317	Vreeren	Lb	Tongres	C.S.L., t. 3, pp. 172-173, n° 1011.
149	14-11-1319	Fologne	Lb	Looz	H. VAN NEUSS, <i>Actes et Documents...</i> , B.M.H., t. 35, pp. 181-184.
150	1321	Fize Fontaine	Lg	Jehay-Bodegnée	E. PONCELET, F.A.M., p. 270.
151	1322	Lens sur Geer	Lg	Waremmes	A.E.L., <i>Polyptyque Saint-Denis</i> , n° 7, folio 8 v°.
152	1322	Fize le Marsal	Lg	Hollogne-aux-Pierres	A.E.L., <i>Polyptyque Saint-Denis</i> , n° 7, folio 23 v°.
153	1324	Hodeige	Lg	Waremmes	<i>Ibidem</i> , n° 9, folio 60 bis r°.
154	1324	Heks	Lb	Looz	<i>Ibidem</i> , folio 51bis r°.
155	1324	Neerwinden	Br	Landen	<i>Ibidem</i> , folio 136 v°.
156	11-11-1325	Profondeville	N	Namur	D. BROUWERS, <i>chartes...</i> , t. II, pp. 142-144, n° 467.
157	1329	Haneffe	Lg	Jehay-Bodegnée	L. DEVILLERS, <i>Cartulaire des Comtes de Hainaut</i> , t. III, pp. 216-219, n° 229.
158	5-6-1329	Jehay-Bodegnée	Lg	CH.L.C.	E. PONCELET, F.A.M., p. 349.
159	1332	Lexhy	Lg	Hollogne-aux-Pierres	S. BORMANS, <i>Seigneuries féodales...</i> , p. 263.
160	28-2-1333	dep. Horion-Hozémont	Lg	Hollogne-aux-Pierres	E. PONCELET, F.A.M., p. 338.
161	1333	Villers-L'Evêque	Lb	CH.L.C.	H. VAN NEUSS, <i>Inventaire... Munsterbilzen</i> , p. 40.
162	26-6-1334	Braives	Lg	Hannut	C.S.L., t. 3, n° 1174, pp. 443-444.
163	21-8-1334	Ivoz-Ramet	Lg	Seraing	J.G. SCHOONBROODT, <i>Inventaire... Val Saint-Lambert</i> , t. 1, p. 184, n° 491.
164	1-10-1334	Cerexhe-Heuseux	Lg	Fléron	J. CEYSSENS, <i>La vouerie...</i> , <i>Leodium</i> , t. 1, 1902, pp. 10-14.
165	8-7-1335	Widooie	Lb	Tongres	E. PONCELET, F.A.M., p. 421.
166	1-4-1338	Liers	Lg	Fexhe-Slins	C.S.L., t. 3, p. 527, n° 1220.
167	(1340)	Wange	Br	Landen	L. GENICOT, <i>Le Namurois...</i> , p. 135.
168	1-8-1345	Hubinne dep. Hamois	N	Ciney	E. PONCELET, F.A.M., p. 136.
169	27-8-1345	Oupeye	Lg	Fexhe-Slins	<i>Ibidem</i> , pp. 154-155.
170	7-11-1345	Huccorgne	Lg	Héron	<i>Ibidem</i> , p. 225.



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APPENDIX 1 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
171	1349	Grace Berleur	Lg	Hollogne-aux-Pierres	M. PONTIR, <i>Histoire...</i> , <i>BIAL</i> , t. 78, 1965, p. 273.
172	(1350)	Visé	Lg	Dalhem	J. CEYSSENS, <i>Histoire de la paroisse de Visé</i> , pp. 211-212.
173	(1350)	Mortroux	Lg	Dalhem	J. CEYSSENS, <i>Mortroux...</i> , <i>Leodium</i> , t. 3, 1904, p. 7.
174	(1312-1351)	Cheratte	Lg	Dalhem	L. GALESLOOT, <i>Le Livre des Feudataires...</i> , p. 37.
175	(1312-1351)	Fallais	Lg	Hannut	<i>Ibidem</i> , p. 260.
176	(1312-1351)	Dolhain dep. Limbourg	Lg	CH.L.C.	<i>Ibidem</i> , p. 274.

APPENDIX 2

Locations where only duties levied on manufacturing are mentioned

177	974	Fosse	N	CH.L.C.	C.S.L., t. 1, pp. 18-19, n° 13.
178	1219	Heusden Biesme	Lb	Beringen	J. PAQUAY, <i>op. cit.</i> , B.S.S.L., t. 42, pp. 58-59.
179	5-12-1233	Donk	Lb	Herck-La-Ville	C.S.L., t. 1, pp. 318-319, n° 247.
180	1265	Golzinne dep. Bossière	N	Gembloux	D. BROUWERS, <i>op. cit.</i> , t. 1, p. 48.
181	1265	Wasseige	Lg	Hannut	<i>Ibidem</i> , t. 1, p. 70.
182	1265	Branchon	N	Eghezée	<i>Ibidem</i> , t. 1, p. 72.
183	1265	Biesme	N	Fosse	<i>Ibidem</i> , t. 1, p. 147.
184	1265	Oret	N	Florennes	<i>Ibidem</i> , t. 1, p. 148.
185	1289	Onoz	N	Gembloux	<i>Ibidem</i> , t. 2, 2 ^e partie p. 78.
186	1289	Viesville	H	Gosselies	<i>Ibidem</i> , t. 2, 2 ^e partie, p. 26.
187	1294	Vedrin	N	Namur	<i>Ibidem</i> , t. 1, p. 230.
188	(1312-1351)	Sombreffe	N	Gembloux	L. GALESLOOT, <i>Le Livre des Feudataires...</i> , pp. 8-9.

APPENDIX 3

Locations where only brewers are mentioned

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
189	1250	Aaz dep. Hermée	Lg	Fexhe-Slins	L. LAHAYE, <i>op. cit.</i> , BCRH, t. CVII, 1942, p. 219.
190	(1249-1272)	Engelmanshoven	Lb	Saint-Trond	H. PIRENNE, <i>op. cit.</i> , p. 321.
191	24-12-1287	Munstergeleen (Pays-Bas)	Lb		J. RUWET, <i>op. cit.</i> , pp. 223-225, n° 239.
192	Août 1297	Bovenistier	Lg	Waremmes	E. PONCELET, <i>Inventaire... de Sainte-Croix</i> , t. 1, p. 79, n° 179.
193	4-4-1303	Wayreille	N	Rochefort	E. PONCELET, <i>Inventaire de... Saint-Pierre</i> , pp. 20-21, n° 61.
194	Décembre 1304	Noorbeek (Pays-Bas)	Lb		M.J. WOLTERS, <i>Notice... commanderie... Vieux-Joncs</i> , pp. 46-47, n° 6.
195	27-5-1307	Remicourt	Lg	Waremmes	J. CUVELIER, <i>Cartulaire du Val-Benoît</i> , pp. 316-317, n° 246.
196	(1303-1307)	Boneffe	N	Eghezée	L. GENICOT, <i>Polyptyque de l'abbaye de Salzinnes</i> , p. 10.
197	(1303-1307)	Atrive dep. Avin	Lg	Hannut	<i>Ibidem</i> , p. 62.
198	1309	Houx	N	Dinant	D. BROUWERS, <i>op. cit.</i> , t. 1, p. 294.
199	1309	Hour	N	Beauraing	J. GROB et J. VANNERUS, <i>op. cit.</i> , t. 1, p. 561.

APPENDIX 3 (continued)

Renvoi à la carte	Date	Localité	Province	Canton	REFERENCE
200	1313	Leuze-Lonchamps	N	Eghezée	A.E.N., <i>Pauvres du Saint-Esprit, Papier N.D. de Namur</i> , n° 1027, folio 36 r°.
201	19-12-1314	Villers-le-Bouillet	Lg	Jehay-Bodegnée	E. PONCELET, F.A.M., p. 157.
202	7-7-1318	Warnant	Lg	Jehay-Bodegnée	<i>Ibidem</i> , pp. 215-216.
203	1320	Gorseme	Lb	Saint-Trond	M.J. WOLTERS, <i>Notice... abbaye Milen</i> , p. 86.
204	1324	Pousset	Lg	Waremmes	A.E.L., <i>Polyptyque de Saint-Denis</i> , reg. 9, folio 3 v°.
205	1324	Bleret	Lg	Waremmes	<i>Ibidem</i> , folio 60 r°.
206	1324	Grandville	Lg	Waremmes	<i>Ibidem</i> , folio 79 r°.
207	22-6-1333	Engis	Lg	Hollogne-aux-Pierres	E. PONCELET, F.A.M., p. 385.
208	1333	Hoelbeek	Lb	Bilzen	H. VAN NEUSS, <i>Inventaire... Munster-bilsen</i> , p. 42.
209	26-4-1340	Wez dep. Grivegnée	Lg	CH.L.C.	E. PONCELET, F.A.M., p. 456.
210	4-3-1341	Champion	N	Ciney	<i>Ibidem</i> , p. 464.
211	13-8-1345	dep. Emptinne-lez-Ciney Olne	Lg	Verviers	<i>Ibidem</i> , p. 142.