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MESTRADO EM SISTEMAS DE PREVENÇÃO E CONTROLO ALIMENTAR

INFLUÊNCIA DA TEMPERATURA DE ARMAZENAMENTO NUM ENTREPOSTO EM INDICADORES MICROBIOLÓGICOS DA SEGURANÇA E DA QUALIDADE ALIMENTAR

DISSERTAÇÃO PARA OBTENÇÃO DO GRAU DE MESTRE

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RESUMO

A refrigeração tem como objectivo assegurar a estabilidade da temperatura de um produto, durante o armazenamento, de modo a reduzir a velocidade das transformações microbianas e bioquímicas, limitando assim os impactos sobre as suas características.

No presente estudo foi avaliada a influência da temperatura de armazenamento num entreposto, na segurança e na qualidade alimentar em dois produtos *take away* – lasanha bolonhesa e salada de peito de frango com tomate cereja e combinação de alfaces.

O estudo da evolução da temperatura do ar durante o armazenamento, decorreu durante os meses de Fevereiro a Maio, e dividiu-se em duas fases, sendo a primeira fase o estudo da evolução da temperatura do ar num entreposto, e a segunda o estudo da variação da temperatura do ar num entreposto durante o período laboral da recepção. No âmbito geral as temperaturas do ar medidas nas diferentes zonas apresentam um comportamento estável, à excepção da zona de preparação de lojas, cujos valores de temperatura apresentam-se dentro do intervalo 4 a 7ºC, sendo este o intervalo de temperatura estabelecido pela empresa, salientando-se ainda uma tendência para um aumento dos valores de temperatura.

Para efeitos de segurança e qualidade alimentar, os parâmetros microbiológicos foram determinados de acordo com a natureza dos produtos e com o estudo da evolução da temperatura interna dos produtos em questão. Deste modo, para o produto lasanha bolonhesa, foram realizadas a contagem de bolores e leveduras, a pesquisa de *Salmonella* spp e a pesquisa de esporos de clostrídios sulfito-redutores. Para o produto salada de peito de frango com tomate cereja e combinação de alfaces, foram realizadas a contagem de bolores e leveduras, a pesquisa de *Salmonella* spp e a pesquisa de *Listeria monocytogenes*.

A nível de segurança, apenas foi detectado a presença de esporos de clostrídios sulfito-redutores, valores aceitáveis, na lasanha bolonhesa. A nível da qualidade, em ambos produtos os valores são mais elevados nas amostras com tempo de permanência superior. No entanto apenas os valores da contagem na salada de peito de frango com tomate cereja e combinação de alfaces, são considerados não satisfatórios, tal facto vai influenciar o tempo de vida de prateleira.

Palavras-chave: temperatura; segurança alimentar; qualidade alimentar.

ABSTRACT

The refrigeration has by purpose the stability of the temperature of the product of way it reduce the speed of the biochemical and microbial transformations, limiting the impacts in this sensory and nutritional characteristics.

In the present study was evaluated the influence of the temperature of a warehouse, of the food security and food quality in two products take away – lasagna bolognese and chicken chest salad with tomato cherry and lettuces mix.

The study of the evolution of air temperature during storage, was conducted during the months of February to May, and divided into two phases, the first phase was the study of evolution of air temperature in a warehouse, and the second was the study of air temperature variation in a warehouse during the reception work period. Within the general air temperatures measured in different areas show a steady behavior, except in the preparation area stores, whose temperature values are presented within the range 4-7 ºC, which is the temperature range set by the company, noting it was also a trend towards an increase in temperature.

For effects of food security and food quality, the microbiologic parameters were determined according to the nature of the products, and the study of the evolution of the internal temperature of the products in question. Thus, for the product lasagna bolognese, was carried out to counting of moulds and yeasts, research of Salmonella spp. and research of spoors of sulfite-reducing clostridium. For the product chicken chest salad with tomato cherry and lettuces mix, was carried out to counting of moulds and yeasts, research of Salmonella spp. and research of Listeria monocytogenes.

In food security terms, only was detected the presence of spores of sulfite-reducing clostridium, acceptable values, on lasagna bolognese. In food quality terms, both product values are higher in samples with higher length of stay. However only the count values in chicken breast salad with cherry tomatoes and mix of lettuces, are considered unsatisfactory, this will influence the time of shelf life.

Keywords: *temperature; food safety; food quality.*

I. INTRODUÇÃO

Os produtos alimentares, são misturas complexas de substâncias constituídas por numerosos compostos químicos, nutrientes, que promovem o crescimento do organismo humano, fornecem energia, renovam os tecidos celulares ou regulam estes processos (Lindon e Silvestre, 2010).

Os produtos alimentares, qualquer que seja o seu estado físico, são meios propícios para o crescimento de microrganismos. O tipo de microrganismos que se desenvolve no produto alimentar vai depender de diversos factores como o meio ambiente, o valor do pH e o teor de humidade. A sua velocidade de crescimento relaciona-se com a temperatura de armazenamento, com a humidade relativa de ambiente e com a composição da atmosfera circundante, em especial a concentração de oxigénio (Lindon e Silvestre, 2010).

Contudo, se os produtos alimentares tiverem de ser conservados é fundamental recorrer a métodos de conservação, cujo principal objectivo é a inibição da alteração microbiana, sem prejudicar a sua qualidade. Assim recorre-se a: temperaturas baixas, para retardar o crescimento; temperaturas elevadas, para destruir os microrganismos; desidratação; abaixamento do valor do pH; aditivos químicos com funções conservantes; atmosfera controlada; e irradiação (Lindon e Silvestre, 2010).

1.1. DETERIORAÇÃO DOS PRODUTOS ALIMENTARES

A deterioração dos alimentos pode ser considerada como a mudança que concebe um produto inaceitável para o consumo humano (Hayes, 1985; Gram *et al*., 2002). A deterioração pode ser evidente, como por exemplo, danos físicos, desenvolvimento microbiológico visível, ou danos provocados por insectos. Também a deterioração pode ocorrer devido a mudanças na textura, ou desenvolvimento de odores indesejáveis provocados por reacções bioquímicas ou acções microbianas (Huis, 1996; Gill, 2000; Jackson *et al*., 2001; Hilario *et al*., 2004).

Os produtos alimentares estão sujeitos a serem contaminados durante a sua confecção, transporte, armazenamento, e distribuição, tornando-se assim veículos de substâncias nefastas para a saúde. Essa contaminação resulta, normalmente, em doenças do fórum alimentar e pode acontecer por via física, química e biológica (Loureiro, 2009).

- ✓ Contaminação física

Esta contaminação resulta da introdução de objectos estranhos ao produto alimentar, nomeadamente cabelos ou insectos. Assim como peças de equipamento, limalhas de metal de facas, farpas de madeira, pedaços de embalagens de matérias-primas, pedaços de esfregão utilizado na limpeza dos equipamentos, anzóis (poderão estar incluídos nos peixes) e areias (por exemplo nos bivalves e caracóis). Assim a prevenção desta contaminação nas matérias-primas assenta, sobretudo, nos sistemas de controlo de segurança alimentar utilizados nas operações de abastecimentos, ou seja nos processos que envolvem os fornecedores (Olinto, 2007; Loureiro, 2009).

- ✓ Contaminação química

A contaminação química ocorre quando os produtos alimentares entram em contacto com substâncias químicas ou com os seus resíduos. Os resíduos presentes nas matérias-primas não são possíveis de serem removidos nesta fase da cadeia alimentar, pelo que o seu controle assenta sobretudo, em programas de controlo na produção primária e/ou fases de processamento anteriores ao fornecimento. Os resíduos provenientes do material de embalagem podem ser evitados, exigindo que os fornecedores utilizem materiais recomendados e verificando no acto da recepção que as embalagens ou contentores se encontram em boas condições (ARESP, 2008; Loureiro, 2009).

- ✓ Contaminação biológica

Este tipo de contaminação está associado à contaminação de um produto alimentar por acção de microrganismos. Para além das bactérias, existem outros microrganismos que podem ser responsáveis pelas doenças do fórum alimentar, como os vírus e os bolores (Olinto, 2007; ARESP, 2008; Loureiro, 2009).

1.1.1. DETERIORAÇÃO MICROBIANA

Na ausência de processos de conservação, a deterioração microbiana é a principal responsável pela perda de segurança e qualidade de um produto alimentar. No entanto, mesmo quando sujeitos a processos de conservação, ocorrem processos de deterioração do fórum físico-químico que determinam a longevidade e as alterações na qualidade do produto alimentar (Taub e Singh, 1998).

Os perigos biológicos são principalmente as bactérias patogénicas, incluindo *Salmonella* spp., *Campyloacter* spp., *Listeria monocytogenes*, *Yersinia enterocolitica*, *Staphylococus aureus* e *Escherichia coli*, estão presentes no ambiente das cozinhas de restauração, têm sido detectadas em produtos *take away*. O *Clostridium perfringens* e o *Bacillus cereus* merecem igualmente referência, pelo facto de ambos poderem provocar graves problemas, caso os alimentos após confecção sejam mantidos a temperaturas incorrectas (Taub e Singh, 1998).

A deterioração microbiológica dos produtos alimentares é uma consequência da actividade da diversidade de microrganismos que os colonizam, e que constituem a sua flora microbiana. O tipo e a proliferação destes microrganismos dependem das características do produto alimentar, da forma como este é processado e armazenado (Hui, 2006).

Os parâmetros que afectam a proliferação dos microrganismos nos alimentos podem ser categorizados em quatro grupos: parâmetros intrínsecos; parâmetros extrínsecos; modo de processamento e preservação, e parâmetros implícitos. A combinação de todos os efeitos dos parâmetros geralmente é maior que o efeito percebido de cada parâmetro individual (Mossel *et al*., 1995).

Os parâmetros intrínsecos são físicos, químicos e propriedades estruturais inerentes ao próprio alimento (Hui, 2006; Lidon e Silvestre, 2008).

Já os parâmetros extrínsecos são factores ambientais inerentes aos locais onde os alimentos são estucados, notavelmente temperatura, humidade e composição atmosférica (Hui, 2006; Lidon e Silvestre, 2008).

Já os parâmetros implícitos são resultantes do desenvolvimento de microrganismos, que podem ter efeito sinérgico, por exemplo, produção ou disponibilidade de nutrientes essenciais para o desenvolvimento de certos grupos de microrganismos, ou antagónico, como mudanças de pH, potencial de oxi-redução e actividade de água que podem inabilitar o desenvolvimento de organismos menos tolerantes a esses factores inibitórios (Stiles e Hastings, 1991; Kim, 1993; Mossel *et al*., 1995; Huis, 1996; Abee *et al*., 1996).

Os microrganismos necessitam de um conjunto de nutrientes para o seu crescimento e para a manutenção do seu metabolismo. No entanto, as exigências quanto à quantidade e ao tipo de nutrientes varia de microrganismos para microrganismo. A água, uma fonte de energia, o nitrogénio, as vitaminas e os sais minerais, encontram-se entre os nutrientes que a maior

parte dos microrganismos necessita, os quais estão presentes, em parte ou na totalidade na maioria dos alimentos, embora variando de alimento para alimento (Mossel *et al*., 1995).

Em geral, as bactérias preferem alimentos com um elevado teor em proteínas, tais como, as carnes, os ovos e produtos lácteos, os bolores e leveduras, por seu lado, preferem alimentos com grande quantidade em hidratos de carbono, nomeadamente os cereais e vegetais (Mossel *et al.*, 1995; Jay, 2000).

Alguns alimentos possuem uma estrutura física que os protege da entrada e do crescimento de microrganismos, incluindo os patogénicos. A casca de frutos e vegetais, a casca das nozes, as escamas do pescado, a pele e as conchas de animais e as cascas e membranas dos ovos, são exemplos de barreiras físicas (Jay, 2000).

De modo a prevenir a entrada e o subsequente desenvolvimento microbiano, é importante que as estruturas biológicas dos alimentos se mantenham intactas, No caso de frutos e alguns vegetais, danos provocados na casca durante a colheita, transporte e armazenagem, bem como picadas de insectos, podem permitir a penetração de microrganismo e facilitar-lhes o acesso aos nutrientes necessários ao seu desenvolvimento (Mossel *et al.*, 1995; Jay, 2000).

A água é um factor determinante no desenvolvimento das bactérias, pois, sem ela, as bactérias não são capazes de aproveitar os nutrientes que as rodeiam. Ressaltamos quanto a quantidade de água contida no alimento, maior a possibilidade deste se deteriorar, permitindo que os microrganismos se multipliquem. Fornecemos o exemplo do leite em pó que é um alimento que não apresenta crescimento microbiano. Se o mesmo for reconstituído com água, deve ser refrigerados ou utilizado de imediato, para que não seja atacado pelas bactérias (Borges e Freitas, 2002).

O desenvolvimento de microrganismos patogénicos nos alimentos, pode ser controlado pela combinação da a_w com outros factores. A manipulação da a_w nos alimentos pode ser efectuada através da adição de solutos (sal, açúcar), remoção da água por processos de secagem ou cozedura e da indisponibilidade da água por congelação (Dhunia, 2008).

São utilizadas diversas técnicas para a redução do pH de um alimento de forma a contribuir para a conservação dos alimentos, tais como: acidificação de alimentos, quer através de processos fermentativos (ex: iogurtes), quer através da adição de ácidos fracos (ex: conservas de pickles). Tal como os outros factores o pH pode actuar em conjunto com

outros factores como a a_w, adição de solutos (ex: sal) e a temperatura, de modo a inibir o crescimento de bactérias patogénicas e de outros microrganismos (Borges e Freitas, 2002).

Os hortofrutícolas apresentam características químicas diferentes, que se reflectem na composição da microflora presente em cada uma. As hortaliças apresentam uma elevada quantidade de água e de nutrientes e pH neutro. Assim, as bactérias tornam-se os microrganismos preponderantes nestes produtos, pois o seu crescimento é mais rápido que o de microrganismos eucariotas (Doyle, 2001).

O crescimento de *Listeria monocytogenes* é lento e dificultado sob atmosfera modificada. Também Gram-positivo é o *Clostridium botulinum* que pode crescer em baixa temperatura em concentrações muito reduzidas de oxigénio e pH moderado (>4,6). O crescimento do microrganismo e a produção de toxina exigem pelo menos 3,3°C (Doyle, 2001).

O crescimento e o metabolismo microbiano exigem a presença de água numa forma disponível, constituindo a actividade da água um índice desta disponibilidade para utilização em reacções químicas e crescimento microbiano. Os factores que no alimento reduzem a actividade da água são principalmente: a adsorção de moléculas de água na superfície; as forças capilares; a formação de soluções com diferentes solutos; a presença de água de cristalização ou hidratação (Eskin e Robinson, 2001).

Nos produtos alimentares, o desenvolvimento da maioria das bactérias, assim como da maioria das leveduras, bactérias halófitas, fungos xerófilos e leveduras osmófílas, requer uma actividade da água com valores mínimos de 0,91, 0,88, 0,75, 0,65 e 0,60, respectivamente (Eskin e Robinson, 2001).

Correlacionando estes factores de crescimento/multiplicação microbiológica com a actividade da água nos alimentos, constata-se que para valores iguais ou superiores a 0,98 se destaca: a carne e pescado frescos; os hortofrutícolas frescos; o leite e a maioria das bebidas; hortaliças; os enlatados em salmoura; os frutos enlatados e com baixo teor de açúcar (Eskin e Robinson, 2001).

De entre os alimentos com uma actividade da água oscilando entre 0,93 e 0,98 destacam-se: as pastas de tomate; os queijos; as carnes curadas enlatadas e enchidos; os fermentados (não desidratados); os frutos enlatados em alta concentração de açúcar (Eskin e Robinson, 2001).

Os enchidos secos e fermentados, o presunto e o leite condensado possuem uma actividade da água que oscila entre 0,85 e 0,93. Os frutos secos, a farinha, os cereais, as compotas e

geleias e as nozes possuem valores de a_w que podem oscilar entre 0,60 e 0,85. Com uma actividade da água inferior a 0,60 destacam-se os chocolates, os produtos de pastelaria, o mel, os biscoitos e as bolachas, os ovos desidratados e o leite em pó (Eskin e Robinson, 2001).

Equacionando o pH, verifica-se que valores superiores a 4,5 (alimentos de baixa acidez) favorecem uma predominância de crescimento bacteriano; um pH oscilando entre 4,5 e 4,0 (alimentos ácidos) favorece o desenvolvimento de leveduras oxidativas ou fermentativas e de bolores (em anaerobiose), podendo surgir ainda algumas bactérias esporogénicas ou não; com um pH inferior a 4,0 (alimentos muito ácidos), o desenvolvimento fica limitado quase exclusivamente às leveduras e aos bolores. O pH intracelular (usualmente com valores oscilando em torno de 7,0) é bastante afectado pelas variações externas (Eskin e Robinson, 2001).

A deterioração é mais rápida e evidente em alimentos como elevados níveis proteicos como a carne bovina, de frango, peixe, frutos do mar, leite e alguns produtos de lacticínio. Estes alimentos são altamente nutritivos, possuem pH neutro ou levemente ácido e uma elevada humidade que permite o desenvolvimento de uma ampla gama de microrganismos (Huis, 1996; Carvalho, 2001; Borges e Freitas, 2002).

A acidificação no interior da célula pode resultar da migração de protões do meio externo para o meio intracelular. A dissociação das moléculas dos ácidos que penetram através da membrana também pode ser um factor adicional. Os ácidos orgânicos fracos (na forma não dissociada), porque são solúveis na membrana celular, também afectam a respectiva permeabilidade, bloqueando o transporte de substrato e a fosforilação oxidativa (induzindo uma concomitante acidificação) (Eskin e Robinson, 2001).

Os métodos de processamento e conservação dos alimentos, sejam de carácter físico ou químico, que alteram as características do produto também vão determinar a microflora associada a cada tipo de alimento (Hui, 2006).

Elevadas contaminações microbiológicas podem provocar profundas modificações sensoriais, nomeadamente, a libertação de odores anómalos e envolvendo a acumulação de ácidos, associadas a alterações físico-químicas (precipitação de proteínas), tornando o produto alimentar inadequado para consumo. Através da conservação pretende-se uma eliminação, prevenção ou retardamento da decomposição microbiana (Lidon e Silvestre, 2008).

Os produtos de origem animal ou vegetal, frescos ou processados, incluindo a água, também podem veicular microrganismos patogénicos, causadores de diversas perturbações fisiológicas nos consumidores. As bactérias, pela sua diversidade e patogenicidade, constituem o grupo microbiano mais importante e mais vulgarmente associado às doenças transmitidas pelos alimentos (Dhunia, 2008).

Estes microrganismos podem contaminar os alimentos: se ocorrem deficientes condições de higiene durante o seu processamento; em presença de pessoas ou animais doentes; a partir de fezes provenientes de indivíduos infectados. Neste contexto, os alimentos também podem constituir um perigo para a saúde pública, devido ao crescimento excessivo de populações bacterianas com capacidade para produzir toxinas. Alguns bolores também podem sintetizar micotoxinas na superfície dos alimentos, eventualmente se as condições de conservação e armazenamento forem defeituosas (Dhunia, 2008).

Entre as bactérias, as Gram-negativas são as mais isoladas, sendo que as famílias pseudomonáceas e enterobacteriaceae representam a maioria, principalmente os géneros *Pseudomonas* spp. e *Erwinia* spp. O género *Pseudomonas* spp. apresenta actividade pectinolítica, mas não resiste a altas concentrações de CO_2 (Doyle, 2001).

Entre os patogénicos entéricos, *Shigell*a spp. e *Salmonella* spp. podem ser veiculadas por hortofrutícolas, mas encontram dificuldade em se desenvolver em temperaturas de refrigeração, podendo sobreviver por longos períodos de tempo nestas temperaturas. Assim, é importante evitar as variações de temperatura durante o armazenamento, uma vez que temperaturas mais elevadas podem permitir o crescimento destes microrganismos patogénicos (Lacasse, 1995).

A *Escherichia coli* é um psicotrófico patogénico entérico que pode tal qual a *Salmonella* spp. levar um indivíduo à morte. Outros dois psicotróficos patogénicos importantes são *Aeromonas hydrophila* e *Listeria Monocytogenes* (Lacasse, 1995).

A *Listeria monocytogenes* difere de todos os outros patogénicos citados por ser Gram-positiva. A sua letalidade em indivíduos susceptíveis, como crianças, idosos e gestantes pode ser de até 30%, com manifestações semelhantes a meningites e encefalites (Doyle, 2001).

As bactérias, de um modo geral, são capazes de se desenvolver entre os 5ºC e os 65ºC, embora a temperatura mais favorável para o seu desenvolvimento seja, aproximadamente, os 37ºC. Por esta razão, deve evitar-se a manipulação, conservação, transporte e exposição

dos alimentos, sobretudo dos pratos cozinhados e de origem animal, entre os 5ºC e os 65ºC (Lacasse, 1995).

A eliminação da maior parte das bactérias ocorre quando a temperatura, no centro térmico dos alimentos é de 65ºC durante pelo menos 2 minutos ou, quando o centro térmico atinge, pelo menos, 75ºC. Assim, e para evitar o desenvolvimento bacteriano, os alimentos deverão ser consumidos nos 30 minutos após confecção ou serem mantidos a temperaturas superiores a 63ºC (Holley e Gill, 2005).

A temperaturas de frio (abaixo dos 5ºC), também é possível controlar o crescimento microbiano, embora estas temperaturas não eliminem as bactérias, mas apenas suspendem o seu desenvolvimento (Lacasse, 1995).

Salienta-se que as temperaturas óptimas de crescimento da maioria dos microrganismos patogénicos acontecem entre os 30ºC e os 45ºC, favorecendo o seu crescimento mais acelerado quanto mais próximo estiver da temperatura óptima de crescimento (37ºC) se encontrar alimento. Logo, entre os 5ºC e os 65ºC, as bactérias crescem e multiplicam-se com uma rapidez é a chamada "Zona de Perigo" Abaixo dos 5ºC as bactérias não morrem mas multiplicam-se mais lentamente até ficarem em estado latente. No entanto quando encontram condições favoráveis voltam a multiplicar-se (Holley e Gill, 2005).

O crescimento microbiano apresenta uma faixa muito ampla de temperaturas (-8°C a 90ºC). Contudo, em função da temperatura assim varia a velocidade de crescimento, o número de células de uma população e a composição química e enzimática da célula. Os psicotróficos possuem uma acção relevante na deterioração de alimento (destacando-se as *Pseudomonas, Actinobacter; Vibrio, Lactobacillus, Bacillus).* A maior parte das bactérias termófilas com importância na conservação de alimentos estão incluídas no género *Bacillus* e *Clostridium.* Entre os mesófilos destacam-se as bactérias patogénicas e de deterioração, alguns bolores e leveduras. Os psicrófilos estritos prevalecem nos ambientes marinhos e em locais com uma temperatura constantemente reduzida (Eskin e Robinson, 2001, Doyle, 2001).

A temperatura é, provavelmente, o factor mais importante que afecta o crescimento de microrganismos. O tratamento de refrigeração que ocorre na maioria dos produtos minimamente processados pode modificar este quadro, contribuindo para a predominância de psicotróficos (Eskin e Robinson, 2001, Doyle, 2001).

Qualquer que seja a atmosfera presente existe risco microbiológico potencial, e portanto, a atmosfera não substitui a refrigeração. Inclusive, pode inibir o crescimento de microrganismos responsáveis pela deterioração, mas permitir a proliferação de patogénicos, que podem ser ingeridos com os alimentos. Por isso, o aumento da vida de prateleira dos alimentos minimamente processados deve ser visto criteriosamente (Dhunia, 2008).

Inicialmente, os microrganismos de deterioração estão presentes em pequenas quantidades e constituem somente a menor parte da microbiota natural. Durante a selagem, os microrganismos de deterioração geralmente se multiplicam mais rapidamente que a microbiota remanescente e produzem os metabolitos responsáveis por odores, limo e finalmente a rejeição sensorial (Dalgaard, 1993). Mudanças nas condições extrínsecas (ex. refrigeração, embalagem com atmosfera modificada) somente retardam a deterioração. Por esta razão, baixas temperaturas de selagem não prevenirão a deterioração, mas predisporão a deterioração causada por microrganismos psicotróficos (Lee e Yoon, 2001). Da mesma forma quando restringe-se o oxigénio da carne por meio da embalagem a vácuo, o desenvolvimento microbiano é alterado dando lugar para a proliferação de novos géneros mais aptos àquele ambiente (Jones, 2004).

A vida de prateleira e a qualidade do produto podem ser estendidas por modificação da atmosfera gasosa que envolve a carne. A embalagem a vácuo e embalagem com atmosfera modificada (MAP) são dois métodos usados comercialmente para modificar o gás da atmosfera que envolve a carne (Hood e Mead, 1993). A carne bovina embalada a vácuo normalmente apresenta vida de prateleira em torno de 9 a 12 semanas, quando em temperaturas menores que 1,5°C (Holley e Gill, 2005).

Actualmente na América do Norte cerca de 85% de carnes frescas e a maioria das carnes processadas são embaladas sob vácuo ou distribuídas embaladas utilizando embalagens de atmosfera modificada contendo um ou mais gases (Jay *et al*., 2005).

A embalagem a vácuo é o método de escolha para selar e distribuir grandes pedaços de carne resfriada ou cortes comerciais. Nas embalagens a vácuo, o oxigénio residual é rapidamente consumido (a níveis abaixo de 1%) pelo tecido ou respiração microbiana, e aumenta a taxa de CO_2 para até 20%. Condições completamente anaeróbicas são raras de se conseguir, todos os filmes comercialmente utilizados apresentam uma taxa de permeabilidade. A proporção relativa de dióxido de carbono e hidrogénio varia de acordo

com sua produção ou como resultado da difusão do hidrogénio através do filme da embalagem e absorção de dióxido de carbono da carne (Dainty *et al*., 1983; Dainty e MacKey, 1992).

A microbiota típica da carne bovina embalada a vácuo consiste em bactérias ácido-láticas e enterobactérias em níveis de 10^8 e 10^6 UFC/g, respectivamente (Beebe *et al*., 1976; Newton *et al*., 1978; Schillinger *et al*., 1987; Sutherland *et al*., 1975; Yost e Nattress, 2002). Segundo Nottingham (1982) nos Estados Unidos da América os supermercados têm particular importância na deterioração da carne por acção microbiana, devido à aplicação adequada da cadeia do frio.

A deterioração caracterizada por formação de gás no interior da embalagem e alteração no odor que se torna azedo e levemente pútrido, normalmente é detectada quando estão presentes microrganismos de deterioração em níveis de 10^8UFC a 10^9UFC/g do alimento (Borch *et al*., 1996; Stratton *et al*., 1991).

Durante o tempo de vida de prateleira dos produtos cárneos embalados a vácuo pode ocorrer o acúmulo de aminas biogénicas produzidas tanto por microrganismos patogénicos como por deteriorantes (Smith *et al*., 1993).

As espécies de *Salmonella* spp. são agentes frequentes de surtos de enfermidades transmitidas por alimentos. Por serem microrganismos entéricos, podem estar presentes no intestino de animais de sangue quente e, mais raramente, também nos de sangue frio (Franco e Landgraf, 1996).

Em função de sua capacidade de disseminação no meio ambiente, podem ser isoladas de locais variados e diferentes (águas doces superficiais, costa marítima, carnes de animais, pescados, verduras, ovos, etc.) e, consequentemente, de diversas matérias primas alimentares. Podem ainda ser veiculadas pelo próprio ser humano, neste caso na condição de portador assintomático (Jakabi *et al*., 1999).

Historicamente acreditava-se que as espécies de *Clostrudium* tinham um papel menor na deterioração da carne (Gill, 1979; Roberts e Mead, 1986). Autores como Ross (1965) relataram a participação de *Clostridium putrefaciens* como os agentes causais de deterioração em tecidos profundos, de carnes e presuntos curados. A deterioração causada por estes microrganismos foi solucionada com o advento de modernas tecnologias de embalagens associadas a temperaturas de refrigeração (Roberts e Mead, 1986). Entretanto, mais recentemente, as espécies de *Clostridium* psicrotolerantes (psicrófilos) têm sido

relatadas como causadoras de deterioração *blown pack* em carnes embaladas a vácuo (Dainty *et al*., 1989; Kalchayanand *et al*., 1989; Broda *et al*., 1996; Lawson *et al*., 1994).

Quatro importantes espécies de *Clostridium* psicrotolerantes foram descritas: *Clostridium estertheticum* (Collins *et al*., 1992), *Clostridium laramiense* (Kalchayanand *et al*., 1993; Truper e De' Clari, 1997), *Clostridium algidicarnis* (Lawson *et al*., 1994) e *Clostridium gasigenes* (Broda *et al*., 2000).

Durante o processo de deterioração *blown pack* o gás que se forma no interior da embalagem é constituído principalmente por dióxido de carbono, nitrogénio e hidrogénio e por compostos butíricos resultantes do metabolismo fermentativo, além da descarboxilação de aminoácidos que geram como produtos finais compostos sulfurados voláteis, amónia e diaminas caracterizando o odor desagradável das carnes com deterioração *blown pack* (Broda *et al*., 1997; Broda *et al*., 2000).

O *Clostridium* pode ser encontrado no solo, tubo digestivo de animais e fezes (Helps *et al*., 1999). Seus esporos são bastante resistentes à dissecação, desinfectantes e calor, mantendo-se no ambiente por muito tempo (Correa e Correa, 1992). A pesquisa de *Clostridium* psicrotolerantes em abatedouros incluem a presença destes em material fecal, pele, embalagens e em vários pontos da planta como ralo da sala de abate, paredes, rolete da esfola e outros (Broda *et al*., 1996).

Estudos têm demonstrado que a principal fonte de contaminação por *Clostridium* psicrotolerantes na carne são os próprios animais abatidos, partículas do solo e/ou material fecal aderido à pele do animal (Broda *et al*., 2000; Boerema *et al*., 2003).

1.2. A CONSERVAÇÃO DOS PRODUTOS ALIMENTARES

Actualmente, para além de um interesse económico associado à deterioração dos produtos alimentares, procura-se garantir uma segurança e uma qualidade alimentar, através da aplicação de um conjunto de medidas necessárias ao longo da produção, processamento, armazenamento, distribuição e preparação dos produtos alimentares, a fim de garantir que estes são seguros, saudáveis e adequados para o consumo humano (Correia, 2009).

A conservação dos produtos alimentares tem como objectivo aumentar o período de vida útil destes, de uma forma segura e inócua, assim como alcançar uma estabilização nas

características químicas, físicas e biológicas, retardando a respectiva taxa de auto-decomposição (Correia, 2009; Lidon e Silvestre, 2008).

O conhecimento e a compreensão dos mecanismos de deterioração dos produtos alimentares, permite-nos identificar e controlar os factores de maior importância, possibilitando assim uma conservação eficaz, que atrasa ou minimiza a deterioração, conseguindo o período de vida útil desejado a nível comercial (Singh, 1998).

A conservação de alimentos é um dos aspectos mais importantes a considerar para garantir a segurança dos mesmos, o método ou processo utilizado vai depender em grande parte da natureza e características do alimento. Independentemente da conservação ser à temperatura ambiente ou a temperatura controlada, deve-se prestar especial atenção para que esses factores sejam adequados para cada alimento (Broda *et al*., 1996).

De uma forma geral, na conservação de alimentos, deve ser tida em consideração a avaliação de factores ambientais que vão ter influência sobre as características do alimento, podendo também influenciar as embalagens em que estes se encontram (Broda *et al*., 1996).

A importância de conhecer e controlar as características do alimento e do ambiente em que este se encontra conservado, está relacionada com o facto dos microrganismos patogénicos, dependerem, entre outros factores, da temperatura, humidade e relação tempo/temperatura, para se desenvolverem (Hui *et al*., 2004).

Assim a incorrecta conservação dos alimentos afecta a características sensoriais e a segurança sanitária dos mesmos. Em alimentos inadequadamente conservados, os microrganismos podem encontrar as condições necessárias para se desenvolverem, mais rapidamente, e como consequências, causar problemas de saúde ao consumidor e alterar o aspecto dos mesmos (Franco e Landgraf, 1996).

Neste sentido, deve ser sempre efectuado o controlo (leitura e registo) das temperaturas dos alimentos à chegada ao local de recepção das matérias-primas, independentemente de o transporte ter sido assegurado pelo fornecedor ou pelo próprio empresário (Franco e Landgraf, 1996).

Nos produtos hortofrutícolas, a qualidade física depende principalmente das etapas finais do processo produtivo, colheita e transporte, para além das respectivas condições de armazenamento. Independentemente do tipo de colheita, podem ocorrer danos físicos nos produtos hortofrutícolas, em particular a formação de fissuras. Neste caso, além da

integridade física ser modificada, ocorrem também alterações microbiológicas prejudiciais (Hui *et al*., 2004; Lidon e Silvestre, 2008).

Deste modo, o processo de conservação terá de abranger a componente microbiológica, o retardamento do processo de proliferação dos microrganismos, através do controlo de diversos factores como a temperatura, o pH e a humidade. Salientando ainda as alterações químicas que incluem sistemas microbiológicos, como os glícidos utilizados como fonte de energia, as proteínas hidrolisadas a aminoácidos e péptidos, a degradação de aminoácidos em aminas, os lípidos quebrados por enzimas específicas (lipases), produzias por algumas bactérias, fomentando o aparecimento de ácidos gordos (Hui *et al*., 2004; Lidon e Silvestre, 2008).

Os produtos de origem animal e a sua elevada perecibilidade envolvem a utilização de diversas tecnologias de conservação, nomeadamente o frio, o calor, os processos fermentativos, a secagem, a salga, a fumagem e a conservação química com recurso a aditivos. Sendo um factor determinante a equacionar no processo de conservação o controlo da acção enzimática de determinadas enzimas existentes naturalmente nos tecidos, e a prevenção da oxidação lipídica que conduz à rancificação dos produtos e que compromete as suas características organolépticas (Leistner e Gould, 2002; Hui *et al*., 2004).

1.2.1. CONSERVAÇÃO POR REFRIGERAÇÃO

A conservação pelo frio (temperaturas próximas e abaixo de 0ºC) permite controlar a proliferação microbiológica (retardando ou impedindo-a), assim como reacções químicas e enzimáticas (nos produtos alimentares e microrganismos). Neste contexto, assume-se que embora alguns microrganismos (em níveis aceitáveis) possam estar presentes nos produtos alimentares, dependendo do tipo de produto e microrganismo, os mesmos podem ser consumidos sem danos na respectiva qualidade e para a saúde (Lidon e Silvestre, 2008; Portal Segurança Alimentar, 2009).

A refrigeração pode reduzir substancialmente a velocidade de deterioração do produto. Baixas temperaturas reduzem o crescimento dos microrganismos e também a velocidade com que ocorrem as alterações químicas nos alimentos (Ferreira e Sousa, 1998).

Reconhecendo-se que todos os microrganismos têm temperaturas óptimas de crescimento e reprodução, o princípio básico da conservação pelo frio consiste na manutenção dos

alimentos numa temperatura abaixo da ideal para o crescimento e proliferação microbiana (Lidon e Silvestre, 2008; Portal Segurança Alimentar, 2009).

Assim, no geral pode afirmar-se que a conservação pelo frio tem como vantagem preservar grande parte das características nutritivas e organolépticas dos produtos alimentares; porém, tem como desvantagem a não eliminação dos microrganismos, nem a acção nociva das toxinas e, consequentemente, se a temperatura se tornar favorável retomam a actividade (Ferreira e Sousa, 1998; Hui, 2006).

Não existe uma estabilização dos produtos alimentares pelo frio. Neste âmbito, a optimização dos sistemas de conservação dos produtos alimentares pelo frio, requer a submissão de produtos, sãos e de boa qualidade, a uma acção de temperaturas de refrigeração o mais rapidamente possível após a sua produção, assim como a manutenção ininterrupta numa rede de frio até ao consumidor (Ferreira e Sousa, 1998; Hui, 2006).

Durante o armazenamento, consoante a temperatura de refrigeração, os produtos alimentares integram-se em três agrupamentos:

- No primeiro grupo (entre -1 e 1ºC) agrupam-se os filetes de pescado, carnes, enchidos e carnes picadas, carnes e peixes fumados;
- No segundo grupo (entre 0 e 5ºC) integram-se as carnes enlatadas pasteurizadas, leite, nata, iogurte, saladas, alimentos cozinhados no forno e massas;
- Os terceiros grupos (entre 0 e 8ºC) incluem-se carnes cozinhadas, pasta de pescado, carnes curadas cozinhadas ou não, margarina, manteiga, hortofrutícolas e queijo duro (Lidon e Silvestre, 2008).

Neste processo os alimentos são conservados a uma temperatura, normalmente, entre 4 e 7ºC. Este método reduz o crescimento da maioria dos agentes patogénicos, embora alguns mais resistentes ao frio (psicrófilos) possam desenvolver-se, assim o crescimento microbiano e a produção de toxinas estão fortemente diminuídos, o que implica uma redução do risco de toxinfecções alimentares, e o aumento da durabilidade dos alimentos (Lidon e Silvestre, 2008).

No entanto ao utilizar do frio como forma de conservação dos produtos alimentares, especialmente no caso da refrigeração, deverá ser dada especial atenção à manutenção da temperatura aconselhada durante todo o tempo de vida do produto, devendo a todo o custo evitar-se a ocorrência de temperaturas abusivas, superiores a 10ºC, a partir das quais se

verifica o desenvolvimento embora lento de muitas bactérias como a *Listeria monocytogenes* e o *Clostriduim botulinum* (Hui, 2006).

Os produtos alimentares perecíveis, como carnes, pescado, lacticínios e alimentos confeccionados, que não são para consumo imediato, deverao ser armazenados a temperaturas inferiores a 5oC, em frigoríficos, câmaras frigorificas ou outro equipamento de frio. Esta etapa constitui um limite crítico de controlo, visto que patogénicos como *Salmonella* spp., *Escherichia coli*, *Campylobacter* spp., *Clostridium perfringens* e *Bacillus cereus* não crescem a este nível de temperaturas baixas (Forsythe, 2002; Maunsell, 2003; Bolton e Maunsell, 2004). No entanto, bactérias como a *Listeria monocytogenes* e *Yersinia enterocolitica* têm temperaturas de crescimento mínimas de próximas dos 0ºC, pelo que o tempo de armazenamento deve ser limitado para alimentos que não sofrem tratamento térmico posterior (Forsythe, 2002; Jouve, 2002; Bolton e Maunsell, 2004).

A temperatura de armazenamento é um elemento extremamente importante para a conservação do alimento. Sua qualidade se deteriorará tanto mais depressa quanto mais elevada for a temperatura, pois a velocidade de multiplicação de várias bactérias possui temperatura óptima próxima a 37ºC (Hazelwood e McLean, 1998; Lederer, 1991). Todavia, a faixa de temperatura entre 5ºC e 65ºC, conhecida como zona de perigo, também permite a multiplicação de microrganismos a uma velocidade considerável. Por isso, deve-se manter os alimentos frios abaixo de 5ºC e os alimentos quentes acima de 65ºC (Hazelwood e McLean, 1998). Essa zona de perigo é ainda referida como a faixa de temperatura entre 5ºC e 54ºC (Madeira e Ferrão, 2002).

Essa recomendação, apesar de fundamental, é bastante genérica, servindo particularmente como parâmetro de segurança. Na verdade, existem faixas de temperaturas apropriadas a diferentes tipos de alimentos (Madeira e Ferrão, 2002).

O efeito da refrigeração no retardamento do crescimento de microrganismos ocorre por conta de as reacções metabólicas microbianas serem catalisadas por enzimas dependentes da temperatura. Além disso, algumas bactérias, como *Sthaphylococcus aureus*, *Bacillus* spp. e *Salmonella* spp., apresentam temperaturas mínimas de crescimento de 6,7ºC, para o caso da primeira, e 7ºC, para as duas últimas (Jay, 1994). Não obstante, não apenas a temperatura de armazenamento é essencial à conservação por refrigeração.

O recurso a sistemas de ventilação pode assegurar a manutenção de uma humidade relativa estável todo o ano, elimina os cheiros, minimiza a oxidação de gorduras, e interfere ainda na taxa de desidratação dos alimentos (Lidon e Silvestre, 2008).

A humidade relativa adequada a cada tipo de produto alimentar é variável mas geralmente é definida entre os 85 e os 95%, tendo em consideração que os valores elevados favorecem o desenvolvimento de fungos e a humidade relativa baixa aumenta as perdas de peso na mercadoria, assim deve-se vigiar a estabilidade do valor humidade relativa predefinido. (Hui, 2006).

Actualmente, a eficácia da refrigeração como meio de conservação, em produtos de origem animal e seus derivados, crus ou cozinhados, está equacionada à aplicação de outros métodos complementares de conservação, como por exemplo a embalagem a vácuo, em atmosfera controlada ou modificada, e com recurso sempre que possível a materiais constituídos por polímeros edíveis e ou biodegradáveis (Nollet e Toldrá, 2006; Hui, 2006).

A temperatura de refrigeração é estabelecida através de factores como a natureza dos produtos alimentares e o tempo de armazenamento pretendido, esta deve permanecer o mais constante possível. Para este feito, contribuem a projecção racional e a eficiente construção dos equipamentos de frio, o isolamento térmico, e a potência frigorífica associada a mecanismos de regulação da temperatura (Taub e Singh, 1998).

A refrigeração pode reduzir substancialmente a velocidade de deterioração do produto. Baixas temperaturas reduzem o crescimento dos microrganismos e também a velocidade com que ocorrem as alterações químicas nos alimentos (Olinto, 2007).

O armazenamento no frigorífico permite manter os alimentos seguros. As baixas temperaturas ajudam a manter os alimentos frescos e retardam o crescimento da maioria dos microrganismos patogénicos. Ao mesmo tempo, tem a vantagem de não alterar as características do alimento (Bolton e Maunsell, 2004).

A temperatura média dentro do frigorífico deverá ser de 5ºC. No entanto, a temperatura não é constante em todos os locais dentro do frigorífico. Estando consciente destas diferenças de temperatura poderá assegurar um armazenamento optimizado para todos os alimentos (Olinto, 2007).

Carne picada crua, fígado, rins, aves e marisco requerem armazenamento cuidado, visto carregarem consigo grandes quantidades de microrganismos. Alguns destes microrganismos podem crescer mesmo a temperaturas de refrigeração, de modo que é

aconselhável armazenar estes alimentos sempre na parte mais fria do frigorífico, o mais próximo possível dos 0ºC. O tempo de armazenamento recomendado mais longo é de 3 dias. Para destruir alguma bactéria presente, cozinhe sempre a carne picada a uma temperatura acima dos 75ºC (Olinto, 2007).

Carnes vermelhas (ex. perna de cordeiro) e carnes curadas têm um tempo de vida útil mais longo e as carnes não embaladas duram mais tempo do que as embaladas. As carnes embaladas mantêm o teor de água e a qualidade do produto original, no entanto, favorece-se o crescimento superficial de microrganismos e a superfície da carne torna-se viscosa ao fim de 3 dias, começando a surgir um odor desagradável. Neste caso, é mais seguro deitar fora esta carne (Olinto, 2007).

As carnes não embaladas conservam-se durante mais tempo - carnes frescas até 5 dias e carnes curadas até 3 semanas a 0-3ºC. A superfície da carne desidrata. Este fenómeno retarda o crescimento microbiológico, mas causa também alterações indesejáveis de cor e perda de sabor (Olinto, 2007).

Tenha presente que um alimento no frigorífico mantém-se seguro apenas durante o período de tempo indicado na etiqueta. Se tem dúvidas quanto à segurança de um alimento, ou se não se lembra há quanto tempo o tem guardado no frigorífico, rejeite-o. Um termómetro dentro do frigorífico é normalmente uma boa ajuda para saber se os alimentos estão armazenados a uma temperatura segura ou não (Olinto, 2007).

2. ESTUDO DA INFLUÊNCIA DA TEMPERATURA DE ARMAZENAMENTO NUM ENTREPOSTO EM INDICADORES MICROBIOLÓGICOS DA SEGURANÇA E DA QUALIDADE ALIMENTAR

2.1. CARACTERIZAÇÃO DO LOCAL DE ESTÁGIO

O entreposto compósito alimentar Módis – Distribuição Centralizada, S.A., construído em 1992 na Azambuja, afirma a actividade logística do grupo SONAE MC. Tem como objectivo abastecer diariamente de produtos alimentares, em particular hortofrutícolas e charcutaria, as lojas das insígnias Continente das zonas Centro e Sul do país, assim como a Madeira. Este entreposto foi o primeiro do género em Portugal (Spi, 2009).

Implantado numa área total de 67 000 m², o entreposto tem uma área coberta de 20 500 m² repartida em termos de área interior por 15 000 m² para a temperatura ambiente e 5500 m² para a temperatura controlada. Tem uma altura livre de 12 m, uma capacidade total de 21 000 lugares de paletes e 119 cais, no total, para a recepção e para a expedição. Este entreposto pratica um horário de laboração contínua, funcionando 24 horas por dia, 7 dias por semana e 363 dias por ano (Spi, 2009).

Este entreposto foi a segunda unidade do universo SONAE MC a ser certificada de acordo com a norma ISO 14001:2004, tornando-se, assim, no primeiro entreposto compósito alimentar com certificação ambiental, em Portugal (Ambienteonline, 2005).

2.2. FUNCIONAMENTO GERAL DO ENTREPOSTO

O entreposto Módis – Distribuição Centralizada, S.A., da Azambuja, como já foi indicado anteriormente, é composto por duas áreas distintas: a da temperatura ambiente e da temperatura controlada.

A área da temperatura controlada, apesar de ser um espaço amplo, está dividida em cinco zonas (Figura 2.2.1):

- ✓ Zona da recepção;
- ✓ Zona de preparação de lojas;
- ✓ Zona da expedição;
- ✓ Zona do *stock* de produtos de charcutaria, padaria, pastelaria e *take-away*;
- ✓ Zona do *stock* de produtos de hortofrutícolas.

Figura 2.2.1 – Esquema das cinco zonas da área da temperatura controlada.
Legenda: *Stock CH*: *stock* de produtos de charcutaria, padaria, pastelaria e *take-away*; *Stock HF*: *stock* de produtos de hortofrutícolas.

No geral, funciona 363 dias por ano, 7 dias por semana e 24 horas por dia.

A actividade laboral de cada zona compõe-se da seguinte maneira:

- ↪ Zona da recepção: funciona entre as 6h00 e as 18h00; a partir das 18h00, alguns cais operam como cais de expedição; aos domingos não há recepção, sendo os cais utilizados como cais de expedição.

- Zona de preparação de lojas: funciona durante 24 horas por dia;
- Zona da expedição: funciona durante 24 horas por dia; no entanto, aos sábados alguns cais operam como cais de recepção, isto devido ao grande volume de artigos recepcionados.
- Zona do *stock* de produtos de charcutaria, padaria, pastelaria e *take-away*: armazena o excesso de mercadoria, nomeadamente, os produtos lasanhas e pizzas.
- Zona do *stock* de produtos de hortofrutícolas: armazena o excesso de mercadoria, em particular as importações.

2.3. PRODUTOS EM ESTUDO

Aqui irão ser abordados alguns aspectos relacionados com os produtos em estudo, lasanha bolonhesa e salada de peito de frango com tomate cereja e combinação de alfaces, ambos pertencentes à categoria *take away*.

2.3.1. LASANHA BOLONHESA

A lasanha bolonhesa (Figura 2.3.1.1) é constituída pelos seguintes ingredientes apresentados na Tabela 2.3.1.1.

Tabela 2.3.1.1 – Tabela dos ingredientes do produto lasanha bolonhesa.

INGREDIENTES	
LASANHA BOLONHESA	Água, carne de porco, sêmola de trigo duro, puré de tomate, preparado de queijo, farinha de trigo, óleo de colza, cebola, leite desnatado em pó, amido de milho modificado, sal, gelatina, ervas aromáticas, alho, derivados de leite, espessante (E415), clara de ovo em pó, aromatizantes e açúcar.
PREPARADO DE QUEIJO	Queijo, água, manteiga, proteína de leite, antioxidante (E331), emulsionante (E452), soro de leite e sal.

Este produto deve ser conservado entre 0 e 4ºC, acondicionado em atmosfera protectora, e tem um prazo de validade de 17 dias.

Figura 2.3.1.1 – Imagem do produto lasanha bolonhesa.

2.3.2. SALADA DE PEITO DE FRANGO COM TOMATE CEREJA E COMBINAÇÃO DE ALFACES

A salada de peito de frango com tomate cereja e combinação de alfaces (Figura 2.3.2.1) possui os ingredientes que constam na Tabela 2.3.2.1.

Tabela 2.3.2.1 – Tabela dos ingredientes do produto salada de peito de frango, com tomate cereja e combinação de alfaces.

INGREDIENTES	
SALADA DE PEITO DE FRANGO COM TOMATE CEREJA E COMBINAÇÃO DE ALFACES	Peito de frango grelhado, água, sal, gordura vegetal, antioxidante (E316), regulador de acidez (E451), espessante (E407 e E415), intensificador de sabor (E621).
MOLHO CEBOLINHO	Óleo, água, vinagre, glicose, gema de ovo, mostarda, açúcar, sal, cebolinho, estabilizantes (E412 e E415) e corante (E150a).

A sua conservação deve ser efectuada entre 0 e 4ºC, com um prazo de validade de 6 dias.

Figura 2.3.2.1 – Imagem do produto salada de peito de frango, com tomate cereja e combinação de alfaces.

2.4. METODOLOGIA

De modo a compreender como a temperatura terá ou não influenciado a segurança e a qualidade alimentar num entreposto, foram realizados os seguintes estudos:

i. Evolução da temperatura do ar durante o armazenamento;

ii. Estudo da evolução de parâmetros microbiológicos da segurança e da qualidade alimentar.

As metodologias utilizadas são as que passam a descrever.

2.4.1. ESTUDO DA EVOLUÇÃO DA TEMPERATURA DO AR DURANTE O ARMAZENAMENTO

O estudo foi realizado de duas formas, com a duração de quatro meses, cuja metodologia está descrita na Tabela 2.4.1.1.

No primeiro caso consistiu no estudo da evolução da temperatura na área com temperatura controlo do entreposto, efectuado entre os meses de Fevereiro e de Maio, inclusive. No segundo procedeu-se ao estudo da variação da temperatura durante a recepção de produtos hortofrutícolas, charcutaria, padaria, pastelaria e *take-away*.

Tabela 2.4.1.1 – Metodologias do estudo evolução da temperatura do ar durante o armazenamento.

	PARÂMETROS ANALISADOS	INSTRUMENTOS DE MEDIÇÃO	PERIOCIDADE
ESTUDO DA EVOLUÇÃO DA TEMPERATURA DO ENTREPOSTO	Temperatura do ar	*Datta Logger* EL-USB-2, *Lascar electronics;* (dispostos de acordo com a Figura 2.4.1.1).	Diariamente a intervalos de 30 minutos.
ESTUDO DA VARIAÇÃO DA TEMPERATURA DURANTE A RECEPÇÃO	Temperatura do ar	Termómetro de infravermelhos 800-323-4340, *Cole Parmer*.	Duas vezes por dia, três vezes por semana.

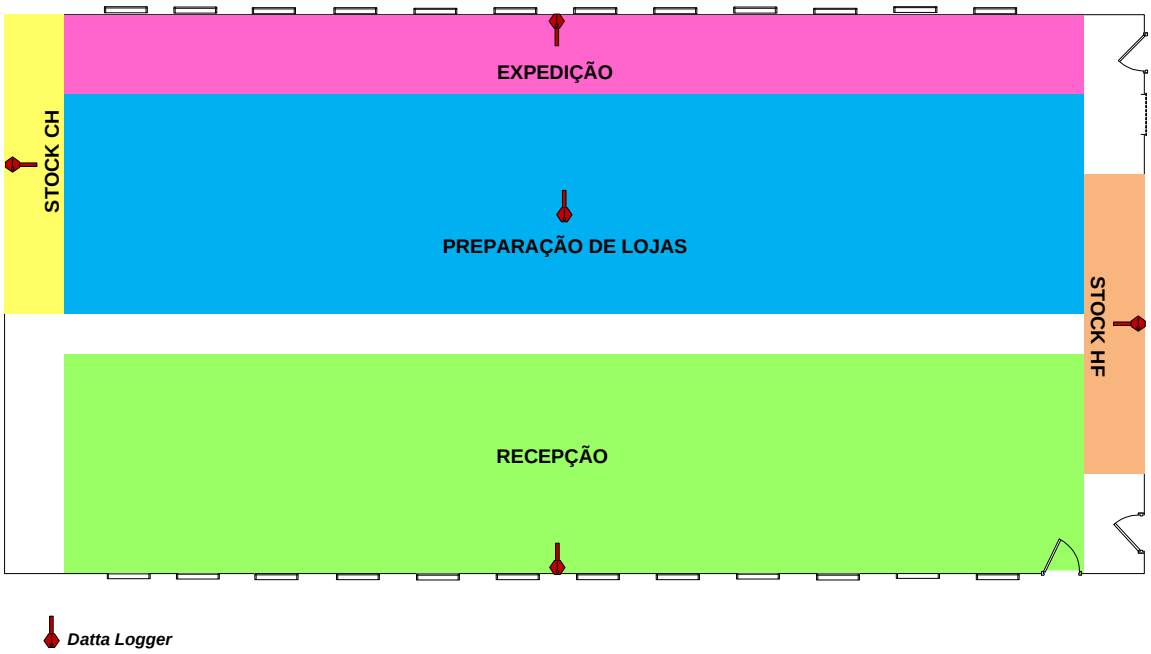

Figura 2.4.1.1 – Esquema da disposição dos *Datta Logger* na área da temperatura controlada.
Legenda: *Stock CH*: *stock* de produtos de charcutaria, padaria, pastelaria e *take-away*; *Stock HF*: *stock* de produtos de hortofrutícolas.

2.4.2. ESTUDO DA EVOLUÇÃO DE PARÂMETROS MICROBIOLÓGICOS DA SEGURANÇA E DA QUALIDADE ALIMENTAR

Para a realização deste estudo foi necessário uma selecção dos indicadores de segurança e dos indicadores de qualidade alimentar, que se proporcionavam a este estudo. Esta selecção, baseada no documento Valores Guia para avaliação da qualidade microbiológica de alimentos cozinhados prontos a comer, do INSA, teve em consideração os seguintes factores:

- Intervalo de temperatura, estabelecido pela empresa, da área com temperatura controlada (4 a 7ºC);
- Intervalo de temperatura mencionado no modo de conservação dos produtos em estudo (0 a 4ºC);
- Estudo da evolução da temperatura interna dos produtos em estudo.

2.4.2.1. Estudo da evolução da temperatura interna dos produtos durante o seu armazenamento

Este estudo da evolução da temperatura interna dos produtos, durante o seu armazenamento foi realizado de acordo com a metodologia apresentada na Tabela 2.4.2.1.1.

Tabela 2.4.2.1.1 – Metodologia do estudo da evolução da temperatura interna dos produtos durante o seu armazenamento.

	Amostras (*n*)	Parâmetros analisados	Instrumentos de medição	Periocidade	Procedimento
Lasanha bolonhesa	12	Temperatura interna	Termómetro digital WT-1, *LAESNT.*	Três repetições ao 0, 2, 4, 8, 10, 14 e 17º dia de permanência no entreposto.	Inserir a sonda a uma profundidade de 3 cm, perfurando a película.
Salada de peito de frango com tomate cereja e combinação de alfaces	10	Temperatura interna	Termómetro digital WT-1, *LAESNT.*	Três repetições ao 0, 2, 4 e 6º dia de permanência no entreposto.	Inserir a sonda a uma profundidade de 3 cm, sem danificar a embalagem.

2.4.2.2. Estudo da evolução de parâmetros microbiológicos da segurança e da qualidade alimentar

Para a realização deste estudo foram utilizadas 20 amostras (1 unidade/amostra) de cada produto, sendo sujeitas a uma permanência na área com temperatura controlada (Tabela 2.4.2.2.1). Posteriormente, transportadas numa geleira (4ºC), durante 1 hora, até ao local da realização de análises.

Tabela 2.4.2.2.1 – Dias de permanência na área com temperatura controlada.

AMOSTRAS	TEMPO DE PERMANÊNCIA (DIAS)	
	LASANHA BOLONHESA	SALADA DE PEITO DE FRANGO COM TOMATE CEREJA E COMBINAÇÃO DE ALFACES
1	1	3
2	1	3
3	1	3
4	1	3
5	1	3
6	8	2
7	8	2
8	8	2
9	8	2
10	8	2
11	8	2
12	8	2
13	8	2
14	8	2
15	8	2
16	15	3
17	15	3
18	15	3
19	15	3
20	15	3

Os parâmetros microbiológicos e suas metodologias incluídos no estudo são apresentados nas Tabelas 2.4.2.2.2 a 2.4.2.2.4.

Tabela 2.4.2.2.2 – Parâmetros microbiológicos de segurança alimentar.

PRODUTOS	PARÂMETROS MICROBIOLÓGICOS
LASANHA BOLONHESA	Pesquisa de *Salmonella* spp. (ISO 6579:2002)
	Pesquisa de esporos de clostrídios sulfito-redutores (NP 2262:1986)
SALADA DE PEITO DE FRANGO COM TOMATE CEREJA E COMBINAÇÃO DE ALFACES	Pesquisa de *Salmonella* spp. (ISO 6579:2002)
	Pesquisa de *Listeria monocytogenes* (ISO 11290-1:1996)

Tabela 2.4.2.2.3 – Parâmetros microbiológicos de qualidade alimentar.

PRODUTOS	PARÂMETROS MICROBIOLÓGICOS
LASANHA BOLONHESA	Contagem de bolores e leveduras (NP 3277-1:1987)
SALADA DE PEITO DE FRANGO COM TOMATE CEREJA E COMBINAÇÃO DE ALFACES	Contagem de bolores e leveduras (NP 3277-1:1987)

Tabela 2.4.2.2.4 – Metodologias dos parâmetros microbiológicos do estudo da evolução de parâmetros microbiológicos da segurança e da qualidade alimentar.

METODOLOGIAS	
CONTAGEM DE BOLORES E LEVEDURAS (NP 3277-1:1987)	Para a preparação das diluições decimais, usou-se a solução Triptona sal como diluente de acordo com a NP-3005 (1985). A contagem de bolores e leveduras foi realizada em sementeira à superfície, com auxílio de um semeador de 1 mL de inoculo distribuído por 3 placas de Petri/diluição, contendo meio de cultura *Cooke Rose Bengal* com clorotetraciclina, depois incubadas a 25ºC durante 3 a 5 dias.
PESQUISA DE *SALMONELLA* SPP. (ISO 6579:2002)	O enriquecimento foi realizado através de 25g de amostra em meio líquido, Água Peptonada Tamponada, incubado a 37ºC durante 24h. Seguido da passagem de 0,1 mL para o meio *Rappaport* (41,5ºC/24h), e de 1 mL para o meio MKTm (37ºC/24h). O isolamento realizou-se através da incubação de placas com os meios SMID e XLD a 37ºC durante 24h.
PESQUISA DE ESPOROS DE CLOSTRÍDIOS SULFITO-REDUTORES (NP 2262:1986)	Para a preparação das diluições decimais, utilizou-se a solução Triptona sal como diluente, NP-3005 (1985). A pesquisa de esporos de clostrídios sulfito-redutores implicou uma transferência do meio OLSP para tubos de ensaio, 10 mL para a concentração dupla, e 1 mL para a concentração simples e para a diluição -2, sendo incubadas a 37ºC durante 5 dias.
PESQUISA DE *LISTERIA MONOCYTOGENES* (ISO 11290-1:1996)	O primeiro enriquecimento foi realizado através de 25g de amostra em meio líquido, *Half-Fraser*, incubado a 30ºC durante 24h, o segundo enriquecimento consistiu na adição de 1 mL do meio *Half-Fraser* (37ºC/48h). O isolamento realizou-se através da incubação de placas com o meio *Palcam* a 37ºC durante 24 a 48h.

3. APRESENTAÇÃO E DISCUSSÃO DE RESULTADOS

3.1. EVOLUÇÃO DA TEMPERATURA DO AR DURANTE O ARMAZENAMENTO

Nas Figuras 3.1.1 a 3.1.5 são apresentados os valores da temperatura do ar, medidos entre os meses de Fevereiro e de Maio, inclusive, referentes ao estudo da evolução da temperatura do ar durante o armazenamento na área com temperatura controlada. As respectivas tabelas com valores da temperatura do ar correspondem aos Apêndices I a XX.

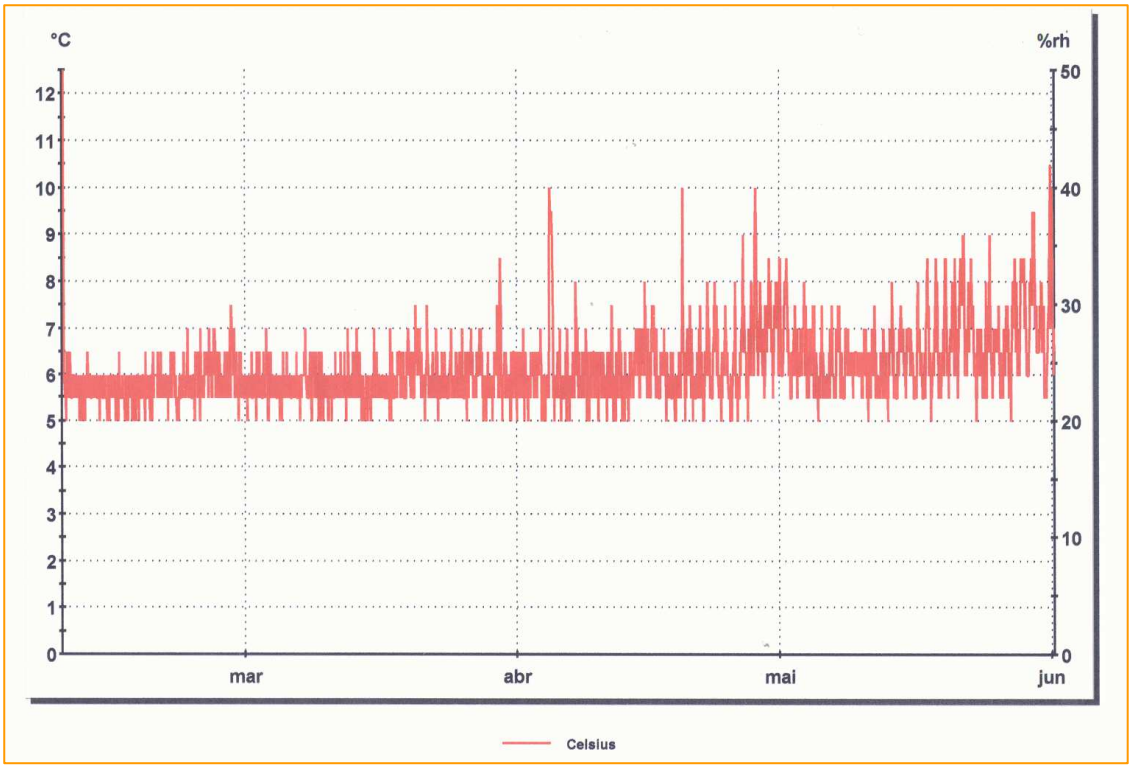

Figura 3.1.1 – Evolução da temperatura do ar da zona da recepção.

Devido às características dos produtos alimentícios recepcionados no entreposto, foi estabelecido pela empresa um limite máximo de temperatura de 7ºC, e 4ºC como limite mínimo de temperatura. Tendo em consideração este facto, constata-se que durante o período de tempo de estudo a temperatura do ar atingiu um valor mínimo, de 5ºC, nunca descendo para além do limite mínimo estabelecido. Relativamente ao limite máximo, este foi excedido a partir do mês de Abril, até então a temperatura manteve-se constante num intervalo de 5-7ºC. Houve, portanto, uma tendência para um aumento da temperatura do ar na zona de recepção, no período de tempo considerado.

Figura 3.1.2 – Evolução da temperatura do ar da zona de preparação de lojas.

Contrariamente à zona de recepção, a temperatura do ar na zona de preparação de lojas demonstra um comportamento oscilante, esporadicamente a temperatura desceu abaixo do limite mínimo estabelecido, atingindo temperaturas mínimas de 3,5ºC, no entanto no geral a temperatura mínima medida manteve-se nos 5ºC. Isto até ao início de Maio, partir de onde se observa uma tendência para um aumento, atingindo em diversas medições valores para além do limite de 6ºC, e atingindo valores máximos de 7ºC. Observando-se ainda um aumento entre os 8ºC na segunda quinzena de Abril, e na última de Maio atingiu valores de 9ºC, ultrapassando assim o limite máximo estabelecido.

Figura 3.1.3 – Evolução da temperatura do ar da zona da expedição.

As temperaturas da zona de expedição demonstram um comportamento estável, cuja temperatura mínima medida é de 5ºC, observando-se ocasionalmente o valor 4,5ºC. A temperatura máxima medida, no geral, é de 6ºC, observando-se na segunda quinzena de Abril valores de temperatura entre os 7 e os 8ºC, e na de Maio um aumento progressivo até aos 9ºC, seguindo de uma diminuição até aos 6ºC. Pode-se, face a estes resultados concluir que limite máximo estabelecido foi excedido.

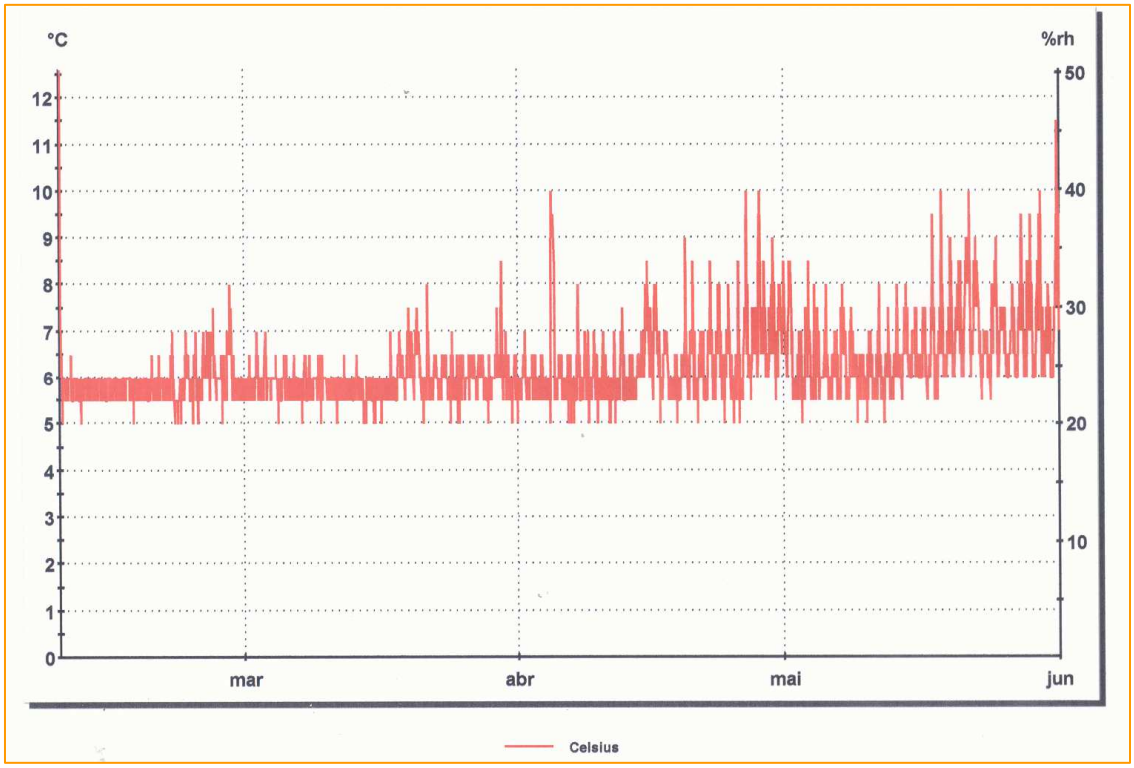

Figura 3.1.4 – Evolução da temperatura do ar da zona do *stock* da charcutaria.

A evolução de temperatura do ar da zona do *stock* da charcutaria apresentou um comportamento semelhante ao da zona de recepção. As temperaturas do ar medidas apresentam-se num intervalo de valores entre 5,5 e 6,5ºC, esporadicamente a temperatura mínima exibe valores de 5ºC, enquanto a máxima oscila entre os 7 e os 8ºC, este facto ocorre até meados de Abril. Após este ponto evidencia-se um aumento da temperatura máxima, 10ºC, seguida de uma diminuição até aos 7ºC, retomando a sua tendência para atingir os 10ºC, excedendo assim o limite máximo estabelecido. Relativamente à temperatura mínima medida, esta demonstra uma tendência para estabilizar nos 6ºC.

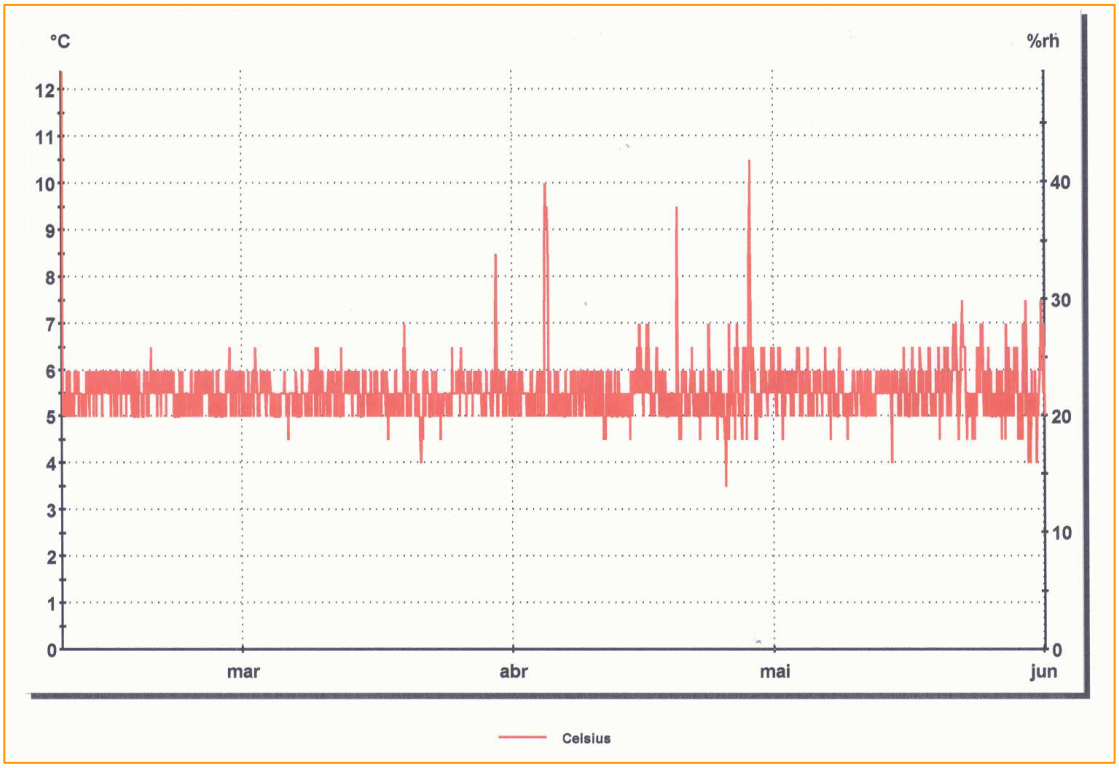

Figura 3.1.5 – Evolução da temperatura do ar da zona do *stock* dos hortofrutícolas.

A temperatura do ar medida na zona do *stock* dos hortofrutícolas apresentou um comportamento estável e constante, variando entre os 5 e os 6ºC, até à primeira quinzena de Abril. Os valores de temperatura máxima demonstram assim uma tendência para um aumento até aos 7ºC, enquanto que os valores mínimos medidos demonstram uma tendência para uma diminuição até aos 4ºC.

No geral as temperaturas do ar medidas nas diferentes zonas apresentam um comportamento estável, cujos valores oscilam entre os 4 e os 7ºC, que correspondem aos valores de temperatura limites estabelecidos, apenas a zona de preparação de lojas apresenta um comportamento oscilante.

3.1.1. ESTUDO DA EVOLUÇÃO DA TEMPERATURA DURANTE A RECEPÇÃO

Nas Figuras 3.1.1.1 a 3.1.1.4 são apresentados os gráficos dos valores de temperatura medidos referentes ao estudo da variação da temperatura durante a recepção dos produtos alimentícios.

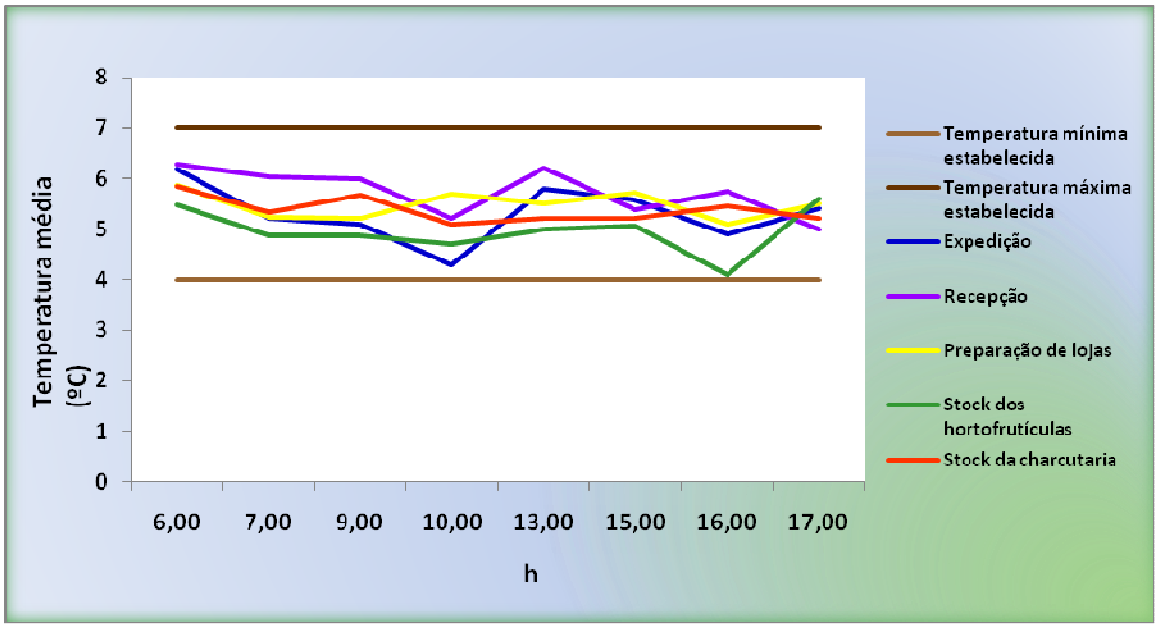

Figura 3.1.1.1 – Evolução da temperatura média (entre a 06h00 e as 17h00) das cinco zonas referentes no mês Fevereiro.

Tabela 3.1.1.1 - Valores das temperaturas médias medidos nas cinco zonas durante o mês de Fevereiro.

TEMPERATURAS MÉDIAS (ºC) REFERENTES AO MÊS FEVEREIRO					
ZONA / HORA	RECEPÇÃO	EXPEDIÇÃO	P. LOJAS	*STOCK* CH	*STOCK* HF
06:00:00	6,3	6,2	5,9	5,8	5,5
07:00:00	6,0	5,2	5,2	5,3	4,9
09:00:00	6,0	5,1	5,2	5,7	4,9
10:00:00	5,2	4,3	5,7	5,1	4,7
13:00:00	6,2	5,8	5,5	5,2	5,0
15:00:00	5,4	5,6	5,7	5,2	5,1
16:00:00	5,8	4,9	5,1	5,5	4,1
17:00:00	5,0	5,4	5,5	5,2	5,6

Através da observação da Figura 3.1.1.1 constatou-se que as temperaturas médias durante a recepção não ultrapassam os limites mínimo (4ºC) e máximo (7ºC) estabelecidos. O *stock* dos hortofrutícolas aproxima-se do limite mínimo, com valores entre 4,1 e 5,6ºC, sendo a zona da recepção a mais se aproxima do limite máximo (5,0 a 6,3ºC).

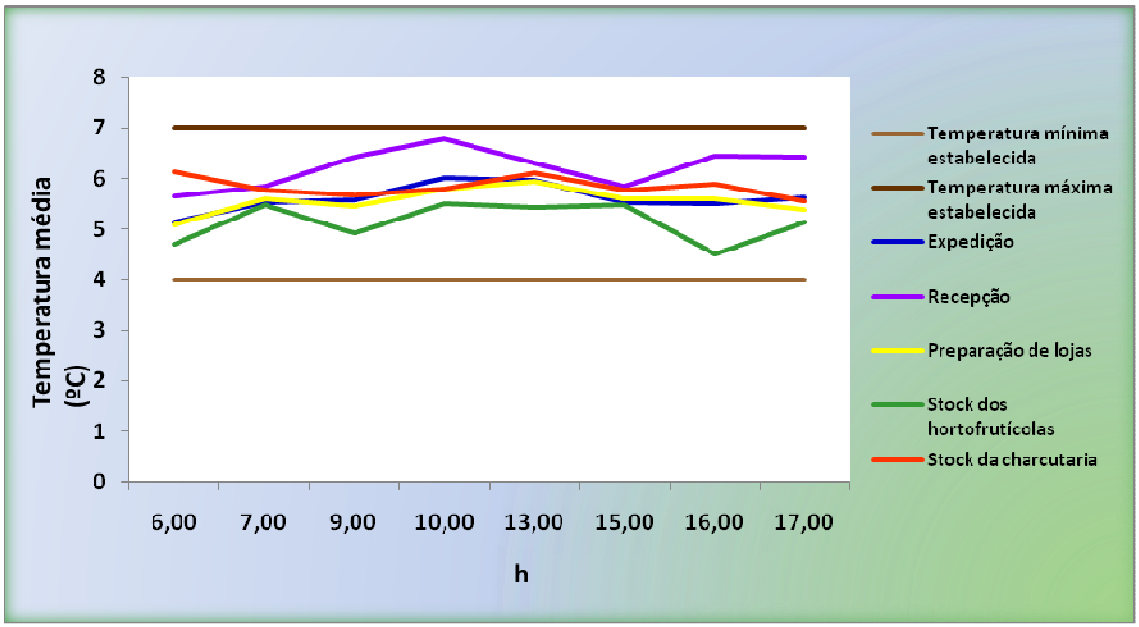

Figura 3.1.1.2 – Evolução da temperatura média (entre a 06h00 e as 17h00) das cinco zonas referentes no mês Março.

Tabela 3.1.1.2 – Valores das temperaturas médias medidos nas cinco zonas durante o mês de Março.

TEMPERATURAS MÉDIAS (ºC) REFERENTES AO MÊS MARÇO					
ZONA / HORA	RECEPÇÃO	EXPEDIÇÃO	P. LOJAS	*STOCK* CH	*STOCK* HF
06:00:00	5,7	5,1	5,1	6,1	4,7
07:00:00	5,9	5,5	5,6	5,8	5,5
09:00:00	6,4	5,6	5,5	5,7	4,9
10:00:00	6,8	6,0	5,8	5,8	5,5
13:00:00	6,3	6,0	5,9	6,1	5,4
15:00:00	5,9	5,5	5,6	5,8	5,5
16:00:00	6,5	5,5	5,6	5,9	4,5
17:00:00	6,4	5,6	5,4	5,6	5,2

Pela observação da Figura 3.1.1.2, verificou-se que durante o mês de Março ocorreu um aumento das temperaturas médias, aquando comparando com o mês de Fevereiro, no entanto estas não excederam os limites mínimo e máximo estabelecidos. As temperaturas médias referentes às zonas de preparação de lojas, expedição e *stock* da charcutaria assemelham-se tanto no intervalo de temperatura (5,4 a 6,1ºC), como no seu comportamento durante o mês de Março. A evolução da temperatura média da zona do *stock* dos hortofrutícolas (4,5 a 5,5ºC) manteve o seu comportamento e proximidade do limite mínimo estabelecido. Relativamente à zona da recepção, as temperaturas médias

apresentaram um aumento de 1,6ºC às 10h00 e 1,4ºC às 17h00, demonstrando uma tendência para se manter entre os 6 e os 7ºC.

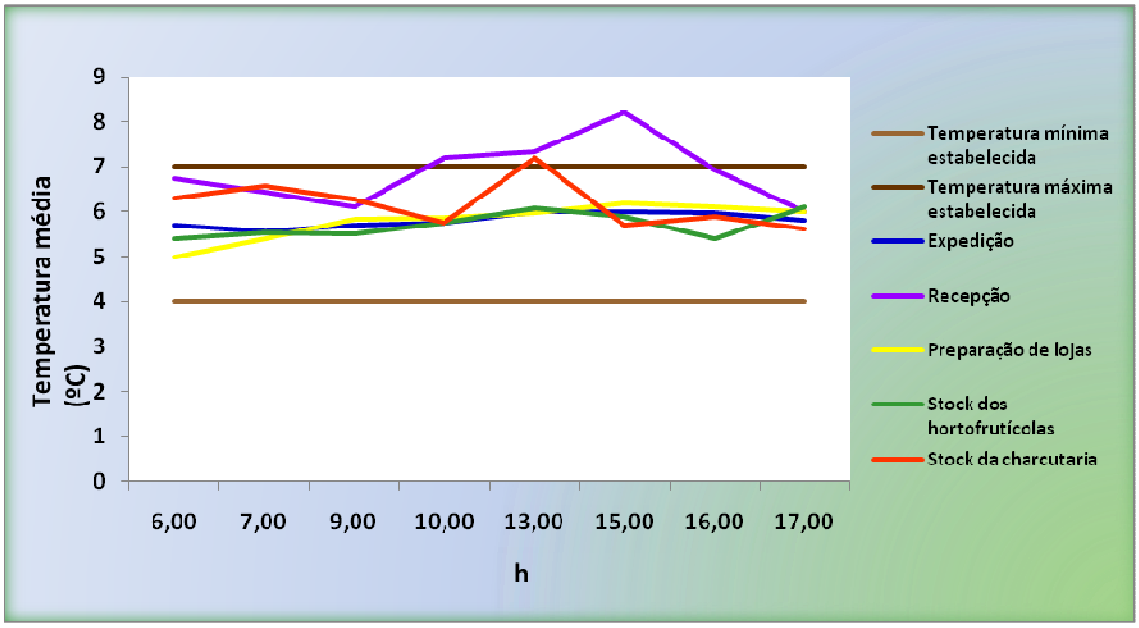

Figura 3.1.1.3 – Evolução da temperatura média (entre a 06h00 e as 17h00) das cinco zonas referentes no mês Abril.

Tabela 3.1.1.3 – Valores das temperaturas médias medidos nas cinco zonas durante o mês de Abril.

TEMPERATURAS MÉDIAS (ºC) REFERENTES AO MÊS ABRIL					
ZONA / HORA	RECEPÇÃO	EXPEDIÇÃO	P. LOJAS	*STOCK* CH	*STOCK* HF
06:00:00	6,7	5,7	5,0	6,3	5,4
07:00:00	6,4	5,6	5,4	6,6	5,5
09:00:00	6,1	5,7	5,8	6,3	5,5
10:00:00	7,2	5,8	5,9	5,8	5,8
13:00:00	7,3	6,0	6,0	7,2	6,1
15:00:00	8,2	6,0	6,2	5,7	5,9
16:00:00	6,9	6,0	6,1	5,9	5,4
17:00:00	6,0	5,8	6,0	5,6	6,1

A Figura 3.1.1.3 demonstrou um novo aumento nas temperaturas médias nas cinco zonas. Durante o mês de Abril as temperaturas médias das zonas de preparação de lojas, expedição e *stock* dos hortofrutícolas apresentaram o mesmo comportamento, sendo a sua evolução entre os 4,7 e os 6,0ºC. Contrariamente aos outros meses as temperaturas médias do *stock* da charcutaria apresentaram oscilações, uma diminuição ligeira (0,3ºC) entre as 7h00 e as 10h00, seguida de um aumento de 1,5ºC durante três horas, e uma diminuição de

1,5ºC nas duas horas seguintes, terminando com uma tendência para a estabilidade a se situar nos 6ºC. As temperaturas médias referentes à zona da recepção ultrapassaram o limite máximo durante quatro horas, manteve-se entre os 7,2 e os 8,2ºC.

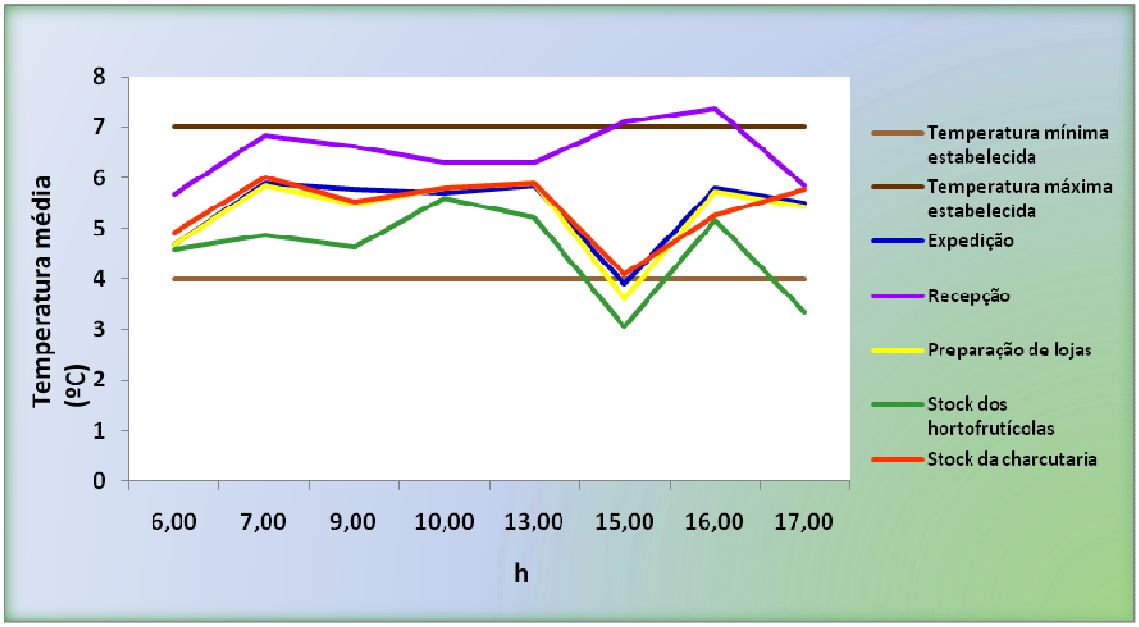

Figura 3.1.1.4 – Evolução da temperatura média (entre a 06h00 e as 17h00) das cinco zonas referentes no mês Maio.

Tabela 3.1.1.4 – Valores das temperaturas médias medidos nas cinco zonas durante o mês de Maio.

TEMPERATURAS MÉDIAS (ºC) REFERENTES AO MÊS MAIO					
ZONA / HORA	RECEPÇÃO	EXPEDIÇÃO	P. LOJAS	*STOCK* CH	*STOCK* HF
06:00:00	5,7	4,7	4,7	4,9	4,6
07:00:00	6,8	5,9	5,8	6,0	4,9
09:00:00	6,6	5,8	5,5	5,5	4,6
10:00:00	6,3	5,7	5,8	5,8	5,6
13:00:00	6,3	5,8	5,9	5,9	5,2
15:00:00	7,1	3,9	3,6	4,1	3,1
16:00:00	7,4	5,8	5,7	5,3	5,2
17:00:00	5,8	5,5	5,4	5,8	3,3

Observando a Figura 3.1.1.4, verifica-se que entre as 15h00 e as 16h00, ambos limites estabelecidos são ultrapassados, nas cinco zonas consideradas. A evolução das temperaturas médias referentes às zonas de preparação de lojas, expedição e do *stock* da charcutaria, apesar de ultrapassarem o limite mínimo às 15h00, demonstram uma tendência

para se estabilizarem nos 6ºC. As temperaturas médias da zona da recepção apresentam uma evolução semelhante à do mês de Abril, no entanto com valores inferiores, mas perto do limite máximo, sendo este ultrapassado em 0,4ºC. A zona do *stock* dos hortofrutícolas apresenta novamente os valores que mais se aproximam do limite inferior, sendo ultrapassado em 0,9ºC às 15h00 e 0,7ºC às 17h00, demonstrando uma tendência para temperaturas médias inferiores a 4ºC.

Assim com este estudo, constata-se que apesar de nos meses Abril e Maio, a zona de recepção, em determinadas ocasiões, ter ultrapassado o limite máximo estabelecido, enquanto a zona do *stock* dos hortofrutícolas ultrapassou o limite mínimo estabelecido, as temperaturas médias nas cinco zonas se situam no intervalo de temperatura estabelecido (4ºC a 7ºC).

3.2. ESTUDO DA EVOLUÇÃO DE PARÂMETROS MICROBIOLÓGICOS DA SEGURANÇA E DA QUALIDADE ALIMENTAR

3.2.1. ESTUDO DA EVOLUÇÃO DA TEMPERATURA INTERNA DOS PRODUTOS DURANTE O SEU ARMAZENAMENTO

As Figuras 3.2.1.1 e 3.2.1.2 apresentam a evolução da temperatura interna nos produtos lasanha bolonhesa e salada de peito de frango com tomate cereja e combinação de alfaces, respectivamente, desde a recepção (dia 0) até ao fim da validade destes (dia 17 para a lasanha bolonhesa e dia 6 para a salada de peito de frango com tomate cereja e combinação de alfaces).

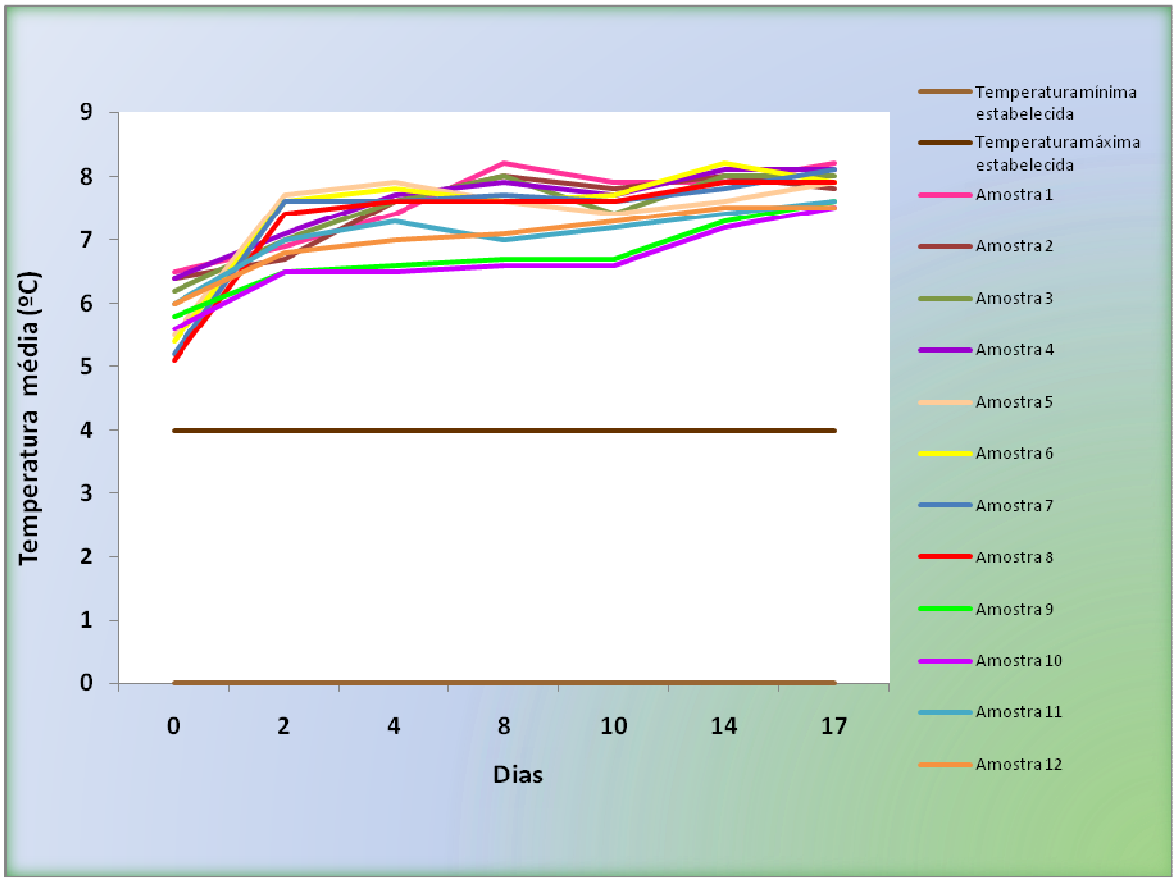

Figura 3.2.1.1 – Evolução da temperatura interna do produto lasanha bolonhesa.

Tabela 3.2.1.1 – Valores da temperatura interna do produto lasanha bolonhesa.

TEMPERATURA INTERNA (ºC) DA LASANHA BOLONHESA												
AMOSTRAS / DIA	1	2	3	4	5	6	7	8	9	10	11	12
0	6,5	6,4	6,2	6,4	5,5	5,4	5,2	5,1	5,8	5,6	6,0	6,0
2	6,9	6,7	7,0	7,1	7,7	7,6	7,6	7,4	6,5	6,5	7,0	6,8
4	7,4	7,6	7,6	7,7	7,9	7,8	7,6	7,6	6,6	6,5	7,3	7,0
8	8,2	8,0	8,0	7,9	7,6	7,6	7,7	7,6	6,7	6,6	7,0	7,1
10	7,9	7,8	7,4	7,7	7,4	7,7	7,6	7,6	6,7	6,6	7,2	7,3
14	7,9	8,0	8,0	8,1	7,6	8,2	7,8	7,9	7,3	7,2	7,4	7,5
17	8,2	7,8	8,0	8,1	7,9	7,9	8,1	7,9	7,6	7,5	7,6	7,5

O limite máximo (4ºC) e mínimo (0ºC) correspondem ao intervalo de temperatura, referenciado no modo de conservação do produto lasanha bolonhesa. Tendo este facto em consideração, observou-se na Figura 3.2.1.1, que os valores de temperatura interna foram acentuadamente superiores a estes limites. As doze amostras analisadas apresentaram um comportamento semelhante entre si, os valores de temperatura na sua recepção situam-se

entre os 5 e os 6ºC, observando-se ainda um aumento contínuo dos valores, em média de 2ºC, assim como a sua tendência para um aumento da temperatura interna.

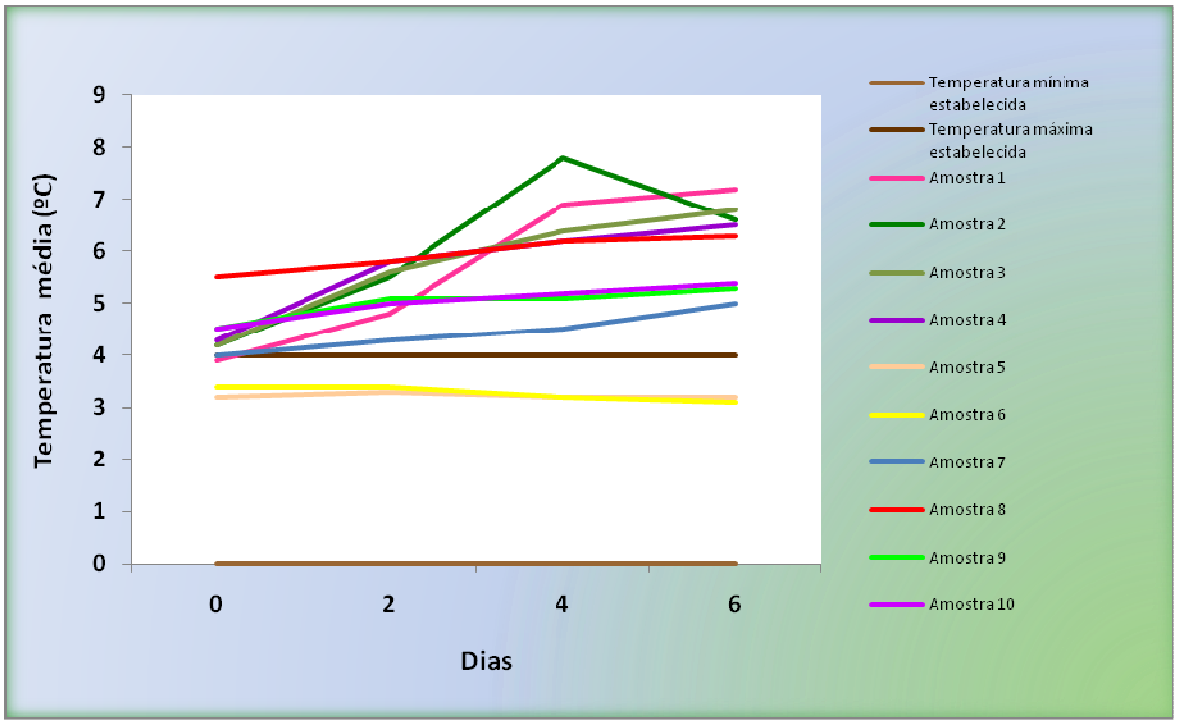

Figura 3.2.1.2 – Evolução da temperatura interna do produto salada de peito de frango com tomate cereja e combinação de alfaces.

Tabela 3.2.1.2 – Valores da temperatura interna do produto salada de peito de frango com tomate cereja e combinação de alfaces.

TEMPERATURA INTERNA (ºC) DA SALADA DE PEITO DE FRANGO COM TOMATE CEREJA E COMBINAÇÃO DE ALFACES										
AMOSTRAS / DIA	1	2	3	4	5	6	7	8	9	10
0	3,90	4,20	4,20	4,30	3,20	3,40	4,00	5,50	4,50	4,50
2	4,80	5,50	5,60	5,80	3,30	3,40	4,30	5,80	5,10	5,00
4	6,90	7,80	6,40	6,20	3,20	3,20	4,50	6,20	5,10	5,20
6	7,20	6,60	6,80	6,50	3,20	3,10	5,00	6,30	5,30	5,40

As amostras do produto salada de peito de frango, ao contrário das amostras do produto lasanha bolonhesa, não demonstram semelhanças entre si, Apresentam uma variação nos valores de temperatura na recepção, entre 3 e 5,5ºC, assim como uma variação dos valores no final da sua validade, 3 a 7ºC. Sendo o aumento médio dos valores de temperatura de 1,4ºC.

Com este estudo, constatou-se que os valores das temperaturas internas dos produtos atingiram sempre valores superiores aos limites máximos, desde a sua recepção até ao fim da validade. Sendo o aumento médio dos valores de temperatura de 2ºC para o produto lasanha bolonhesa, e 1,4ºC para o produto salada de peito de frango.

3.2.2. ESTUDO DA EVOLUÇÃO DE PARÂMETROS MICROBIOLÓGICOS DA SEGURANÇA E DA QUALIDADE ALIMENTAR

Os resultados dos parâmetros microbiológicos pesquisados nas amostras do produto lasanha bolonheses encontram-se expressos na Tabela 3.2.2.1.

Tabela 3.2.2.1 – Resultados das análises microbiológicas do produto lasanha bolonhesa.

AMOSTRAS (*n*)	DIAS NO ENTREPOSTO	CONTAGEM DE BOLORES E LEVEDURAS (UFC/G)	PESQUISA DE *SALMONELLA* SPP. (25G)	PESQUISA DE ESPOROS DE CLOSTRÍDIOS SULFITO-REDUTORES (25G)
1	1	<1	Negativo em 25g	a)
2	1	1,1x10	Negativo em 25g	a)
3	1	<1	Negativo em 25g	a)
4	1	<1	Negativo em 25g	a)
5	1	<1	Negativo em 25g	a)
6	8	<1	Negativo em 25g	a)
7	8	<1	Negativo em 25g	a)
8	8	<1	Negativo em 25g	a)
9	8	<1	Negativo em 25g	a)
10	8	<1	Negativo em 25g	a)
11	8	3,0x10	Negativo em 25g	0,1
12	8	1,0x10	Negativo em 25g	0,1
13	8	8,0x10	Negativo em 25g	1
14	8	<1	Negativo em 25g	0,1
15	8	$1,7x10^3$	Negativo em 25g	0,1
16	15	<1	Negativo em 25g	1
17	15	6,3x10	Negativo em 25g	<1
18	15	$5,1x10^4$	Negativo em 25g	1
19	15	$4,1x10^3$	Negativo em 25g	0,1
20	15	8,8x10	Negativo em 25g	0,01

Legenda: a) As análises não foram realizadas por falta de meio de cultura.

Pode-se observar que nos indicadores de segurança, apenas se verificou a presença de esporos de clostrídios sulfito-redutores, cujos valores são considerados como aceitáveis (de acordo com os valores de referencia expressos na tabela 2 - Valores Guia para avaliação da qualidade microbiológica de alimentos cozinhados prontos a comer, do INSA). Relativamente ao indicador de qualidade (contagem de bolores e leveduras), no geral verifica-se que a contagem aumenta com o aumento do tempo de permanência do produto no entreposto, sendo os valores da contagem considerados como aceitáveis para os bolores e satisfatórios para as leveduras, aquando comparados com os critérios adoptados.

A tabela 3.2.2.2 expressa os resultados dos parâmetros microbiológicos determinados nas amostras do produto salada de peito de frango com tomate cereja e combinação de alfaces.

Tabela 3.2.2.2 – Resultados das análises microbiológicas do produto Salada de peito de frango com tomate cereja e combinação de alfaces.

AMOSTRAS (*n*)	**DIAS NO ENTREPOSTO**	**CONTAGEM DE BOLORES E LEVEDURAS (UFC/G)**	**PESQUISA DE *SALMONELLA* SPP. (25G)**	**PESQUISA DE *LISTERIA MONOCYTOGENES* (25G)**
1	3	$4,6x10^5$	Negativo em 25g	Negativo em 25g
2	3	$3,0x10^5$	Negativo em 25g	Negativo em 25g
3	3	$5,2x10^5$	Negativo em 25g	Negativo em 25g
4	3	$6,4x10^5$	Negativo em 25g	Negativo em 25g
5	3	$7,9x10^5$	Negativo em 25g	Negativo em 25g
6	2	$8,0x10^4$	Negativo em 25g	Negativo em 25g
7	2	$9,9x10^4$	Negativo em 25g	Negativo em 25g
8	2	$3,4x10^4$	Negativo em 25g	Negativo em 25g
9	2	$7,6x10^4$	Negativo em 25g	Negativo em 25g
10	2	$5,2x10^4$	Negativo em 25g	Negativo em 25g
11	2	$3,1x10^4$	Negativo em 25g	Negativo em 25g
12	2	$2,4x10^4$	Negativo em 25g	Negativo em 25g
13	2	$1,4x10^4$	Negativo em 25g	Negativo em 25g
14	2	$9,6x10^3$	Negativo em 25g	Negativo em 25g
15	2	$9,3x10^4$	Negativo em 25g	Negativo em 25g
16	3	$3,2x10^5$	Negativo em 25g	Negativo em 25g
17	3	$3,6x10^5$	Negativo em 25g	Negativo em 25g
18	3	$4,2x10^5$	Negativo em 25g	Negativo em 25g
19	3	$1,0x10^5$	Negativo em 25g	Negativo em 25g
20	3	$6,4x10^5$	Negativo em 25g	Negativo em 25g

Através da Tabela 3.2.2.2, constata-se que em todas as amostras a contagem de bolores e leveduras apresenta valores na ordem dos 10^4 e 10^5, o que são valores considerados como não satisfatórios. Relativamente aos indicadores de segurança, não se verificou a sua presença, sendo este resultado considerado como satisfatório, de acordo com os valores de referência.

4. CONCLUSÕES FINAIS

Com o estudo evolução da temperatura do ar durante o armazenamento foi possível constatar que no âmbito geral as temperaturas do ar medidas nas diferentes zonas apresentam um comportamento estável, à excepção da zona de preparação de lojas. Cujos valores de temperatura apresentam-se dentro do intervalo 4 a 7ºC, sendo este o intervalo de temperatura estabelecido pela empresa, salientando-se ainda uma tendência para um aumento dos valores de temperatura, em média 2,25ºC.

No estudo da evolução de parâmetros microbiológicos da segurança e da qualidade alimentar, observa-se que os produtos em estudo apresentam valores de temperaturas internas superiores aos dos limites referenciados no modo de conservação (0 a 4ºC), desde a sua recepção até ao fim da validade, sendo em média de 2ºC para o produto lasanha bolonhesa, e 1,4ºC para o produto salada de peito de frango com tomate cereja e combinação de alfaces.

A nível de segurança alimentar, apenas foi detectado a presença de esporos de clostrídios sulfito-redutores, na lasanha bolonhesa, cujos valores são considerados aceitáveis. Estes resultados implicam que o intervalo de temperatura estabelecido permitiu a inibição do crescimento microbiano, e assim assegurar a segurança alimentar.

A nível de qualidade alimentar, esta é posta em causa, uma vez que os valores obtidos na contagem de bolores e leveduras no produto salada de peito de frango com tomate cereja e combinação de alfaces, são considerados não satisfatórios. A presença de bolores e leveduras vai influenciar o tempo de vida de prateleira, uma vez que o produto vai sofrer uma acção de deterioração.

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APÊNDICES

Apêndice I – Valores das temperaturas do ar na zona da recepção medidas durante o mês Fevereiro.

TEMPERATURAS DO AR DA ZONA DA RECEPÇÃO MEDIDAS DURANTE O MÊS FEVEREIRO																					
HORA\DIA	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
00:09:43		6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	7,0	5,5	5,5	6,0	6,5	6,0	6,0	5,5
00:39:43		6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	5,5	5,5	5,5	6,5	6,0	6,0	6,0
01:09:43		6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,5	6,0	6,0	6,0
01:39:43		5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,5	6,0	6,0	6,0
02:09:43		6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,0
02:39:43		5,5	6,0	5,5	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	6,5	6,0	5,5	6,0
03:09:43		5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0
03:39:43		5,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,0
04:09:43		6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	7,0	6,0	7,0	5,5
04:39:43		6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	7,0	5,5
05:09:43		5,5	5,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,5	5,5
05:39:43		6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,5	6,0
06:09:43		6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,0
06:39:43		6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0
07:09:43		5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,0	6,0	6,5	5,5
07:39:43		6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,5	6,0	7,0	5,5
08:09:43		6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,0	5,5	6,5	6,0	7,0	6,0
08:39:43		6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	5,5	5,5	6,0	6,5	6,0	6,5	6,0
09:09:43		6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,5	6,0	6,5	5,5
09:39:43		6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,0	6,5	6,0
10:09:43	10,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,5	6,5	6,0	6,5	6,0	7,0	6,0
10:39:43	7,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,5	6,5	6,5	7,0	6,0	7,0	6,0
11:09:43	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,5	6,5	6,5	7,0	6,0	7,5	6,0
11:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,5	5,5	5,5	6,0	6,5	6,5	7,0	6,0	8,0	6,0
12:09:43	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,5	6,5	6,5	6,5	6,0	8,0	6,0

12:39:43	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	7,0	6,5	7,0	6,5	6,5	7,5	6,0
13:09:43	6,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,5	6,5	7,0	7,0	6,5	7,5	6,0
13:39:43	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,5	6,5	6,5	7,0	6,0
14:09:43	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,5	6,5	7,0	6,0	7,5	6,0
14:39:43	5,5	6,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,5	7,0	6,0	7,5	6,0
15:09:43	5,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	6,0	5,5	6,0	5,0	6,0	6,0	6,0	7,5	5,0	6,5	5,5
15:39:43	5,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,5	7,0	6,5	6,5	5,5	6,5	6,0
16:09:43	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,5	6,5	6,5	6,5	6,0	7,0	6,0
16:39:43	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,5	6,0	6,0	5,5	6,5	6,0	6,5	6,0	6,0	6,5	5,5
17:09:43	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,5	5,5	6,0	6,0	6,0	6,0	5,5
17:39:43	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,5	6,0	6,0	6,5	6,0	6,0	6,0
18:09:43	6,0	5,5	5,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,0	6,5	6,5	6,5	6,0	6,0
18:39:43	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,0	6,5	6,5	6,0	5,5	6,0
19:09:43	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,0	6,5	6,5	6,5	6,0	5,5
19:39:43	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0
20:09:43	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	5,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0
20:39:43	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0
21:09:43	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0
21:39:43	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	6,5	6,0	6,0	6,0	6,0
22:09:43	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,5	6,0	6,0	6,5	6,0
22:39:43	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	7,0	6,0	6,0	6,0	5,5
23:09:43	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,5	5,0	5,5	6,0	7,0	5,5	5,5	5,5	5,5
23:39:43	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,0	5,5	6,0	7,0	6,0	5,5	5,5	5,5

Apêndice II – Valores das temperaturas do ar na zona da recepção medidas durante o mês Março.

TEMPERATURAS DO AR DA ZONA DA RECEPÇÃO MEDIDAS DURANTE O MÊS MARÇO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	7,0	6,0	5,5	5,5	6,0	5,5	5,5	6,0	6,5	5,5	6,0	6,0
00:39:43	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	7,0	6,0	6,0	6,0	6,0	5,5	5,5	6,5	6,5	6,0	6,5	6,0
01:09:43	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,5	6,0	6,0	5,5	5,5	6,0	5,5	6,5	6,5	6,0	7,0	6,0
01:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,0	7,5	6,0
02:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,0	6,0	5,5	6,5	6,0	6,5	6,0	6,0	8,0	6,0
02:39:43	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,5	6,0	6,0	6,0	5,5	6,5	6,0	6,0	6,0	6,0	8,0	6,0
03:09:43	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	8,0	6,0
03:39:43	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	8,5	6,0
04:09:43	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	6,0	6,0	5,5	6,0	8,5	6,0
04:39:43	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	7,0	5,5
05:09:43	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5
05:39:43	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0
06:09:43	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0
06:39:43	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0
07:09:43	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,0
07:39:43	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,5	5,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,0
08:09:43	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	5,5	6,0	6,0	6,0	5,0	6,0	5,5	6,0	6,0	6,0	5,5
08:39:43	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	5,5	6,0	5,5	5,0	6,0	6,0	6,0	6,0	6,0	6,0
09:09:43	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	5,5	6,0	5,0	5,0	6,0	6,0	6,0	6,0	6,0	5,5
09:39:43	6,0	6,0	6,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0
10:09:43	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,0
10:39:43	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,5	7,0	6,0	6,0	6,5	6,5	6,5	6,5	6,0	6,0	6,5	6,5	6,0
11:09:43	5,5	6,0	6,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,5	6,0	7,0	6,0	6,0	6,5	6,0	6,5	6,0	6,0	5,5	6,5	6,0	6,0
11:39:43	5,5	6,5	6,5	6,0	6,0	6,0	5,5	6,5	6,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,5	6,5	7,0	6,0	6,0	6,5	6,0	6,0	5,5	6,0	5,5	6,5	6,0	6,0

12:09:43	5,5	6,5	7,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,5	6,5	6,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,5	6,0	6,0
12:39:43	6,0	7,0	7,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,5	7,0	7,0	6,0	6,0	6,0	6,5	6,0	6,5	6,0	5,5	6,5	6,0	6,0
13:09:43	5,5	6,5	6,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,5	7,0	7,0	6,0	6,5	6,0	7,0	6,0	6,5	6,5	5,5	6,5	6,5	6,0
13:39:43	6,0	6,5	6,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	5,0	5,5	5,5	5,0	5,5	5,0	6,0	6,5	7,0	7,0	6,0	6,5	6,0	6,5	6,5	6,5	6,5	5,5	6,5	6,5	6,0
14:09:43	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,5	7,0	7,0	7,0	7,0	6,0	6,5	6,0	6,0	6,5	6,0	6,5	5,5	6,5	6,5	6,5
14:39:43	6,0	6,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	7,0	7,0	7,0	7,5	6,0	6,0	6,0	6,5	6,5	6,5	6,0	5,5	7,0	7,0	6,5
15:09:43	6,0	6,0	5,5	6,0	6,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,5	7,0	7,0	7,0	5,5	6,0	6,5	6,0	5,5	6,5	6,0	5,0	7,5	6,5	6,5
15:39:43	6,0	6,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,5	6,5	7,0	7,5	7,0	5,5	6,0	6,5	6,0	6,0	6,0	6,5	5,5	7,0	6,5	6,0
16:09:43	6,0	6,5	5,5	6,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,0	5,5	5,5	6,0	7,0	7,0	7,0	5,5	6,5	6,5	6,0	6,0	6,0	6,5	5,5	6,5	6,0	6,0
16:39:43	6,5	6,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,0	5,5	6,0	5,5	7,0	7,0	7,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,0	5,5	6,0
17:09:43	6,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,5	6,0	5,5	6,0	5,5	5,0	5,0	5,5	5,5	6,5	7,0	6,5	5,5	6,0	6,0	5,5	6,0	6,5	6,0	6,5	6,5	6,0	5,5
17:39:43	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	5,5	5,5	6,0	5,0	5,5	6,0	5,5	6,0	6,5	6,5	6,5	6,5	6,0	6,0	6,0	6,5	6,0	6,0	6,5	6,5	6,0
18:09:43	5,5	5,5	6,0	6,0	6,0	6,5	6,0	6,0	5,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,5	6,0	6,5	8,0	6,5	6,0	6,0	6,5	6,5	6,5	6,5	6,5	6,5	6,5
18:39:43	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,5	7,0	8,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0	6,5	6,0	6,5
19:09:43	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	5,0	5,5	5,5	6,0	6,0	6,0	7,0	6,5	6,5	6,0	6,0	6,0	6,5	6,5	6,0	6,5	6,0	6,0
19:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	5,5	5,5	6,0	6,5	6,0	7,0	6,5	6,0	6,5	6,0	6,0	6,5	6,5	6,0	6,5	6,0	6,0
20:09:43	6,0	6,0	6,0	6,0	6,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,5	7,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,0	6,0	6,0
20:39:43	6,0	6,0	6,0	6,0	6,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,5	6,0	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0
21:09:43	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,5	6,0	7,0	6,0	6,5	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0
21:39:43	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0
22:09:43	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,5	6,0
22:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,0	6,0
23:09:43	5,5	5,5	6,0	5,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	6,5	6,0	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,0
23:39:43	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,5	7,0	6,0	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5

Apêndice III – Valores das temperaturas do ar na zona da recepção medidas durante o mês Abril.

TEMPERATURAS DO AR DA ZONA DA RECEPÇÃO MEDIDAS DURANTE O MÊS ABRIL																														
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
00:09:43	5,5	6,0	5,5	5,5	9,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,5	6,5	6,0	5,5	6,5	6,0	5,5	5,5	5,5	6,0	5,0	6,0	6,5	6,0	7,0
00:39:43	5,5	6,0	6,0	6,0	9,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,5	6,0	6,0	6,5
01:09:43	6,0	6,0	6,0	6,0	9,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,5	6,0	6,0	6,0	6,0
01:39:43	6,0	6,0	6,0	6,0	9,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,5	5,5	5,5	6,0	6,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0
02:09:43	5,5	6,0	6,0	6,0	9,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	5,5
02:39:43	6,0	6,0	6,0	6,0	8,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	7,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0
03:09:43	6,0	6,0	6,0	6,0	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,5	7,5	6,5	6,0
03:39:43	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	7,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	8,5	6,5	6,5
04:09:43	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	7,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,5	6,0	6,0	5,5	6,0	9,0	6,5	6,5
04:39:43	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	9,0	6,0	6,5
05:09:43	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	9,0	6,5	6,0
05:39:43	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,0	9,5	6,0	6,5
06:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	9,5	6,0	6,5
06:39:43	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,5	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	10,0	6,0	7,0
07:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,5	6,5	5,5	5,5	5,5	6,0	5,0	6,0	5,5	5,0	5,5	6,0	5,5	10,0	6,0	6,0
07:39:43	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	6,0	6,5	7,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	9,5	6,0	6,0
08:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	7,0	7,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	8,5	6,5	7,0
08:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	7,5	7,5	6,0	5,5	6,0	6,0	6,0	6,0	6,5	6,0	5,0	6,0	6,0	8,5	7,5	7,0
09:09:43	5,5	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	8,0	7,5	6,5	6,0	6,0	6,0	6,0	5,5	7,0	6,0	5,5	5,5	6,0	8,0	7,5	7,5
09:39:43	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	7,5	7,5	6,5	6,0	6,0	6,5	6,0	6,0	7,0	6,0	6,0	6,0	6,0	7,5	6,5	7,0
10:09:43	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,0	6,0	5,5	6,0	7,5	7,5	6,5	5,5	6,0	6,5	6,0	6,0	7,0	6,5	6,0	6,0	6,5	7,5	7,0	7,0
10:39:43	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	7,5	8,0	6,5	5,5	6,0	7,0	6,5	6,5	7,0	6,5	6,0	6,5	6,5	7,0	7,0	7,5
11:09:43	6,0	6,0	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	7,0	8,0	6,5	5,5	6,0	7,0	6,0	6,5	6,5	6,0	6,0	6,5	7,0	6,5	6,5	7,5

11:39:43	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,5	6,0	6,0	5,5	6,0	6,0	6,0	7,0	7,5	6,5	5,5	6,5	7,0	6,0	7,0	6,5	6,0	5,5	6,5	7,5	6,5	7,0	8,0
12:09:43	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,5	6,5	6,0	5,5	6,0	6,0	6,5	7,0	7,5	6,5	5,5	6,5	7,0	6,5	7,0	7,0	6,0	6,0	6,5	7,0	6,5	7,0	7,5
12:39:43	6,0	6,0	5,5	5,5	6,0	6,0	5,5	7,0	6,5	6,5	5,5	6,0	6,0	6,0	7,0	7,0	6,5	6,0	6,0	6,5	6,5	7,0	7,0	6,5	6,0	6,5	7,0	6,5	7,0	7,5
13:09:43	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	7,0	6,5	5,5	6,5	6,0	6,5	7,0	7,0	7,0	6,0	6,0	7,0	6,5	7,0	6,5	6,5	6,0	7,0	7,0	7,0	7,5	7,5
13:39:43	6,0	6,0	6,0	5,5	6,0	6,0	6,0	7,0	7,0	6,5	6,0	6,5	6,0	6,5	7,5	7,0	7,0	6,0	6,0	6,5	6,5	7,0	7,0	7,0	6,0	7,0	7,0	7,0	7,5	8,0
14:09:43	6,0	6,5	6,5	5,5	6,5	6,0	6,0	6,5	7,0	7,0	5,5	7,0	6,0	6,5	8,5	7,5	7,0	6,0	6,5	7,0	7,0	7,0	7,5	7,0	6,5	7,0	7,0	7,5	7,5	8,0
14:39:43	6,5	6,5	6,5	6,0	6,5	6,5	6,5	6,5	7,0	7,0	6,0	7,0	6,5	6,5	8,0	7,5	7,0	6,0	6,5	7,0	7,0	7,0	8,0	7,0	6,5	7,5	7,0	7,5	7,5	8,0
15:09:43	6,0	6,5	6,0	5,0	6,0	6,0	5,5	6,0	6,5	6,5	5,5	6,5	5,5	6,5	8,0	8,0	7,0	6,0	6,0	6,5	6,5	6,5	8,0	7,0	5,5	7,5	7,0	7,5	8,0	7,5
15:39:43	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,5	5,5	6,5	8,0	7,5	7,0	5,5	6,5	7,0	6,5	7,0	7,5	7,0	5,5	7,5	7,0	7,5	7,5	7,5
16:09:43	6,0	5,5	5,5	6,0	6,0	5,0	6,0	6,0	6,0	6,0	5,5	6,5	6,0	6,5	7,5	7,5	7,0	6,0	6,5	7,0	6,5	7,0	7,5	6,5	6,0	7,5	6,5	7,5	7,5	7,5
16:39:43	6,0	5,5	6,0	7,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	6,5	6,0	6,5	7,5	7,0	7,0	6,0	6,0	6,5	6,5	7,0	7,0	6,5	6,0	7,0	6,5	7,0	7,0	7,5
17:09:43	6,0	6,0	6,5	8,0	6,0	6,0	7,0	5,5	5,5	6,0	5,5	6,5	5,5	6,0	7,0	6,5	7,0	6,0	6,0	6,5	6,0	8,0	7,5	6,5	6,0	7,0	6,5	6,5	7,0	7,5
17:39:43	6,5	6,0	6,5	9,0	6,0	6,5	7,5	6,0	6,5	6,0	5,5	7,0	6,0	6,5	7,0	6,5	6,5	6,5	6,0	8,5	6,0	8,5	7,0	6,5	6,5	7,0	7,0	6,5	6,5	7,0
18:09:43	6,5	6,5	6,5	10,0	6,0	6,5	7,5	6,5	6,5	6,5	6,0	7,5	6,0	6,5	7,0	6,5	6,5	6,0	6,5	8,5	6,5	8,5	7,5	7,0	6,0	8,0	7,0	7,0	8,5	7,0
18:39:43	7,0	6,0	6,5	10,0	6,5	6,5	8,0	6,5	6,5	6,5	6,0	7,0	6,0	6,5	7,0	7,0	7,0	6,5	6,5	8,0	7,0	8,0	8,0	8,0	6,0	9,5	7,5	8,5	9,0	7,0
19:09:43	6,5	6,0	6,0	10,0	6,0	6,0	7,5	6,0	6,5	6,5	6,0	7,5	6,0	6,5	6,5	6,5	7,0	6,0	6,5	7,5	7,0	7,5	7,5	8,0	6,0	9,5	7,5	8,5	9,0	6,5
19:39:43	6,5	6,0	6,0	9,5	6,0	6,0	7,0	6,0	6,5	6,0	6,5	7,0	6,0	6,5	7,0	6,5	7,0	6,0	6,5	6,5	6,5	7,0	7,0	7,5	6,5	10,0	7,5	8,5	8,5	7,0
20:09:43	6,0	6,0	6,0	9,5	6,0	6,5	6,5	6,0	6,5	6,0	6,5	6,0	6,0	6,0	6,5	6,5	6,5	6,0	6,5	6,0	6,5	6,5	6,0	7,0	7,0	8,0	7,0	7,5	8,0	7,0
20:39:43	6,0	6,0	5,5	9,5	6,0	6,0	6,0	6,5	6,0	6,5	7,0	5,5	6,0	6,0	6,0	6,5	6,5	5,5	7,0	5,5	6,0	6,5	6,5	6,5	7,5	6,5	6,5	7,0	7,5	7,0
21:09:43	6,0	6,0	6,0	9,5	6,0	6,0	6,0	6,5	6,0	6,5	7,0	6,0	6,0	6,0	6,5	6,0	6,5	5,5	8,0	6,0	6,0	6,5	6,5	6,5	8,0	6,5	7,0	7,0	7,5	7,0
21:39:43	6,0	6,0	6,0	9,5	6,5	6,0	6,0	6,5	6,5	6,5	7,0	6,0	6,5	6,5	6,5	6,5	6,5	6,0	9,0	6,5	6,5	7,0	7,0	6,5	8,5	6,5	7,5	7,0	7,5	7,0
22:09:43	6,0	6,5	6,0	9,5	6,5	6,5	6,5	7,0	6,5	6,5	6,5	6,5	6,5	7,0	7,0	7,0	6,5	6,5	9,0	7,0	7,0	7,0	7,0	7,0	7,5	7,5	7,5	7,5	8,0	7,0
22:39:43	6,0	6,5	6,0	9,5	6,5	6,0	6,5	6,5	6,5	6,5	6,0	6,5	6,0	7,0	7,5	7,0	6,5	6,0	9,0	7,0	7,0	7,0	7,0	6,5	7,0	8,0	7,5	7,0	8,0	7,5
23:09:43	5,5	5,5	5,5	9,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,5	7,0	6,5	6,0	5,0	8,0	6,0	6,0	6,0	6,0	6,0	6,0	7,0	7,0	6,5	7,0	8,5
23:39:43	5,5	5,5	5,5	9,5	5,5	5,0	5,5	5,0	5,0	5,5	5,5	5,5	6,0	6,5	7,0	6,5	6,0	5,5	7,0	6,0	5,5	6,0	6,0	6,0	5,5	6,5	6,5	6,0	7,0	8,5

Apêndice IV – Valores das temperaturas do ar na zona de recepção medidas durante o mês Maio.

TEMPERATURAS DO AR DA ZONA DA RECEPÇÃO MEDIDAS DURANTE O MÊS MAIO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	7,0	5,5	6,5	6,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,5	6,5	6,0	5,5	6,0	6,5	7,0	7,5	7,0	6,0	8,0	6,5	6,5	7,0	7,0	8,0	7,5
00:39:43	7,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,5	6,5	6,5	5,5	6,0	6,5	7,0	7,5	7,0	6,0	7,5	6,5	6,5	6,5	6,5	7,0	7,5
01:09:43	8,0	5,5	5,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,5	7,0	6,5	6,0	7,0	6,0	6,0	6,0	6,0	7,0	6,0
01:39:43	7,5	6,0	5,5	6,0	6,0	6,0	6,5	5,5	6,0	6,0	5,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,0	6,5	6,0	6,0	6,5	6,0	6,0	6,0
02:09:43	7,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,0	6,5	6,5	6,5	6,5	6,0	7,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0
02:39:43	7,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,5	6,5	7,0	6,0	6,0	6,0	6,5	7,0	6,0	6,5	6,0
03:09:43	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,0	7,0	6,5	6,0	6,0	6,0	6,5	7,0	6,0	6,5	6,0
03:39:43	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	7,0	7,0	6,5	6,5	6,5	6,5	6,5	7,0	6,0	7,0	6,0
04:09:43	6,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,5	7,0	6,5	6,0	6,0	6,0	6,0	6,5	6,0	7,5	6,0
04:39:43	6,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	6,5	6,0	7,0	6,0
05:09:43	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	5,5	6,0	6,0	6,0	6,0	6,5	5,5	5,5	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	7,0	6,0
05:39:43	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,5	6,0
06:09:43	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,5	6,5	6,5	6,0	6,0	6,5	6,0	6,0	6,5	6,5	6,5	6,0
06:39:43	6,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,5	6,5	6,0	6,0	6,5	6,0	6,0	6,5	6,5	6,5	6,0
07:09:43	6,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,5	7,0	6,5	5,5	5,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0
07:39:43	6,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	5,5	5,0	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,5	7,0	7,0	6,0	6,0	7,0	6,0	6,0	6,0	6,0	6,0	6,0
08:09:43	6,0	5,5	6,0	6,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	7,0	7,0	7,0	6,0	6,5	7,0	6,5	6,0	6,5	6,5	6,0	6,0
08:39:43	6,0	6,0	6,0	6,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	7,0	7,0	7,0	6,0	6,5	7,0	6,5	6,5	6,5	6,5	6,5	6,5
09:09:43	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,0	5,5	5,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	7,0	7,5	7,0	6,0	6,5	7,0	6,5	6,5	7,0	6,5	6,0	6,5
09:39:43	6,5	6,0	6,5	7,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,5	7,0	7,5	7,0	6,0	7,0	7,0	6,5	7,0	8,0	6,5	6,5	6,5
10:09:43	7,0	5,5	6,5	7,5	6,0	5,5	7,5	6,0	6,0	6,5	6,0	6,0	6,5	6,5	6,5	6,5	6,5	6,5	6,5	7,0	7,5	7,0	6,0	7,5	7,0	6,5	7,0	8,0	7,0	6,5	7,0
10:39:43	7,0	5,5	7,5	8,0	6,0	6,5	7,0	7,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0	6,5	6,5	7,0	7,5	7,5	8,0	6,5	7,5	7,5	6,5	7,0	8,5	7,5	6,5	7,0

11:09:43	7,0	5,5	6,5	6,5	6,0	6,0	7,0	6,5	5,5	6,0	6,5	6,0	6,5	6,5	7,0	6,0	6,5	7,0	6,5	7,5	7,5	8,0	6,5	8,0	7,5	6,5	7,5	8,0	7,5	6,5	7,0
11:39:43	7,0	5,5	6,5	6,0	6,0	6,0	6,5	6,5	6,0	5,5	6,0	6,5	6,5	6,5	7,0	6,0	6,0	7,0	6,5	7,5	8,0	8,5	6,5	8,0	7,5	6,5	7,0	7,5	7,5	7,0	7,5
12:09:43	7,0	5,5	6,5	6,0	6,0	6,0	6,5	7,0	6,0	5,5	6,0	6,5	6,5	6,5	7,0	6,0	6,0	7,0	6,5	7,0	8,5	8,0	6,5	7,5	7,5	6,5	7,0	7,0	7,5	6,5	7,5
12:39:43	7,0	6,0	7,0	6,0	6,0	6,0	6,5	7,0	6,0	6,0	5,5	6,5	6,5	6,5	7,0	6,0	6,0	6,5	6,5	7,0	8,0	8,0	6,5	7,0	7,0	6,5	7,0	7,0	7,5	6,5	7,5
13:09:43	7,5	6,5	7,0	6,0	6,5	6,5	7,0	7,0	6,0	6,0	5,5	6,5	6,5	7,0	7,0	6,0	6,5	7,0	7,0	7,0	8,5	8,0	6,5	6,5	7,0	7,0	7,5	7,0	8,0	6,5	7,5
13:39:43	7,5	6,0	7,0	5,5	6,5	6,5	7,0	7,0	6,5	6,5	6,0	6,5	6,5	7,0	7,0	6,0	6,5	7,0	7,0	7,0	8,5	8,0	7,0	6,5	7,0	7,0	7,5	7,0	8,0	6,5	7,5
14:09:43	7,5	6,0	7,0	6,0	7,0	6,5	7,0	7,5	6,5	7,0	7,0	6,5	6,5	7,0	7,0	6,5	7,0	7,5	7,0	7,5	9,0	8,5	6,5	7,0	7,5	7,0	7,5	8,0	8,0	7,0	7,5
14:39:43	8,5	6,5	7,0	6,5	7,0	6,5	8,0	7,5	6,5	7,0	7,0	6,5	6,5	7,5	7,0	6,5	7,0	7,5	7,5	8,0	8,5	8,5	6,5	7,5	7,5	7,0	8,0	8,5	8,5	7,5	8,0
15:09:43	8,0	6,0	6,5	7,5	6,0	6,5	7,5	7,0	5,5	6,5	7,0	6,5	6,0	7,0	7,0	6,0	7,5	7,5	7,0	8,0	9,0	9,0	6,5	7,5	7,5	7,0	8,0	8,0	8,0	7,0	8,0
15:39:43	8,0	5,5	6,5	7,0	6,0	6,5	7,5	7,0	5,5	6,5	7,0	6,5	6,5	7,0	7,0	7,0	7,5	7,5	7,0	8,0	9,0	8,5	7,0	8,0	7,5	7,0	7,5	8,5	8,0	7,0	8,5
16:09:43	8,0	6,0	6,0	7,0	6,0	6,5	7,0	7,0	5,5	6,5	6,5	6,5	7,0	7,0	7,0	7,0	7,0	7,0	7,0	7,5	9,0	8,0	6,5	8,0	7,5	7,0	7,5	8,0	7,5	6,5	9,0
16:39:43	8,0	6,0	6,5	6,5	6,5	6,0	7,0	6,5	6,0	6,5	6,0	6,0	7,0	7,0	7,0	7,0	7,0	6,5	6,5	7,0	8,5	7,5	6,5	8,0	7,5	7,0	7,0	8,0	7,0	6,5	8,5
17:09:43	8,5	6,5	7,0	6,5	7,0	6,5	7,0	6,5	6,0	6,0	7,0	6,0	7,0	7,0	7,0	7,5	8,0	6,5	6,5	7,0	8,0	8,0	6,5	8,0	7,0	7,5	9,0	7,0	7,0	6,5	8,5
17:39:43	8,5	7,0	7,5	7,0	7,5	7,0	6,5	6,0	6,5	6,5	7,5	6,5	7,0	7,0	7,0	7,5	8,0	8,5	7,5	7,0	8,0	8,0	7,0	7,5	7,0	7,5	9,0	7,0	7,0	7,0	9,5
18:09:43	8,5	6,0	8,5	6,5	8,0	7,0	7,0	6,5	6,0	6,5	8,0	7,0	8,0	7,0	6,5	7,0	9,0	10,0	8,0	8,0	8,5	8,5	6,5	7,5	7,5	8,0	9,5	9,5	8,0	7,5	11,0
18:39:43	8,5	6,0	8,5	7,5	8,0	7,0	7,5	7,0	6,5	7,0	8,0	7,5	8,0	8,0	7,0	7,0	9,5	10,0	9,0	8,5	9,0	8,5	6,5	8,0	7,5	8,0	9,5	9,5	9,5	8,0	11,5
19:09:43	8,0	6,5	8,0	7,5	7,0	7,0	7,0	7,0	6,5	7,0	7,5	6,5	7,5	8,0	7,5	6,5	9,5	9,5	8,5	8,0	8,0	8,5	6,5	8,0	7,0	8,0	9,0	8,5	9,5	8,0	11,0
19:39:43	8,0	6,5	7,0	7,0	6,5	6,5	6,5	6,5	6,0	6,5	6,5	7,0	7,5	7,5	7,0	6,5	9,0	9,5	9,0	8,0	8,5	8,5	7,0	8,5	7,0	7,5	9,0	8,5	9,5	8,0	11,0
20:09:43	8,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0	6,5	6,5	6,5	6,5	7,5	6,5	6,5	8,5	8,0	8,0	7,5	8,5	8,0	7,0	8,5	6,5	7,0	8,0	8,0	9,0	7,5	9,5
20:39:43	7,5	6,0	6,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	7,5	7,0	7,0	7,0	8,0	8,0	6,5	7,5	6,5	7,0	7,0	7,0	8,5	7,0	8,0
21:09:43	6,5	6,5	6,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,5	6,0	6,0	6,5	6,5	6,5	7,0	6,5	7,0	6,5	8,0	8,0	6,5	7,5	6,5	6,5	7,0	7,0	9,0	6,5	7,5
21:39:43	6,5	6,5	7,0	6,5	6,5	6,5	6,5	6,5	6,0	6,0	6,5	6,0	6,5	6,5	6,5	7,0	7,0	7,5	8,5	7,5	9,0	8,0	7,0	8,0	7,5	7,0	7,0	7,0	9,0	7,0	7,5
22:09:43	7,0	7,0	7,0	7,0	6,5	7,0	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	7,0	7,0	7,5	8,0	8,5	8,5	10,0	8,0	7,0	9,0	7,5	7,5	8,0	7,5	10,0	7,5	9,0
22:39:43	7,0	7,0	7,0	7,0	6,5	7,0	7,0	6,5	6,5	6,5	6,5	6,5	6,5	7,5	7,5	7,5	7,5	7,5	8,5	8,5	9,5	8,0	7,0	9,0	7,5	7,5	8,0	8,0	9,5	7,5	10,0
23:09:43	6,5	6,0	6,5	6,0	6,0	6,0	6,5	6,5	5,5	6,0	6,0	6,0	6,0	7,5	7,0	6,5	7,0	7,0	7,0	8,0	8,5	7,5	6,0	8,5	6,5	7,0	7,5	7,0	8,5	7,5	9,5
23:39:43	6,0	5,5	6,5	5,5	6,0	6,0	6,5	6,0	6,0	6,0	5,5	5,5	6,0	6,5	6,5	6,0	6,5	6,5	7,0	7,5	8,5	7,5	6,0	8,0	6,5	7,0	7,0	7,0	8,0	7,0	9,5

Apêndice V – Valores das temperaturas do ar na zona de preparação de lojas medidas durante o mês Fevereiro.

TEMPERATURAS DO AR DA ZONA DE PREPARAÇÃO DE LOJAS MEDIDAS DURANTE O MÊS FEVEREIRO																					
HORA\DIA	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
00:09:43		5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5
00:39:43		5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,5	5,5	6,0	5,5
01:09:43		5,5	5,5	5,0	5,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	6,0	5,0	6,0	5,5
01:39:43		5,0	6,0	5,0	5,0	5,5	5,5	5,0	5,5	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	6,5	5,0	6,0	5,5
02:09:43		5,5	6,0	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,5	5,5	5,0	5,0	6,0	5,5	5,5	5,5
02:39:43		5,0	6,0	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,5	6,0	5,0	5,0	5,0	6,0	5,5	5,0	5,5
03:09:43		5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5
03:39:43		5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,5	5,5	7,0	5,5
04:09:43		5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,0	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,5	5,5	6,5	5,5
04:39:43		5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	6,5	5,5
05:09:43		5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	6,0	5,5
05:39:43		5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,0	5,5	6,0	5,5
06:09:43		5,5	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5
06:39:43		5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	4,5	5,5	5,5	5,5	5,5	5,5	6,5	5,5
07:09:43		6,0	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,0	6,0	5,5	6,5	5,5
07:39:43		5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	6,5	5,5	6,5	5,0
08:09:43		5,5	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	5,5	5,0	5,0	5,5	5,5	6,5	5,5	6,5	6,0
08:39:43		5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,5	6,0	5,5	6,0	5,5
09:09:43		5,0	5,5	5,0	5,5	5,5	5,0	5,5	5,0	5,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5
09:39:43		5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,0	6,0	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5
10:09:43	7,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0
10:39:43	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,0	5,5	5,5	6,0	6,0	5,0	6,0	6,0	5,5	6,0	5,5	6,5	6,0

11:09:43	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	6,0	6,0	6,0	5,0	6,0	6,5	6,0	6,0	5,5	7,5	6,0
11:39:43	5,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,0	5,5	6,0	6,0	6,0	5,0	5,5	6,0	6,5	5,5	5,0	8,0	6,0
12:09:43	5,0	5,0	5,5	5,5	5,5	6,0	6,0	5,5	5,0	5,0	5,5	5,5	6,0	5,0	5,5	7,0	6,5	5,5	5,5	7,5	5,5
12:39:43	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,0	6,0	7,0	7,0	5,5	5,5	7,5	6,0
13:09:43	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,0	5,5	6,0	6,5	5,5	5,5	7,5	6,0
13:39:43	5,5	5,0	5,0	5,5	6,0	6,0	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,0	5,0	5,5	6,0	5,5	5,0	7,0	6,0
14:09:43	5,5	5,0	5,0	5,5	6,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0	5,0	5,5	6,0	6,5	5,0	7,0	6,0
14:39:43	5,5	5,0	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,0	6,5	5,0	8,0	6,0
15:09:43	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,5	6,5	5,0	7,0	6,0
15:39:43	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,0	5,5	6,0	5,0	5,5	6,5	6,0	6,5	5,0	6,5	5,5
16:09:43	5,5	5,0	5,0	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,0	5,5	6,0	6,0	6,0	5,0	6,5	6,0
16:39:43	5,5	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	6,0	5,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0
17:09:43	5,0	5,0	5,0	5,0	6,0	5,5	6,0	5,5	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,5	6,0	5,5	5,0	6,0	5,5
17:39:43	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,0	4,5	5,0	5,5	5,5	5,5	4,5	5,0	5,5	5,5	5,0	4,5	5,5	5,5
18:09:43	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,0	6,0	6,0	6,5	4,5	5,5	6,0	6,0	5,0	5,5	6,0	5,5
18:39:43	5,5	5,5	5,0	5,5	5,5	5,5	5,0	6,0	5,0	5,5	6,0	6,0	6,5	5,0	6,0	5,5	5,5	5,0	5,5	6,0	5,5
19:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	6,0	6,0	6,0	5,0	6,5	6,0	6,0	5,5	5,5	6,0	5,5
19:39:43	5,5	5,0	5,0	5,5	5,5	5,5	5,0	6,0	5,5	5,5	6,0	6,0	6,0	5,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5
20:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,5	6,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5
20:39:43	5,5	5,5	5,0	5,5	5,5	5,5	5,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5
21:09:43	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,0	5,5	5,0	5,0	5,5	5,5
21:39:43	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	4,5	6,0	5,0	5,0	5,5	5,5
22:09:43	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,0	6,0	5,0	5,0	5,5	5,5
22:39:43	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,5	5,5	5,5	6,0	5,5
23:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	7,0	6,0	5,5	6,0	5,5
23:39:43	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,0	5,5	6,5	5,5	5,5	5,5	5,0

Apêndice VI – Valores das temperaturas do ar na zona de preparação de lojas medidas durante o mês Março.

TEMPERATURAS DO AR DA ZONA DE PREPARAÇÃO DE LOJAS MEDIDAS DURANTE O MÊS MARÇO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5
00:39:43	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0
01:09:43	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	5,5	5,0	5,5	6,0	5,5	5,0	5,5	5,0	6,0	6,0	5,0	5,5	5,0	7,0	5,5
01:39:43	5,5	5,5	5,5	6,0	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,5	6,0	5,0	5,5	6,0	5,0	5,5	5,5	5,0	6,0	5,5	5,0	5,5	5,5	7,5	5,5
02:09:43	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	6,0	5,0	6,0	5,0	5,5	6,0	5,5	5,5	5,5	5,0	6,5	5,5	5,0	6,0	6,0	7,5	6,0
02:39:43	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,0	6,0	5,0	5,0	5,5	5,5	5,5	5,0	5,0	6,0	5,5	5,0	6,0	6,0	8,0	6,0
03:09:43	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	6,0	6,0	8,0	6,0
03:39:43	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	8,0	6,0
04:09:43	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	8,0	5,5
04:39:43	5,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,5	5,5
05:09:43	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5
05:39:43	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	6,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5
06:09:43	6,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5
06:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5
07:09:43	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5
07:39:43	5,5	5,5	6,0	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,5	5,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0
08:09:43	5,5	6,0	6,0	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,0	5,5	5,0
08:39:43	5,5	6,5	6,0	5,5	5,5	5,5	5,5	5,0	5,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0	6,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,0	6,0	5,5
09:09:43	5,5	6,0	5,5	5,5	5,0	5,5	5,0	5,0	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,0	5,0	5,5	5,0	5,5	5,0	5,5	5,0	5,5	6,0	5,5	5,0	5,5	5,0
09:39:43	5,5	6,0	6,0	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,0	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,0
10:09:43	5,0	6,0	6,0	5,5	5,5	5,5	5,0	5,5	6,0	5,0	5,5	6,0	5,5	5,0	5,5	5,5	6,0	5,5	5,5	6,5	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0
10:39:43	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,5	6,0	5,0	5,5	5,5	5,0	6,0	5,5	6,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5

11:09:43	5,0	6,5	6,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,5	5,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5
11:39:43	5,0	7,0	6,0	5,5	5,5	5,5	5,0	5,0	6,5	5,5	6,0	6,5	5,5	5,0	5,5	6,0	5,0	5,5	5,5	6,0	5,0	5,5	5,5	6,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5
12:09:43	5,5	6,5	6,5	5,5	5,5	6,0	5,0	5,0	5,0	5,5	5,5	6,0	6,0	5,0	6,5	5,5	5,0	6,0	6,0	6,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5
12:39:43	5,5	7,0	6,5	5,5	5,5	6,0	5,5	5,0	6,0	5,5	6,0	5,5	7,0	5,0	6,5	5,5	6,0	6,0	6,5	7,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,0	5,5
13:09:43	6,0	6,0	6,0	6,0	5,5	5,0	5,0	5,0	5,5	5,5	5,5	5,0	6,0	5,0	6,0	4,5	6,0	5,5	6,5	6,5	5,0	5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,5	5,5
13:39:43	5,5	5,5	6,0	6,0	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	6,0	4,5	6,0	6,0	6,5	7,0	5,0	5,0	5,0	5,5	5,0	5,5	5,5	5,0	5,5	5,0	5,0
14:09:43	6,0	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	6,0	6,0	6,5	7,0	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,0	6,0	5,0	5,0
14:39:43	5,5	6,0	6,0	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,0	6,0	6,0	6,5	7,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	4,5	5,5	5,5	5,0
15:09:43	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,0	5,5	5,0	5,0	5,5	5,5	6,0	5,0	6,5	6,5	7,0	7,0	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,5	6,0	5,5
15:39:43	5,0	6,0	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	4,5	5,0	5,5	5,0	6,0	4,5	6,0	6,0	7,0	7,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,0	6,0	5,5	5,5
16:09:43	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	6,5	4,5	5,0	6,5	7,0	6,5	5,0	6,0	5,5	5,5	6,0	5,5	6,0	5,0	6,0	5,5	5,5
16:39:43	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,0	6,0	5,0	5,0	6,0	7,0	6,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5
17:09:43	5,5	5,0	5,0	5,0	5,5	5,0	5,5	5,5	6,5	5,0	5,5	5,5	5,5	5,0	5,0	5,0	4,5	5,5	6,5	6,0	5,0	5,0	5,0	5,5	6,0	5,5	5,0	5,0	5,5	6,0	5,0
17:39:43	5,5	5,5	5,0	5,0	6,0	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,5	4,5	5,0	5,0	4,5	5,5	6,0	6,0	5,0	4,5	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,5	5,0
18:09:43	5,0	5,0	5,0	5,0	6,0	5,5	5,0	5,5	5,0	5,5	5,0	5,5	5,5	4,5	5,5	5,0	5,0	6,0	6,0	6,5	6,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,5	5,5
18:39:43	5,5	5,0	4,5	4,5	6,0	5,0	5,0	5,0	5,5	5,0	5,5	5,5	5,5	4,5	6,0	5,0	5,0	5,5	6,0	6,5	6,0	5,5	5,0	5,0	5,5	5,0	5,0	4,5	5,0	5,5	5,5
19:09:43	5,5	5,5	5,0	5,0	6,0	5,5	5,0	5,5	6,0	5,0	5,5	6,0	5,5	4,5	5,5	5,0	5,5	5,5	6,0	6,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,0	5,5	5,5	5,5
19:39:43	5,5	5,5	5,0	5,0	6,0	5,5	5,0	5,5	6,0	5,0	5,5	6,0	5,5	4,5	6,0	5,5	5,0	5,5	6,0	6,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,5
20:09:43	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	5,0	5,0	5,5	6,0	6,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0	5,5	5,0	5,5
20:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,0	6,0	6,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5
21:09:43	5,0	5,0	5,0	5,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0
21:39:43	5,0	5,0	5,5	5,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5
22:09:43	5,5	5,0	5,5	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,5
22:39:43	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5
23:09:43	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0
23:39:43	5,5	5,0	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,0	5,0

Apêndice VII – Valores das temperaturas do ar na zona de preparação de lojas medidas durante o mês Abril.

TEMPERATURAS DO AR DA ZONA DE PREPARAÇÃO DE LOJAS MEDIDAS DURANTE O MÊS ABRIL																														
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
00:09:43	5,5	5,5	5,5	5,5	9,0	5,5	5,5	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	6,0	5,5	5,5	6,0
00:39:43	5,5	5,5	6,0	5,5	9,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	6,0
01:09:43	5,5	6,0	5,0	6,0	9,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5
01:39:43	5,0	5,0	5,5	5,0	8,5	5,0	5,0	5,5	5,0	5,0	5,5	5,5	4,5	5,0	5,5	6,0	5,0	5,0	5,0	5,5	5,0	4,5	5,0	5,0	5,5	5,5	5,0	4,5	5,0	5,5
02:09:43	5,0	5,0	5,5	5,0	8,5	5,0	5,0	5,5	5,0	5,0	5,5	5,5	4,5	5,0	6,0	6,0	5,0	5,5	5,5	5,5	4,5	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,5
02:39:43	5,5	5,0	6,0	5,5	8,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	6,5	6,0	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5
03:09:43	5,5	5,5	6,0	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	6,0	5,5	6,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	7,5	5,5	5,5
03:39:43	5,5	5,5	6,0	6,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,5	6,0	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	8,0	5,5	5,5
04:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0	6,5	6,0	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,0	5,5	8,5	5,5	5,5
04:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,0	6,5	6,0	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,5	6,0	5,5	5,5	9,0	5,5	5,5
05:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	5,5	5,0	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,0	9,0	5,5	5,5
05:39:43	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	5,0	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,0	9,5	5,5	5,5
06:09:43	6,0	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,5	6,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	9,5	5,5	5,5
06:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	6,0	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	9,5	5,5	5,5
07:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	6,5	5,0	5,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	10,0	6,0	5,5
07:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,0	5,0	5,5	6,0	6,5	5,0	5,0	5,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	9,0	5,5	5,5
08:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,0	5,5	5,5	5,5	7,5	7,0	5,5	5,0	5,0	5,0	6,0	5,5	5,0	5,5	5,5	5,0	5,5	8,0	6,0	5,5
08:39:43	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	7,5	7,0	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,0	5,0	5,5	8,0	6,5	5,5
09:09:43	5,0	5,5	5,0	6,0	5,5	5,0	5,0	5,0	5,0	5,5	5,0	4,5	5,0	5,5	7,5	7,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	7,5	6,5	6,0
09:39:43	5,0	5,5	5,0	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,5	7,0	7,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5	5,5	4,5	5,5	5,5	7,0	6,5	5,5
10:09:43	5,0	5,5	5,0	6,0	5,5	6,0	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,5	7,5	7,5	6,0	5,0	5,5	6,5	6,0	5,5	5,5	6,0	4,5	5,5	6,0	7,0	6,0	5,5
10:39:43	5,0	5,5	5,5	6,0	5,5	5,0	5,5	5,5	6,0	5,5	5,0	5,0	5,5	5,5	7,0	7,5	6,0	5,0	5,5	6,5	6,0	5,5	5,5	5,5	5,0	5,5	6,0	6,5	6,0	5,5

11:09:43	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	5,5	7,0	7,5	6,0	5,0	6,0	6,5	6,5	6,0	6,0	6,0	5,0	6,0	6,5	6,5	6,5	6,5
11:39:43	5,5	5,5	5,5	6,0	6,0	5,5	5,0	6,0	6,0	6,0	5,5	5,5	5,5	5,0	6,5	7,0	6,5	5,5	6,0	7,0	6,5	6,0	6,0	6,0	5,5	6,5	7,0	6,5	6,0	6,0
12:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,5	5,0	5,5	5,5	5,0	6,5	7,0	6,5	5,5	5,5	7,0	6,0	6,0	7,0	6,0	5,0	6,0	7,0	6,5	6,5	6,0
12:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	6,0	6,0	5,5	5,5	5,5	5,5	6,5	7,0	6,5	6,0	5,5	6,5	6,5	6,5	7,0	6,5	5,5	7,0	7,0	6,5	6,5	6,5
13:09:43	5,0	5,0	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,5	5,5	6,0	5,5	5,5	7,0	6,5	6,5	6,0	5,5	6,0	6,5	6,0	6,0	6,5	5,5	6,5	6,5	6,5	6,5	6,5
13:39:43	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	6,0	6,5	5,5	5,5	5,5	6,0	7,5	7,0	6,5	6,0	5,0	6,0	6,5	6,5	6,5	6,5	5,5	6,5	6,5	6,5	7,0	6,5
14:09:43	5,5	5,5	5,5	5,0	6,0	5,5	6,0	6,0	6,0	6,5	5,0	6,0	5,5	6,0	8,0	7,0	6,5	5,5	6,0	6,5	6,5	6,5	6,5	6,5	6,0	7,0	7,0	7,5	7,0	7,0
14:39:43	5,5	5,5	5,5	5,0	6,0	6,0	6,0	6,0	6,0	6,5	5,0	6,0	5,5	6,0	7,5	7,5	6,5	5,0	5,5	6,5	6,5	6,5	7,0	7,0	5,5	7,5	7,0	7,5	7,0	7,0
15:09:43	6,0	6,0	5,5	5,0	6,0	5,5	6,0	6,0	6,5	6,5	5,5	6,5	6,0	6,0	8,0	8,0	7,0	5,5	6,0	7,0	7,0	6,5	7,5	7,0	6,0	7,5	7,0	7,5	7,5	7,0
15:39:43	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,0	6,0	5,5	5,0	7,5	7,5	6,5	5,0	6,0	7,0	6,5	6,5	6,5	6,5	6,0	7,5	6,5	7,0	7,5	7,0
16:09:43	5,5	5,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,5	5,5	5,0	7,0	7,0	7,0	5,5	6,0	6,5	6,5	6,5	7,0	6,5	5,5	7,0	6,5	7,0	7,0	7,0
16:39:43	5,5	5,0	5,0	7,0	6,0	5,5	5,5	5,5	6,0	5,5	5,0	6,0	5,5	5,5	7,0	7,0	7,0	5,5	5,5	6,5	6,0	6,5	6,5	6,5	5,5	7,0	6,5	6,5	7,0	7,0
17:09:43	5,0	5,0	5,5	7,5	5,5	5,0	6,0	5,0	5,5	5,5	5,0	6,0	5,0	5,0	7,0	6,5	6,5	5,5	5,5	6,5	6,0	6,5	6,0	6,0	5,5	7,0	6,0	6,5	7,0	7,0
17:39:43	5,5	5,0	5,5	8,0	4,5	5,0	5,5	5,0	6,0	5,5	5,0	5,0	5,0	5,0	7,0	6,5	6,0	5,5	6,0	6,0	6,0	6,5	6,0	5,5	5,5	6,5	6,0	6,0	6,5	7,0
18:09:43	5,5	5,0	6,0	8,5	5,0	5,0	5,5	5,0	6,0	5,5	5,0	5,5	5,0	5,5	7,5	6,5	6,5	5,5	6,0	6,5	6,0	6,5	6,0	6,0	5,5	6,5	6,0	6,5	6,5	6,5
18:39:43	5,5	5,0	6,0	9,0	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,5	5,0	5,5	6,5	6,0	6,0	5,0	5,5	6,0	5,5	6,0	6,0	6,0	5,0	7,0	6,0	6,5	6,5	6,5
19:09:43	6,0	5,5	6,0	9,0	5,5	5,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,5	6,5	6,5	5,5	6,0	6,0	5,5	6,0	6,5	6,5	5,5	7,5	6,5	7,0	7,0	6,5
19:39:43	5,5	5,5	5,5	9,5	5,0	5,5	5,0	5,0	5,0	5,5	5,5	5,5	5,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	7,5	6,0	6,5	6,5	6,5
20:09:43	5,5	5,5	5,5	9,0	5,0	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,0	5,5	6,0	6,0	6,0	5,0	6,0	5,5	5,0	5,5	6,0	6,0	5,5	7,0	6,0	6,0	6,5	6,5
20:39:43	6,0	5,5	6,0	9,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	7,0	5,0	5,5	5,5	6,0	6,0	6,0	6,5	5,5	6,0	6,5	6,5
21:09:43	5,5	5,5	6,0	9,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,0	5,5	6,0	6,0	6,0	5,0	7,5	5,0	5,5	5,5	5,5	6,0	6,5	5,5	5,5	5,5	6,5	6,5
21:39:43	6,0	5,5	6,0	9,0	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	8,5	5,5	6,0	5,5	5,5	6,0	6,5	6,0	6,5	6,0	6,0	6,0
22:09:43	6,0	6,0	6,0	9,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,5	6,5	6,0	6,0	5,5	9,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,5	6,0	6,0	6,0
22:39:43	5,5	5,5	6,0	9,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	6,0	6,5	6,0	6,0	5,5	8,0	6,0	6,0	6,0	5,5	6,0	5,5	6,5	6,5	6,0	6,5	6,5
23:09:43	5,5	5,5	6,0	9,0	5,5	5,0	6,0	5,0	5,5	5,5	5,0	5,5	5,0	5,5	6,5	6,0	6,0	5,5	7,5	6,0	6,0	5,5	6,0	6,0	5,5	6,5	6,5	6,0	6,5	6,5
23:39:43	5,5	5,0	5,5	9,0	5,0	5,0	5,5	5,0	5,0	5,5	5,0	5,0	5,0	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,0	5,5	6,0	5,0	6,0	6,0	5,5	6,0	6,5

Apêndice VIII – Valores das temperaturas do ar na zona de preparação de lojas medidas durante o mês Maio.

TEMPERATURAS DO AR DA ZONA DE PREPARAÇÃO DE LOJAS MEDIDAS DURANTE O MÊS MAIO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	6,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,0	6,0	5,5	6,0	7,0	6,5	5,5	7,0	6,0	6,0	6,0	6,0	6,5	6,0
00:39:43	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	7,0	6,0	5,5	7,0	5,5	6,0	5,5	6,0	6,5	6,0
01:09:43	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,0	5,5	6,5	5,5	5,5	5,5	5,5	6,5	5,5
01:39:43	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,0	5,0	6,0	6,0	5,5	5,0	6,0	5,5	5,0	5,5	5,5	6,0	5,0
02:09:43	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,0	6,0	5,5	5,0	5,0	5,5	5,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	6,0	5,0	6,0	5,5	5,5	5,5	5,5	6,0	5,0
02:39:43	5,5	5,0	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,5	6,0	5,0
03:09:43	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,0
03:39:43	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,0
04:09:43	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5
04:39:43	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5
05:09:43	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5
05:39:43	6,0	5,5	6,0	6,0	5,5	6,0	5,0	5,5	5,0	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5
06:09:43	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,0	5,0	5,5
06:39:43	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,0	5,5	5,5
07:09:43	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,5	5,5	5,5	6,0	6,0	5,5	6,0
07:39:43	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,0	5,5	5,5	6,0	6,0	6,0	5,5	6,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5
08:09:43	6,0	5,5	6,0	6,0	6,0	6,0	5,0	5,5	4,5	5,5	5,0	5,5	6,0	5,5	6,0	5,5	5,0	5,5	5,5	6,5	6,5	6,0	5,5	6,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5
08:39:43	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	6,0	5,0	5,0	6,0	6,0	6,5	6,5	6,5	5,5	6,5	6,5	5,5	5,5	6,0	5,5	5,5	6,0
09:09:43	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	6,0	5,5	5,0	6,0	6,0	6,5	6,5	6,5	5,5	6,5	6,5	5,0	6,0	6,0	5,5	5,0	6,5
09:39:43	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,5	6,5	6,5	5,5	7,0	6,5	5,0	6,0	6,0	5,5	5,0	6,0
10:09:43	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	6,0	6,5	6,5	7,0	6,0	7,0	6,5	5,5	6,0	6,0	6,0	5,0	6,5
10:39:43	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	4,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,5	6,0	6,0	6,5	6,5	7,5	6,0	7,0	6,5	6,0	5,5	6,5	6,0	5,0	6,5

11:09:43	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,5	5,0	6,0	6,0	5,5	5,5	6,0	6,0	5,0	6,0	6,5	6,5	7,0	7,0	8,5	6,0	7,5	7,0	6,0	6,0	7,0	6,5	5,5	7,0
11:39:43	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,5	5,0	6,0	6,0	5,5	5,0	6,0	6,0	5,5	5,5	6,5	6,5	6,5	7,0	8,0	6,0	7,5	6,5	6,0	6,0	7,0	6,0	5,5	7,0
12:09:43	6,0	5,5	5,0	5,5	6,0	6,0	6,0	6,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,0	6,0	6,5	6,0	6,5	7,0	7,5	6,0	7,0	6,5	6,0	6,0	6,5	6,5	6,0	7,5
12:39:43	6,5	5,5	6,0	5,5	5,5	6,5	6,0	7,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	6,5	6,0	7,0	7,5	8,0	6,0	7,0	6,5	6,0	6,0	7,0	6,5	6,0	7,5
13:09:43	6,5	6,0	6,0	5,5	5,5	6,0	6,0	6,5	5,5	6,0	5,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,5	7,5	7,5	5,5	6,5	6,0	6,0	6,0	6,0	6,5	5,5	7,0
13:39:43	6,5	5,5	6,0	5,0	5,5	6,0	6,5	7,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,5	6,0	7,0	7,0	8,0	5,5	6,5	6,5	6,0	6,0	6,5	7,0	5,5	7,0
14:09:43	7,0	6,0	6,0	5,5	5,5	6,5	6,5	7,0	5,5	6,0	6,5	5,5	6,0	6,0	6,0	5,5	6,0	7,0	7,0	7,5	7,5	8,0	6,0	7,0	6,5	6,0	6,0	7,0	7,5	6,0	7,0
14:39:43	7,0	5,5	6,0	5,5	6,0	6,5	7,0	7,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	7,0	7,5	7,5	7,5	8,5	6,0	7,0	7,0	6,0	6,0	7,0	7,5	6,0	7,5
15:09:43	7,0	6,0	6,5	6,0	6,0	6,5	7,0	7,0	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,0	7,0	7,0	7,5	8,0	8,5	9,0	6,5	7,5	7,0	6,5	7,0	7,5	8,0	6,5	8,0
15:39:43	7,0	5,5	6,0	5,5	5,5	6,5	7,0	6,5	5,5	6,5	6,5	6,0	5,5	6,5	6,5	6,0	6,5	7,0	7,0	7,5	8,0	8,5	6,0	7,0	7,0	6,0	7,0	7,5	7,0	6,0	8,0
16:09:43	7,0	5,5	6,0	5,5	6,0	6,0	6,5	6,5	6,0	6,5	6,0	6,0	5,5	6,5	6,5	6,0	6,5	6,5	6,5	7,5	8,5	8,0	6,0	7,0	7,0	6,0	7,0	7,5	7,0	6,0	8,0
16:39:43	6,5	5,5	6,0	5,5	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	7,0	7,5	7,5	6,0	7,0	7,0	6,0	6,5	7,0	6,5	6,0	8,0
17:09:43	6,5	6,0	6,0	6,0	5,5	6,0	6,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,5	6,0	6,0	6,5	6,0	7,0	7,5	7,5	6,0	7,5	7,0	6,5	7,0	7,0	7,0	6,0	8,0
17:39:43	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,5	5,0	5,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	6,5	6,0	7,0	8,0	8,0	6,0	7,0	7,0	6,0	7,0	7,0	6,5	6,0	8,0
18:09:43	6,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,5	7,5	6,0	7,0	8,0	8,5	6,0	7,5	7,0	6,5	7,5	7,5	7,0	6,5	8,5
18:39:43	6,5	5,5	6,0	5,5	5,5	5,0	5,5	6,0	5,5	5,5	6,0	5,0	5,5	6,0	6,0	5,5	6,0	7,0	6,0	7,0	8,0	8,0	5,5	7,0	6,5	6,0	7,5	7,5	7,5	6,0	9,0
19:09:43	6,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	5,5	7,0	7,0	6,5	7,0	8,0	8,0	5,5	7,5	6,5	6,0	7,5	7,5	8,0	6,5	9,0
19:39:43	6,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,5	7,0	6,5	7,0	7,5	7,5	5,5	7,5	6,5	5,5	7,0	7,0	7,5	6,5	8,5
20:09:43	6,0	5,5	5,5	6,0	5,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5	6,0	6,5	6,0	6,5	7,5	7,5	5,5	7,5	6,0	6,0	7,0	7,0	7,5	6,0	8,0
20:39:43	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	7,5	7,5	5,5	7,0	6,0	6,0	6,5	6,5	7,5	6,0	7,5
21:09:43	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,0	5,5	5,0	5,0	5,0	5,0	6,0	6,0	5,5	5,5	5,5	6,0	7,0	7,0	5,5	6,5	5,5	5,5	6,0	5,5	7,0	5,5	7,0
21:39:43	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,5	7,0	7,0	5,5	7,5	6,0	5,5	6,0	5,5	7,0	5,5	7,0
22:09:43	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,5	6,5	7,0	7,5	7,0	6,0	8,5	6,5	6,0	6,0	6,0	7,5	6,0	7,5
22:39:43	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,5	7,5	7,5	7,0	5,5	8,0	6,5	5,5	6,0	6,0	7,5	6,0	8,5
23:09:43	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	7,5	7,5	7,5	6,0	8,0	6,5	6,0	6,5	6,5	7,5	6,0	8,5
23:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,5	7,0	6,5	5,5	7,0	6,0	6,0	6,0	6,0	6,5	5,5	7,0

Apêndice IX – Valores das temperaturas do ar na zona da expedição medidas durante o mês Fevereiro.

TEMPERATURAS DO AR DA ZONA DA EXPEDIÇÃO MEDIDAS DURANTE O MÊS FEVEREIRO																					
HORA\DIA	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
00:09:43		5,5	6,0	5,5	6,0	6,0	6,5	5,5	6,0	5,5	5,5	6,0	6,0	6,5	5,0	5,0	5,5	6,5	6,0	6,0	6,5
00:39:43		5,5	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,0	5,0	5,0	6,5	6,0	6,0	6,5
01:09:43		5,5	6,0	5,5	5,5	6,0	6,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,0	5,0	4,5	6,5	6,0	6,0	6,5
01:39:43		6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,0	4,0	6,5	6,0	6,5	6,5
02:09:43		6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,0	4,5	6,5	6,0	6,5	6,5
02:39:43		5,5	5,5	5,0	5,5	6,0	6,0	5,5	5,5	5,0	6,0	5,5	6,0	5,5	5,5	5,0	4,0	6,5	6,0	6,0	6,5
03:09:43		6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,5	6,0	6,0	3,5	6,5	6,5	6,0	6,5
03:39:43		6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	4,5	7,0	6,5	7,0	6,5
04:09:43		5,5	5,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	4,0	6,5	6,0	7,0	6,0
04:39:43		6,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	5,5	6,0	6,0	6,5	6,0
05:09:43		6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,5	6,0
05:39:43		6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	6,0	6,5	6,0
06:09:43		6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,0
06:39:43		6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	6,5	6,0
07:09:43		5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	4,5	6,0	6,0	6,5	6,0
07:39:43		5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,0	6,5	6,0	7,0	6,0
08:09:43		6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	5,0	5,0	5,0	5,0	6,5	6,0	6,5	6,5
08:39:43		5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	5,0	5,0	4,5	5,5	6,5	6,5	6,5	6,0
09:09:43		5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,0	5,5	4,5	5,5	6,5	6,0	6,5	6,0
09:39:43		6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,0	5,5	5,5	6,0	6,5	6,5	6,5	6,5
10:09:43	6,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,5	6,5	6,5	6,5
10:39:43	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	7,0	6,0	7,0	6,5
11:09:43	6,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	5,5	6,5	7,0	7,0	7,0	6,5	8,0	6,5
11:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	6,5	7,0	7,0	7,0	8,5	7,0

12:09:43	6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,0	5,0	5,0	6,0	5,5	5,0	6,0	6,0	6,5	6,5	6,5	8,0	6,0
12:39:43	6,5	6,5	6,5	6,5	6,5	6,0	6,5	6,0	5,5	6,0	6,0	6,5	6,0	5,5	7,0	6,5	6,5	7,0	6,5	7,5	6,0
13:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,5	6,5	7,0	7,0	6,5	7,5	6,5
13:39:43	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,0	6,0	6,0	6,5	7,0	6,5	7,5	6,0
14:09:43	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,0	6,0	6,0	6,5	7,0	6,5	7,5	6,5
14:39:43	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	5,0	5,5	6,5	6,5	7,0	6,5	7,5	6,0
15:09:43	5,5	5,5	5,5	5,5	6,0	5,5	5,0	6,0	5,0	5,5	6,0	5,5	6,0	5,0	6,0	6,0	6,5	7,0	6,0	7,5	6,0
15:39:43	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,0	6,0	6,5	7,0	7,0	6,0	7,0	6,0
16:09:43	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,0	5,5	6,0	5,5	6,5	5,0	6,0	6,0	7,0	6,5	6,0	7,0	6,5
16:39:43	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,0	5,0	6,0	5,5	6,0	4,5	6,0	6,0	7,0	6,5	6,5	7,0	6,0
17:09:43	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,0	6,0	5,5	5,5	4,5	6,0	5,5	6,5	6,5	6,0	7,0	6,0
17:39:43	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,0	5,0	6,0	6,0	5,5	5,0	6,0	5,5	6,5	6,5	6,5	7,0	6,5
18:09:43	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	6,5	6,5	6,5	7,0	6,5
18:39:43	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5	6,0	5,0	6,0	5,5	6,5	6,5	6,5	6,5	6,0
19:09:43	6,5	6,0	6,5	6,0	6,0	6,5	6,0	6,5	6,0	5,5	6,0	6,5	7,0	5,5	6,5	6,5	7,0	6,5	6,5	7,0	6,0
19:39:43	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,5	5,0	6,0	6,0	7,0	6,5	7,0	7,0	6,5
20:09:43	5,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	4,5	5,0	5,5	5,5	6,5	5,0	5,5	6,0	6,5	6,5	6,5	6,5	6,0
20:39:43	5,5	5,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	7,0	5,5	6,5	6,0	6,5	6,0	6,0	6,5	6,0
21:09:43	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,5	5,5	6,0	5,5	6,5	6,0	6,0	6,5	6,0
21:39:43	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,0	6,5	6,0	5,5	6,5	6,0
22:09:43	6,0	6,0	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	6,5	5,5	5,5	5,5	6,5	6,0	6,0	6,5	5,5
22:39:43	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	7,0	6,5	6,0	6,5	5,5
23:09:43	6,0	5,5	5,0	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,5	7,0	6,0	6,0	6,5	5,5
23:39:43	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,5	5,5	5,5	6,0	7,0	6,0	6,0	6,5	5,5

Apêndice X – Valores das temperaturas do ar na zona da expedição medidas durante o mês Março.

TEMPERATURAS DO AR DA ZONA DA EXPEDIÇÃO MEDIDAS DURANTE O MÊS MARÇO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	7,0	6,5	6,0	6,0	5,5	5,5	5,0	6,0	6,5	5,5	6,5	6,0
00:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	7,0	6,5	6,0	6,0	5,5	6,0	4,0	6,0	6,5	6,0	7,0	6,5
01:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,5	6,5	6,0	6,0	5,5	6,0	5,0	6,5	6,5	6,0	7,0	6,0
01:39:43	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,0	6,5	6,5	5,5	6,5	5,5	6,5	6,5	6,0	8,0	6,5
02:09:43	6,0	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,0	6,5	6,0	5,0	6,0	5,5	6,0	6,5	6,0	8,0	6,5
02:39:43	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,5	6,0	6,0	5,5	5,0	6,0	6,0	6,0	6,0	6,0	8,0	6,5
03:09:43	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,0	6,5	6,5	6,0	6,0	6,5	6,5	6,0	5,5	6,5	6,0	6,0	6,5	6,5	6,0	6,0	5,5	6,5	6,0	6,0	6,0	6,0	8,5	6,5
03:39:43	6,5	6,5	6,5	6,0	6,5	6,5	6,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	5,5	6,0	6,0	6,5	6,5	6,5	8,5	6,0
04:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,5	6,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	8,5	6,0
04:39:43	5,5	6,0	6,0	6,5	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	7,5	5,5
05:09:43	5,5	6,0	6,0	6,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,5	5,5
05:39:43	6,0	6,0	6,0	6,0	5,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,0	5,5	5,5	6,0	6,0	6,0	5,0	5,5	6,0	6,0	6,0	6,0	6,5	5,5
06:09:43	6,0	5,5	6,0	6,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,5	6,0
06:39:43	6,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0
07:09:43	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5
07:39:43	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5
08:09:43	6,0	6,0	6,0	6,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,0	6,0
08:39:43	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,5	6,5	6,0
09:09:43	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	7,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,5	6,5	6,0
09:39:43	6,5	6,5	6,5	6,5	6,5	6,0	6,0	6,0	6,5	6,5	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,5	7,0	6,0	6,0	6,5	5,5	5,5	6,5	6,5	6,5	6,5	6,5	6,5
10:09:43	6,5	6,5	6,5	6,5	6,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,5	6,5	7,0	6,0	6,5	6,5	6,0	6,0	6,5	6,5	6,5	6,5	6,5	6,5
10:39:43	6,0	6,5	6,5	6,5	6,5	6,5	6,0	6,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,5	6,5	7,5	6,0	6,5	6,5	6,0	6,0	6,5	6,5	6,0	7,0	6,5	6,0
11:09:43	6,5	7,0	7,0	6,5	7,0	7,0	6,0	7,0	6,5	6,0	6,5	6,5	6,5	6,0	6,0	6,5	6,0	7,0	7,0	7,5	6,0	6,5	6,5	7,0	7,0	6,5	7,0	6,0	7,0	6,5	6,5

11:39:43	6,5	7,0	7,0	6,5	7,0	7,0	6,0	7,0	6,5	6,5	6,0	6,0	6,0	6,0	5,5	6,5	6,0	7,0	7,0	7,5	6,0	6,5	7,0	6,5	6,5	6,5	7,0	6,0	7,0	6,5	6,5
12:09:43	6,0	7,0	7,0	6,5	6,5	6,0	6,0	6,5	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,5	7,0	7,0	6,0	6,5	6,5	6,0	6,0	6,0	7,0	5,5	7,0	6,0	6,5
12:39:43	6,5	7,0	6,5	6,5	6,5	6,0	5,5	6,5	6,0	6,5	6,5	6,5	6,5	6,0	6,0	6,0	6,0	6,5	7,0	7,5	6,0	6,5	6,0	7,0	6,5	7,0	7,0	5,5	7,0	6,5	6,0
13:09:43	6,5	7,0	7,0	6,5	6,5	6,0	5,5	6,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,5	7,0	7,5	6,0	6,5	6,0	7,0	6,0	6,5	7,0	5,5	7,0	6,5	6,0
13:39:43	6,0	7,0	6,5	6,5	6,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,5	6,5	7,0	7,0	5,5	6,5	6,0	6,5	6,0	6,5	7,0	5,5	7,0	6,5	6,0
14:09:43	6,0	7,0	6,5	6,5	6,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,5	7,0	7,0	7,5	5,5	6,5	6,0	6,5	6,5	6,5	7,0	5,5	7,0	6,5	6,5
14:39:43	6,0	7,0	6,5	6,5	6,5	6,5	6,0	6,5	6,0	5,5	5,5	6,0	6,0	5,0	6,0	5,5	6,5	7,0	7,0	7,5	6,0	6,5	6,0	6,5	6,0	6,0	7,0	6,0	7,0	7,0	6,0
15:09:43	6,0	7,0	6,0	6,5	6,5	6,5	5,5	6,0	6,0	5,5	5,0	6,0	5,5	5,0	6,0	5,5	6,5	6,5	7,0	7,0	5,5	6,5	6,0	6,5	6,0	6,5	7,0	5,5	7,5	7,0	6,0
15:39:43	6,0	7,0	6,0	6,5	6,5	6,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,0	6,0	5,5	6,5	7,0	7,0	7,0	6,0	6,5	6,5	6,5	6,0	6,5	7,0	5,5	7,5	7,0	6,0
16:09:43	6,5	7,0	6,0	6,5	6,5	6,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	5,0	5,5	6,0	6,5	7,0	7,0	7,5	6,0	6,5	6,0	6,5	6,0	6,5	7,0	5,5	7,0	6,5	6,0
16:39:43	6,5	7,0	6,0	6,5	6,5	6,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	4,5	5,5	6,0	6,0	7,0	7,0	7,0	6,0	6,5	6,0	6,0	6,0	6,5	7,0	6,0	7,0	6,0	5,5
17:09:43	6,5	6,5	6,0	6,5	6,5	6,5	6,0	6,0	6,5	5,5	5,5	6,0	5,0	4,5	5,0	6,0	6,0	6,5	7,0	7,0	6,0	6,5	6,0	6,0	5,5	6,5	6,5	6,0	7,0	6,0	5,5
17:39:43	6,5	6,5	6,0	6,5	6,5	6,5	6,5	6,5	6,5	5,5	5,5	6,0	5,5	5,0	5,5	6,0	6,0	6,5	6,5	7,0	7,5	6,5	6,0	6,0	5,5	6,0	7,0	6,5	7,0	6,5	5,5
18:09:43	6,5	6,5	6,0	6,0	6,5	6,5	6,0	6,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	6,0	6,0	6,5	7,0	7,0	7,5	6,5	6,0	6,0	6,0	6,5	7,0	6,0	7,0	6,5	6,0
18:39:43	6,0	6,5	6,0	6,0	6,5	6,5	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,0	6,0	5,5	6,0	6,5	7,0	7,0	7,0	6,5	6,0	6,0	6,0	6,5	6,5	6,0	7,0	6,0	6,0
19:09:43	6,5	6,5	6,5	6,0	6,5	6,5	6,0	6,5	6,5	6,0	6,0	6,5	6,0	5,0	6,0	6,0	6,0	7,0	7,0	7,5	6,5	6,5	6,5	7,0	6,5	7,0	7,0	6,0	7,0	6,5	6,5
19:39:43	6,5	6,5	6,5	6,5	7,0	7,0	6,0	6,5	6,0	5,5	6,0	6,5	6,0	5,0	6,0	6,0	6,0	7,0	7,0	7,5	6,5	6,5	6,5	6,5	6,0	6,5	7,0	6,0	7,0	6,5	6,0
20:09:43	6,5	6,5	6,5	6,0	7,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,0	6,5	7,0	7,0	6,0	6,5	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,0	5,5
20:39:43	6,0	6,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,5	7,0	6,0	6,5	7,0	6,5	6,5	6,0	6,5	6,0	6,5	6,0	6,0
21:09:43	6,0	6,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,5	7,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,0	6,0
21:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,0	5,5	5,5	6,0	6,5	7,0	6,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0
22:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,5	7,0	6,0	6,5	5,5	6,0	6,0	6,0	6,5	6,0	6,5	6,5	6,0
22:39:43	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,5	7,0	6,0	6,5	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,0	5,5
23:09:43	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,5	6,0	6,0	6,0	6,0	5,0	6,0	6,5	5,5	6,0	5,5	5,0
23:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,5	7,0	6,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5

Apêndice XI – Valores das temperaturas do ar na zona da expedição medidas durante o mês Abril.

TEMPERATURAS DO AR DA ZONA DA EXPEDIÇÃO MEDIDAS DURANTE O MÊS ABRIL																														
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
00:09:43	5,5	6,0	5,5	5,5	9,0	5,5	5,5	5,5	5,5	5,5	5,5	4,5	5,0	6,0	7,0	6,5	6,5	6,5	6,0	6,5	6,0	6,0	5,5	6,0	6,0	5,0	6,5	6,0	6,5	6,5
00:39:43	5,5	6,0	5,5	5,5	9,0	5,5	5,5	5,5	5,5	5,0	5,5	4,5	5,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,0	6,0	6,0	6,0	6,5
01:09:43	5,5	6,0	5,5	5,5	9,0	5,5	5,5	5,0	5,0	5,0	5,0	5,0	3,5	6,0	6,5	6,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,5
01:39:43	5,5	6,0	5,5	6,0	9,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	3,5	6,5	6,0	6,5	6,0	6,0	6,0	6,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0
02:09:43	5,5	6,0	5,5	6,0	9,0	5,5	5,5	5,0	4,0	4,5	5,0	5,0	4,0	6,0	6,5	6,5	6,0	6,5	5,5	6,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0
02:39:43	5,5	6,0	5,5	6,0	8,5	5,5	5,5	5,5	5,5	4,5	5,0	5,0	4,0	6,0	6,5	7,0	6,0	6,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,0	6,0	7,0	6,0	6,0
03:09:43	6,0	6,5	6,5	6,0	7,0	6,0	6,0	6,0	6,0	5,0	6,0	5,5	5,5	6,0	7,0	7,0	6,5	6,5	5,5	6,5	6,0	6,0	6,5	6,0	6,5	4,0	6,5	8,0	6,5	6,5
03:39:43	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	4,5	6,0	7,0	7,0	6,5	6,5	5,5	6,5	6,0	6,0	6,0	6,0	6,0	5,0	6,5	8,5	6,5	6,5
04:09:43	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	6,0	5,0	5,5	5,0	4,5	6,0	6,5	6,5	6,5	6,0	5,5	6,0	5,5	5,0	6,0	5,5	6,0	5,0	6,0	9,0	6,0	6,0
04:39:43	6,0	6,0	5,5	6,0	6,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	9,0	6,5	6,5
05:09:43	6,0	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,5	6,0	5,5	6,0	9,0	6,0	6,0
05:39:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,0	5,5	6,0	6,0	5,5	6,0	6,5	5,5	5,5	6,0	9,5	5,5	6,0
06:09:43	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	10,0	5,5	6,5
06:39:43	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,5	6,5	6,5	6,0	6,0	6,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	10,0	6,0	6,5
07:09:43	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	6,5	6,0	6,0	5,5	6,0	5,0	5,0	5,5	5,5	5,0	5,0	5,5	10,0	5,5	6,0
07:39:43	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	7,0	6,5	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,0	5,5	6,0	9,0	6,0	6,5
08:09:43	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,0	6,5	6,0	5,5	6,0	6,0	6,0	7,0	7,0	6,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,0	5,5	6,0	8,0	6,0	6,5
08:39:43	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,5	6,5	5,5	5,5	6,0	6,0	6,0	7,5	7,0	6,5	6,0	6,0	6,5	6,0	5,5	6,5	6,0	5,0	5,5	6,0	8,0	6,5	6,5
09:09:43	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,5	6,0	5,0	6,0	5,5	6,0	7,5	7,0	6,5	6,0	6,5	6,5	6,0	5,5	6,5	6,5	5,0	6,0	6,0	7,5	6,5	6,5
09:39:43	6,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,0	6,0	5,5	6,0	7,5	7,5	7,0	6,0	6,5	7,0	6,0	5,5	6,5	6,0	5,5	6,0	6,0	7,5	6,5	6,5
10:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	6,0	5,5	6,0	7,5	7,5	7,0	6,0	6,5	7,0	6,5	6,0	6,5	6,5	5,5	6,5	6,0	7,5	7,0	6,5
10:39:43	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,0	6,0	5,5	6,5	7,5	8,0	7,0	6,0	6,5	7,5	6,5	6,0	6,5	6,0	5,5	6,5	6,0	7,0	7,5	6,5
11:09:43	6,5	7,0	6,0	6,0	6,5	6,5	6,5	6,5	6,5	7,0	5,5	6,5	6,5	6,5	7,5	8,5	7,0	6,0	6,5	8,0	7,0	7,0	7,0	6,5	6,0	7,0	7,0	7,5	8,0	7,5

11:39:43	6,5	6,0	6,0	5,5	6,0	6,5	6,5	6,5	6,5	6,5	5,5	6,5	6,0	6,5	8,0	8,5	7,0	6,0	7,0	8,5	7,0	7,0	7,0	6,5	6,0	7,0	7,0	7,5	8,0	7,5
12:09:43	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,5	6,5	6,5	5,0	6,0	5,5	6,5	7,5	8,0	7,0	6,0	6,5	8,0	7,0	6,5	8,0	6,5	5,5	6,5	6,5	7,0	7,5	7,0
12:39:43	6,5	6,5	6,0	6,0	6,5	6,5	6,5	7,0	7,0	7,0	5,5	6,5	6,0	6,5	7,0	7,5	7,0	6,0	6,5	7,5	7,0	7,0	8,0	7,0	6,5	7,5	7,0	7,5	8,0	7,5
13:09:43	6,0	6,5	6,0	5,5	6,5	6,0	6,0	7,0	7,0	7,0	6,0	6,5	6,0	7,0	7,5	7,5	7,0	6,0	6,5	7,0	7,0	7,0	7,0	7,0	6,0	7,0	7,0	7,5	8,0	7,5
13:39:43	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,5	6,5	5,5	6,5	6,0	7,0	8,0	7,5	7,0	6,5	6,5	7,0	7,0	7,0	7,0	6,5	6,0	6,5	6,5	7,0	7,5	7,5
14:09:43	6,5	6,5	6,0	5,5	6,0	6,5	6,5	6,5	6,5	6,5	5,5	6,5	6,0	7,5	8,0	7,5	7,0	6,0	7,0	7,0	7,0	7,0	7,5	6,5	6,0	7,0	6,5	7,0	8,0	7,5
14:39:43	6,5	6,0	6,0	5,0	6,0	6,5	6,0	6,5	6,5	6,5	5,5	6,5	6,0	7,5	8,0	8,0	7,0	6,0	7,0	7,0	7,0	7,0	7,5	6,5	6,0	7,5	6,5	7,5	8,0	7,5
15:09:43	6,5	6,0	6,0	5,0	6,0	6,0	6,0	6,0	6,0	6,5	5,0	6,0	6,0	7,5	8,0	8,0	7,0	6,0	6,5	6,5	6,0	6,5	7,5	6,5	5,5	7,0	6,5	7,5	8,0	7,0
15:39:43	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,0	6,5	6,5	5,0	6,5	6,5	7,5	8,0	8,0	7,0	6,0	7,0	7,0	6,5	7,0	7,5	6,5	5,5	7,0	6,5	7,5	8,0	7,0
16:09:43	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,5	6,0	5,0	6,0	6,0	7,5	7,5	8,0	7,0	6,0	6,5	7,0	6,5	7,0	7,0	6,5	5,5	7,0	6,5	7,0	8,0	7,0
16:39:43	5,5	5,5	6,0	7,0	6,0	6,0	6,0	5,5	6,0	6,0	5,0	6,0	6,0	7,5	7,5	7,5	7,0	6,0	6,5	7,0	6,5	6,5	7,0	6,5	5,5	7,0	6,0	7,0	7,5	7,5
17:09:43	6,0	5,5	6,0	7,5	6,0	6,0	6,0	6,0	6,0	6,5	5,0	6,0	6,0	7,0	7,0	7,5	7,0	6,0	6,5	7,0	6,0	7,0	6,5	6,0	5,5	7,0	6,0	7,0	7,5	7,5
17:39:43	6,0	5,5	6,0	8,5	5,5	6,0	6,0	6,0	6,5	6,5	5,0	6,0	6,0	7,5	7,0	7,0	7,0	6,5	6,5	7,5	6,5	7,5	7,0	6,0	6,0	7,0	6,5	7,0	7,5	7,5
18:09:43	6,0	6,0	6,0	9,0	5,5	6,0	6,5	6,5	6,5	6,5	5,5	6,5	6,0	7,5	7,5	7,5	7,0	6,0	6,5	7,5	6,5	7,5	7,0	6,5	6,0	7,5	6,5	7,0	8,0	7,5
18:39:43	6,0	6,0	6,0	9,5	5,5	6,0	6,5	6,0	6,5	6,0	5,0	6,0	6,0	7,5	7,5	7,5	7,0	6,0	6,5	7,0	6,5	7,0	7,0	7,0	5,5	8,0	7,0	7,5	8,0	7,0
19:09:43	6,5	6,5	6,5	9,5	6,0	6,5	7,0	6,5	6,5	6,5	5,5	6,5	6,5	7,5	7,5	7,5	7,0	6,5	7,0	7,5	6,5	7,5	7,5	7,5	6,5	8,5	7,5	8,0	8,5	7,5
19:39:43	6,5	6,0	6,5	9,5	5,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	7,5	7,5	7,5	7,5	6,5	7,0	6,5	6,5	7,0	7,0	7,0	6,0	8,5	7,0	7,5	8,0	7,0
20:09:43	6,0	6,0	6,0	9,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	7,0	7,0	7,0	7,0	6,0	7,0	6,0	6,0	6,0	6,5	6,5	6,0	7,5	6,5	7,0	7,5	7,0
20:39:43	6,0	6,5	6,5	9,5	6,5	6,0	6,5	7,0	6,5	6,5	6,5	6,0	6,0	7,0	6,5	7,0	6,5	6,0	7,5	6,5	6,5	6,5	6,5	7,0	7,0	7,5	7,0	7,0	7,5	7,0
21:09:43	6,0	6,0	6,0	9,5	6,0	6,0	6,0	6,5	6,0	6,5	6,0	6,5	6,0	7,0	6,5	7,0	7,0	6,0	8,5	6,5	6,5	6,5	6,5	6,5	7,0	6,5	6,5	7,0	7,0	7,0
21:39:43	6,0	6,0	6,0	9,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	7,0	6,5	7,0	7,0	6,0	9,0	6,5	6,5	6,5	6,5	6,0	7,0	6,5	6,5	7,0	7,0	7,0
22:09:43	6,0	6,0	6,0	9,5	6,0	6,0	6,0	6,0	6,5	6,0	5,5	6,0	6,5	7,0	7,0	7,0	7,0	6,0	9,0	6,5	6,5	6,5	6,5	6,5	6,5	7,0	7,0	7,0	7,5	6,5
22:39:43	6,0	6,0	6,0	9,5	5,5	6,0	6,0	6,0	6,0	6,0	5,0	5,5	6,0	7,5	7,0	7,0	6,5	6,0	8,5	6,5	6,5	6,5	6,5	6,0	6,0	7,0	7,0	7,0	7,5	7,0
23:09:43	5,0	5,0	5,5	9,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	6,0	7,0	7,0	6,5	6,5	5,5	8,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,5	6,5	7,5	7,5
23:39:43	5,5	5,5	5,5	9,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	7,0	7,0	6,5	6,5	6,0	7,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,0	6,5	7,0	7,0

Apêndice XII – Valores das temperaturas do ar na zona da expedição medidas durante o mês Maio.

TEMPERATURAS DO AR DA ZONA DA EXPEDIÇÃO MEDIDAS DURANTE O MÊS MAIO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	7,0	6,0	6,0	6,0	5,5	5,0	6,0	6,5	6,0	5,0	5,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	7,0	6,5	7,5	7,5	7,5	6,5	7,5	7,0	7,0	7,0	7,0	8,0	7,0
00:39:43	7,0	5,5	6,0	6,0	5,0	5,0	6,0	6,0	6,0	5,0	5,5	6,0	6,0	6,5	6,5	6,0	6,5	6,0	6,5	6,5	7,0	7,0	7,0	6,5	7,0	7,0	6,5	6,5	6,5	7,5	6,5
01:09:43	7,0	5,0	5,5	5,5	5,0	5,0	6,0	6,0	5,5	5,0	4,5	6,0	6,0	6,5	6,5	6,0	6,5	6,0	6,5	6,5	7,0	7,0	7,0	6,0	7,0	6,5	6,5	6,5	6,5	7,0	6,5
01:39:43	7,0	5,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	3,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	6,5	7,0	6,0	6,5	6,5	6,5	6,5	6,5	7,0	6,5
02:09:43	7,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	4,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,5	6,5	6,5	6,5	7,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0
02:39:43	6,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	3,5	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,5	6,5	6,5	7,0	7,0	6,0	6,5	6,0	6,5	6,5	6,5	7,0	6,0
03:09:43	7,0	6,5	6,0	6,0	6,0	6,0	6,5	6,5	6,5	6,0	5,5	6,0	6,0	6,0	6,5	6,5	6,0	6,5	6,5	7,0	6,5	7,0	7,0	6,5	6,5	6,5	6,5	7,0	7,0	7,0	6,0
03:39:43	6,5	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,0	6,5	6,5	7,0	7,0	7,5	7,5	6,5	7,0	7,0	6,5	7,0	7,0	7,0	6,5
04:09:43	6,0	5,0	6,0	5,5	5,0	5,5	5,5	6,0	6,0	5,5	5,0	6,0	5,5	6,0	6,5	6,0	5,5	6,0	6,5	6,5	7,0	7,0	7,0	6,0	6,5	6,5	6,5	6,5	6,5	7,0	6,0
04:39:43	7,0	5,5	6,0	6,0	5,5	6,0	5,5	6,5	6,5	6,0	5,5	6,0	5,5	6,0	6,5	6,0	5,5	6,0	6,5	6,5	6,5	7,0	6,5	6,0	6,5	6,5	6,0	6,5	6,5	7,0	6,0
05:09:43	7,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,0	7,0	6,5	6,0	6,5	6,0	6,0	6,0	6,5	6,5	5,5
05:39:43	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,5	7,0	6,5	6,0	6,5	6,0	6,0	6,5	6,5	6,5	6,0
06:09:43	6,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	5,0	5,5	5,5	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,5	6,5	7,0	6,5	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0
06:39:43	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,5	6,5	7,0	6,5	6,0	7,0	6,5	6,5	7,0	6,5	6,5	6,5
07:09:43	6,0	5,0	5,5	5,0	5,5	5,0	5,5	5,0	4,5	5,5	4,5	5,5	5,5	6,0	6,5	6,0	5,5	6,0	6,5	6,5	6,5	7,0	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0
07:39:43	6,0	5,0	6,0	6,0	6,0	6,0	6,0	5,5	5,0	5,5	5,0	5,5	5,5	6,0	6,5	6,0	6,0	6,0	6,5	7,0	7,0	7,0	6,0	6,5	7,0	6,5	6,5	7,0	6,5	6,5	6,5
08:09:43	6,0	5,0	6,0	6,0	6,0	6,0	6,0	5,5	4,5	6,0	5,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,5	7,0	7,0	7,0	6,0	6,5	7,0	7,0	6,5	7,0	6,5	6,5	6,5
08:39:43	6,0	5,5	6,0	6,0	6,0	6,0	6,0	3,5	3,5	5,5	5,0	6,0	6,5	6,0	6,5	6,0	6,0	6,5	7,0	7,0	7,0	7,0	6,0	6,5	7,0	7,0	6,5	7,5	6,5	6,5	6,5
09:09:43	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,0	3,5	5,5	5,5	6,5	6,5	6,5	6,5	6,0	6,0	7,0	7,0	7,0	7,0	7,5	6,0	7,0	7,0	7,0	7,0	7,5	7,0	6,5	6,5
09:39:43	6,0	6,0	6,0	6,5	6,0	5,5	6,0	5,5	3,5	5,5	5,5	6,5	6,5	6,5	7,0	6,5	6,5	7,0	7,0	7,0	7,5	7,5	6,0	7,0	7,5	7,0	7,0	8,0	6,5	6,5	7,0
10:09:43	6,5	5,5	6,0	6,5	6,0	6,0	7,0	6,0	4,0	6,5	5,5	6,5	6,5	6,5	6,5	6,5	6,5	7,0	7,0	7,5	7,5	7,5	6,5	7,5	7,0	7,0	7,0	8,0	7,0	6,5	7,0
10:39:43	6,5	5,5	6,5	6,5	6,0	6,0	6,5	6,5	5,5	6,5	6,0	6,5	6,0	7,0	6,5	6,0	6,5	7,0	7,0	7,5	7,5	8,0	6,5	7,5	7,5	7,0	7,0	8,5	7,0	6,5	7,0
11:09:43	7,0	6,0	6,5	6,5	6,5	7,0	7,0	7,0	6,0	7,0	6,5	6,5	6,5	7,0	7,0	6,0	6,5	7,5	7,0	7,5	8,0	8,5	7,0	8,5	8,0	7,0	7,5	8,5	7,5	7,0	7,5

11:39:43	7,0	6,0	6,5	6,0	6,0	6,5	7,0	7,0	5,5	6,5	6,5	6,5	7,0	7,0	7,0	6,5	7,0	7,5	7,0	8,0	8,5	8,5	7,0	8,5	8,0	7,5	7,5	8,5	8,0	7,0	7,5
12:09:43	6,5	5,5	6,0	5,5	6,0	6,5	7,0	6,5	5,0	6,0	6,0	6,5	6,5	7,0	7,0	6,0	6,5	7,0	7,0	7,0	8,5	8,0	7,0	7,5	7,5	7,0	7,5	8,0	7,5	6,5	7,5
12:39:43	7,0	6,0	7,0	6,0	6,5	7,0	7,0	7,0	6,0	6,5	6,0	6,0	6,5	7,0	7,0	6,0	6,5	7,0	7,0	7,5	8,0	8,0	7,0	7,0	7,0	7,5	7,5	7,5	8,0	6,5	7,5
13:09:43	7,0	6,0	6,5	6,0	6,5	7,0	7,5	7,5	6,0	6,5	6,0	6,5	6,5	7,0	7,0	6,0	6,5	7,0	7,0	7,5	8,0	8,0	7,0	7,0	7,0	7,5	7,5	8,0	8,0	6,5	7,5
13:39:43	7,0	5,5	6,0	6,0	6,0	6,5	7,0	7,0	6,0	7,0	6,0	6,5	6,0	7,0	7,0	6,0	6,5	7,5	7,0	7,5	8,5	8,0	7,0	7,0	7,5	7,5	7,5	7,5	8,0	6,0	8,0
14:09:43	7,0	5,5	6,0	6,0	6,5	6,5	7,5	7,0	5,5	7,0	6,5	6,5	6,5	7,0	7,0	6,0	7,0	7,5	7,5	7,5	8,5	8,5	6,5	7,0	7,5	7,5	7,5	8,0	8,5	7,0	8,5
14:39:43	7,0	5,5	6,5	6,5	6,0	6,5	8,0	7,0	5,5	7,0	6,5	6,5	6,5	7,5	7,0	6,5	7,0	7,5	7,5	8,0	8,5	8,5	7,0	7,5	7,5	7,5	7,5	8,5	8,5	7,0	9,0
15:09:43	7,0	5,5	6,5	6,0	6,0	6,5	7,5	6,5	5,0	6,5	7,0	6,5	6,5	7,0	7,0	6,5	7,5	7,0	7,0	8,0	9,0	8,5	6,5	7,5	7,5	7,0	8,0	8,5	8,0	6,5	9,0
15:39:43	7,0	5,5	6,0	6,5	6,0	6,5	8,0	6,5	5,5	7,0	6,5	6,5	6,5	7,0	7,0	6,5	7,0	7,5	7,0	8,0	9,0	8,5	7,0	7,5	7,5	7,5	7,5	8,5	8,0	7,0	9,0
16:09:43	7,0	6,0	6,0	6,0	6,0	6,5	7,5	6,5	5,0	6,5	6,5	7,0	6,5	7,0	6,5	6,5	7,0	7,0	7,0	7,5	8,5	8,0	6,5	7,5	7,5	7,5	8,0	8,5	8,0	7,0	9,0
16:39:43	7,0	6,0	6,0	6,0	6,0	6,0	7,5	6,5	5,0	6,5	6,0	6,5	6,5	7,0	6,5	7,0	7,0	7,0	7,0	7,5	8,5	8,0	6,5	7,5	7,5	7,0	8,0	8,0	8,0	6,5	9,0
17:09:43	7,0	6,0	6,0	6,0	6,0	6,5	7,0	6,5	5,0	6,5	7,0	6,5	6,5	7,0	6,5	6,5	7,0	7,0	7,0	7,0	8,5	8,0	6,5	8,0	7,0	7,0	8,0	8,0	8,0	7,0	9,0
17:39:43	7,0	6,0	6,0	6,0	6,0	6,5	7,0	6,5	5,5	6,0	7,5	6,5	7,0	7,0	6,5	7,0	7,5	9,0	7,5	7,5	8,5	8,5	6,5	7,5	7,5	7,5	9,0	8,0	8,0	7,5	10,0
18:09:43	7,5	6,0	7,0	6,0	6,5	6,5	7,0	7,0	5,5	6,5	7,0	7,0	7,0	7,0	6,5	6,5	8,0	9,0	7,5	8,0	8,5	8,5	6,5	7,5	7,5	7,5	9,0	9,0	8,5	7,5	10,5
18:39:43	7,5	5,5	7,0	6,5	6,5	6,5	7,0	6,5	5,5	6,5	7,0	6,5	7,0	7,5	6,5	6,5	8,5	9,0	8,0	8,0	8,5	8,5	6,5	8,0	7,5	7,5	9,0	9,0	9,0	7,0	10,5
19:09:43	7,5	6,5	7,0	7,0	6,5	7,0	7,5	7,0	6,0	7,0	7,0	7,0	7,0	7,5	7,0	6,5	8,5	9,0	8,0	8,0	8,5	8,5	7,0	8,5	7,5	7,5	9,0	8,5	9,0	7,5	10,5
19:39:43	7,0	6,0	6,5	6,5	6,0	6,5	7,0	7,0	5,5	6,5	7,0	7,0	7,0	7,5	7,0	6,5	8,0	8,5	8,0	8,0	8,5	8,5	7,0	9,0	7,5	7,5	9,0	8,5	9,0	7,5	10,0
20:09:43	7,0	5,5	6,0	6,0	5,5	6,0	6,5	6,5	5,0	6,0	6,5	6,5	6,5	7,0	6,5	6,5	7,5	7,5	7,5	7,5	8,5	8,0	6,5	8,0	7,0	7,0	8,0	8,0	8,5	7,0	9,0
20:39:43	7,0	6,0	6,5	6,0	6,0	6,5	7,0	6,5	5,5	6,5	6,0	6,5	6,0	6,5	6,5	6,5	7,0	7,0	7,0	7,0	8,0	8,0	6,5	7,5	7,0	7,0	7,0	7,5	8,5	6,5	8,5
21:09:43	6,5	6,0	6,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,0	7,0	7,0	7,0	7,0	8,0	8,0	6,5	7,5	7,0	7,0	7,0	7,5	9,0	6,5	8,5
21:39:43	6,0	6,0	6,5	6,0	6,0	6,5	6,5	6,0	5,5	6,0	6,0	6,0	6,5	6,5	6,5	6,0	6,0	7,0	7,5	8,0	8,5	8,0	6,5	8,0	7,0	7,0	7,0	7,0	9,0	7,0	8,5
22:09:43	6,5	6,5	6,5	6,5	6,0	6,5	7,0	6,0	6,0	6,5	6,5	6,5	6,5	7,0	6,5	6,5	7,0	7,5	8,0	8,5	9,0	8,0	7,0	9,0	7,5	7,5	7,5	7,5	9,5	7,0	9,0
22:39:43	6,5	6,0	6,5	6,5	6,0	6,5	7,0	6,5	5,5	6,5	6,0	6,5	6,5	7,0	7,0	6,5	7,0	7,5	8,0	8,5	9,0	8,0	6,5	8,5	7,5	7,5	7,5	7,5	9,0	7,0	9,5
23:09:43	6,0	6,0	6,0	6,0	5,5	6,5	7,0	6,0	4,5	6,0	6,0	6,5	6,5	7,0	7,0	6,5	6,5	7,0	7,0	8,0	8,5	7,5	6,5	8,0	7,0	7,0	7,5	7,0	8,5	7,0	9,5
23:39:43	6,0	5,5	6,0	5,5	5,5	6,0	6,5	6,0	5,0	6,0	6,0	6,0	6,5	6,5	6,5	6,0	6,5	7,0	7,0	7,5	8,0	7,5	6,5	8,0	7,0	7,0	7,0	7,5	8,0	6,5	9,0

Apêndice XIII – Valores das temperaturas do ar na zona do *stock* da charcutaria medidas durante o mês Fevereiro.

Temperaturas do ar da zona do *stock* da charcutaria medidas durante o mês Fevereiro																					
HORA\DIA	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
00:09:43		5,5	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,0	5,5	6,0	6,0	6,5	5,5	5,5	6,5	6,0	5,5	6,0	6,0
00:39:43		6,0	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,5
01:09:43		6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,5	6,0
01:39:43		6,5	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,0	5,5	6,0	6,0	6,5	6,5
02:09:43		6,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,5	6,0	5,5	6,0	6,0	6,5	6,0
02:39:43		6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0
03:09:43		6,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,0
03:39:43		6,5	6,0	6,5	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,5	6,0
04:09:43		6,5	5,5	6,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,5	6,5	6,5	5,5
04:39:43		6,0	5,0	6,0	5,5	5,5	5,5	5,5	5,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,5	6,0	5,5
05:09:43		6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5
05:39:43		5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5
06:09:43		5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0
06:39:43		5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,5	5,5
07:09:43		5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,0	6,0	5,5	6,0	5,5	5,5	6,0	5,0
07:39:43		5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	6,5	5,5	6,5	5,5
08:09:43		5,5	5,0	6,0	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	6,0	7,0	6,0
08:39:43		5,5	5,5	6,0	5,5	5,5	5,0	5,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,5	6,0	6,5	6,0
09:09:43		6,0	5,5	5,5	6,0	5,0	5,0	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0
09:39:43		6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,0	5,5	5,5	6,0	6,5	6,0	6,0	6,0	5,5	6,0
10:09:43	9,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,5	6,0	6,0	6,5	6,5
10:39:43	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	6,0	7,0	6,5
11:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,5	6,5	7,0	6,0	7,5	6,0

11:39:43	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,5	6,0	5,5	6,0	6,5	6,0	6,5	5,5	7,5	6,5
12:09:43	6,0	6,0	5,5	5,5	5,0	5,0	5,5	5,0	5,5	6,0	5,0	6,5	5,5	5,0	6,0	6,5	6,0	6,0	5,5	7,5	5,5
12:39:43	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	7,0	6,0	6,5	6,5	6,0	7,0	5,5
13:09:43	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,5	6,5	6,0	7,0	6,0
13:39:43	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,5	6,5	6,0	7,0	6,5
14:09:43	6,0	6,0	5,5	5,5	6,0	5,0	6,0	5,5	6,0	6,0	6,0	5,5	6,5	6,0	6,0	6,0	6,5	7,0	5,5	7,0	6,0
14:39:43	6,0	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,5	6,0	6,5	6,0	6,0	6,5	6,0	7,0	5,5	7,0	6,0
15:09:43	5,5	6,0	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,5	6,0	6,0	6,0	5,5	6,0	6,0	7,0	5,5	6,5	5,5
15:39:43	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,0	5,5	6,5	5,5	6,5	5,5	6,0	6,5	6,5	6,5	5,5	7,0	6,0
16:09:43	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,5	5,5	6,0	6,0	6,5	6,5	6,0	7,0	6,0
16:39:43	5,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,5	5,5
17:09:43	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	5,5
17:39:43	5,5	6,0	5,5	6,0	6,0	6,0	6,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	5,5
18:09:43	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,5	6,5	6,0	6,0
18:39:43	6,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,0	6,5	6,5	5,5
19:09:43	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,5	6,5	7,0	6,0
19:39:43	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,0	6,5	6,0
20:09:43	5,5	6,0	5,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,5	6,0	5,5	6,5	6,0	6,0	5,5	6,0	6,0
20:39:43	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5
21:09:43	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0
21:39:43	6,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	5,0	6,5	6,0	5,5	6,0	5,5
22:09:43	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,5	6,0	5,5	5,5	6,5	6,0	5,5	6,5	5,5
22:39:43	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,5	6,0	5,5	6,5	7,0	6,5	6,0	6,0	5,5
23:09:43	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	7,0	6,5	6,0	6,0	5,5	5,5
23:39:43	5,5	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,0	5,5	6,5	6,5	6,0	5,5	5,5	5,5

Apêndice XIV – Valores das temperaturas do ar na zona do *stock* da charcutaria medidas durante o mês Março.

TEMPERATURAS DO AR DA ZONA DO *STOCK* DA CHARCUTARIA MEDIDAS DURANTE O MÊS MARÇO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,5	6,5	5,5	5,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0
00:39:43	5,5	5,5	5,5	6,0	5,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	6,5	6,5	6,0	5,0	6,0	6,0	5,5	6,0	6,5	6,0	6,5	6,0
01:09:43	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,5	5,5	6,0	6,5	6,0	7,5	6,0
01:39:43	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	6,5	6,0	6,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,5	5,5	6,0	6,0	5,5	8,0	6,0
02:09:43	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	6,0	8,0	6,0
02:39:43	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	6,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,5	6,0	5,5	5,5	6,0	8,5	6,0
03:09:43	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,0	6,0	5,5	6,5	6,0	6,0	6,0	6,0	8,5	6,0
03:39:43	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,5	6,5	6,0	6,0	6,0	8,5	6,0
04:09:43	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	8,5	5,5
04:39:43	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	7,5	5,5
05:09:43	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0	6,0	5,0
05:39:43	5,5	6,0	6,0	6,0	5,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5
06:09:43	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5
06:39:43	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5
07:09:43	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,0
07:39:43	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,0
08:09:43	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,0	6,0
08:39:43	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	6,0	6,5	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,5
09:09:43	5,5	6,5	6,0	5,5	6,5	5,5	6,0	5,5	6,0	6,0	5,5	6,5	6,0	5,5	5,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,5
09:39:43	6,0	6,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5
10:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,5	6,0	6,5	6,0	6,5	5,5	6,5	6,0	6,5	6,5	6,0	6,5	6,0	6,5
10:39:43	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,0	5,5	6,0	5,5	6,5	5,5	5,5	5,5	5,5	6,0	6,0	7,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	5,5	6,5	6,0	6,0
11:09:43	6,0	6,5	7,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5	6,5	7,5	6,0	6,0	6,5	6,5	6,5	6,0	6,5	5,5	6,5	6,0	6,0

11:39:43	5,5	6,0	6,5	6,0	5,5	6,0	5,5	6,0	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	7,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	6,5	6,0	6,0
12:09:43	5,5	6,0	6,5	6,0	5,5	6,0	5,5	6,0	5,5	5,0	6,0	5,5	6,0	6,0	5,5	5,5	5,0	6,0	6,0	6,5	5,0	5,5	5,5	6,0	5,5	5,5	6,5	5,0	6,0	6,0	6,0
12:39:43	5,5	6,5	6,5	5,5	5,5	5,5	6,0	6,0	5,5	5,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,5	7,0	5,5	5,5	5,5	7,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0
13:09:43	5,5	6,5	6,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,5	6,5	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	5,5
13:39:43	6,0	6,5	6,5	5,5	6,0	5,5	6,0	5,5	5,0	5,0	5,5	5,0	5,5	5,0	5,5	5,5	6,5	6,5	6,5	6,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5
14:09:43	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	7,0	6,5	6,5	7,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,5	6,5	6,5
14:39:43	5,5	6,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,5	6,5	6,5	6,5	5,5	6,0	5,5	6,0	6,5	6,5	6,0	6,0	6,5	6,5	6,5
15:09:43	5,5	6,0	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,5	7,0	6,5	6,0	5,5	6,0	6,0	5,5	6,5	6,0	5,5	6,5	6,5	6,5
15:39:43	5,5	6,5	6,0	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,5	6,5	7,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,5	6,5	6,5
16:09:43	6,0	6,5	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	5,5	6,5	7,0	6,5	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5
16:39:43	6,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,0	5,5	6,0	5,0	6,5	6,5	6,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,5
17:09:43	6,0	5,5	5,0	5,5	5,5	5,5	6,0	6,0	6,5	5,5	5,5	6,0	6,0	5,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,5	6,0	6,0	6,5
17:39:43	6,0	5,5	5,0	5,5	5,5	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,5	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,5	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,5	6,5	6,5
18:09:43	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,0	6,0	6,0	7,0	6,5	5,5	6,5	6,0	6,0	6,0	6,0	6,0	7,5	6,0	6,0	6,0	6,5	6,5	7,0	6,0	6,5	6,5	6,5
18:39:43	5,5	5,5	6,0	6,0	6,0	5,5	6,0	6,5	6,5	6,0	5,5	6,0	7,0	5,5	7,0	6,0	6,5	6,0	6,0	6,0	7,0	6,5	6,0	6,0	7,0	6,5	7,0	6,0	7,5	6,5	6,0
19:09:43	6,5	6,0	6,5	6,0	6,5	6,0	6,5	6,5	6,5	6,0	6,0	6,5	7,0	5,5	6,5	6,0	6,5	6,5	6,5	7,0	7,0	7,0	6,5	6,0	6,5	7,0	7,0	6,0	7,0	6,0	6,0
19:39:43	6,0	5,5	6,0	6,0	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,5	6,5	5,5	6,0	6,0	6,0	6,0	6,0	7,0	6,5	7,0	6,0	6,0	6,0	6,5	7,0	6,0	6,5	5,5	6,0
20:09:43	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,5	5,5	5,5	6,0	5,5	6,0	6,0	6,5	6,5	6,5	6,0	5,5	5,5	6,0	6,5	5,5	6,0	5,5	6,0
20:39:43	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,5	6,0	6,0	5,5	6,0	6,0	6,5	5,5	6,0	5,5	5,5
21:09:43	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5
21:39:43	5,5	5,5	6,0	5,5	5,5	6,0	6,5	6,5	6,0	6,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,5	6,5	6,0	5,5	6,0	6,0	6,0	7,0	6,0	6,5	6,0	6,0
22:09:43	5,5	5,5	6,0	5,5	5,5	6,5	6,5	6,0	6,0	5,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,5	6,0	6,0	5,5	6,0	5,5	6,0	7,0	5,5	6,5	6,0	6,5
22:39:43	5,5	6,0	6,0	6,0	5,5	6,0	7,0	6,0	6,0	5,5	6,5	5,5	6,0	5,5	6,0	6,0	6,0	6,5	6,0	7,0	6,0	6,5	6,0	6,0	5,5	6,5	6,5	5,5	6,0	5,5	5,5
23:09:43	5,5	5,5	6,5	6,0	6,0	6,0	6,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,5
23:39:43	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5

Apêndice XV – Valores das temperaturas do ar na zona do *stock* da charcutaria medidas durante o mês Abril.

TEMPERATURAS DO AR DA ZONA DO *STOCK* DA CHARCUTARIA MEDIDAS DURANTE O MÊS ABRIL																														
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
00:09:43	5,0	6,5	5,5	5,0	9,5	5,5	5,0	6,0	5,0	5,5	5,5	5,0	5,0	6,0	6,0	6,0	6,0	5,5	5,5	6,5	6,5	6,5	6,5	6,0	6,5	5,5	6,5	7,0	6,5	7,0
00:39:43	5,5	6,0	5,5	5,5	9,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	6,0	6,0	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,5	6,0	6,5	7,0
01:09:43	5,5	6,0	6,0	6,0	9,0	5,0	5,5	5,5	5,5	6,0	6,0	5,5	5,0	6,0	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,5	6,0	6,0	7,0
01:39:43	6,0	6,0	5,5	6,0	9,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,5	6,0	5,5	5,5	6,0	5,5	6,5	5,0	5,5	5,5	6,0	6,0	5,5	6,5	6,0	6,5	6,5
02:09:43	6,0	6,0	5,5	6,0	9,0	6,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,5	6,5	6,0	5,5	6,5	5,0	6,5	5,5	6,0	5,5	6,0	6,0	5,5	6,5	6,0	6,5	6,5
02:39:43	6,0	6,0	6,0	6,0	9,0	5,5	5,5	6,0	6,5	6,0	5,5	5,5	5,5	6,0	6,5	6,5	5,5	6,5	5,0	6,5	5,5	6,5	6,0	6,0	6,0	6,0	6,5	7,5	6,0	7,0
03:09:43	6,5	6,0	6,5	6,0	7,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	7,0	6,5	6,0	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	8,5	6,5	6,5
03:39:43	6,5	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,5	5,5	5,5	6,0	6,0	7,0	6,0	6,0	6,0	5,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	9,0	6,5	6,5
04:09:43	6,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	9,5	7,0	6,0
04:39:43	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	9,5	6,5	6,5
05:09:43	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	9,5	6,0	5,5
05:39:43	6,0	5,5	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,0	5,5	6,0	5,5	6,0	5,5	10,0	5,5	6,0
06:09:43	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	10,0	5,5	6,5
06:39:43	5,5	5,5	6,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,0	5,5	6,5	6,5	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	6,0	10,0	5,5	6,5
07:09:43	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,5	10,0	5,5	6,0
07:39:43	6,0	6,0	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,5	6,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	9,0	6,0	6,5
08:09:43	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,0	6,5	6,5	6,5	6,0	7,0	6,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,0	8,0	7,0	7,0
08:39:43	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,5	6,0	6,5	6,0	7,0	7,0	6,0	5,5	6,0	6,0	5,5	5,0	6,5	6,0	5,5	5,5	5,5	8,0	7,5	7,0
09:09:43	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	6,5	6,0	6,0	6,0	6,0	7,0	7,0	6,5	6,0	6,0	6,5	5,5	5,5	6,5	6,0	5,5	5,5	5,5	7,5	7,5	7,5
09:39:43	5,5	5,5	6,0	6,0	6,0	5,5	6,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,5	5,5	5,5	6,5	6,5	6,0	5,5	5,5	7,0	7,5	7,5
10:09:43	6,0	5,5	6,5	6,0	6,0	5,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	7,0	7,0	6,5	6,0	6,0	6,5	5,5	5,5	6,5	6,5	6,0	6,0	6,0	6,5	7,0	7,0
10:39:43	6,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,5	7,0	7,5	6,5	6,0	6,0	6,5	5,5	6,0	6,5	5,5	6,0	6,5	6,0	6,5	7,0	7,5
11:09:43	6,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,0	6,0	7,0	7,5	6,5	6,0	6,0	7,0	6,0	6,5	6,5	6,0	6,0	6,5	7,0	6,5	7,0	7,5

11:39:43	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,0	6,0	6,0	7,0	7,0	6,5	5,5	6,5	6,5	6,0	6,5	7,0	6,0	5,5	6,5	7,0	7,0	7,0	7,5
12:09:43	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,5	6,0	6,0	5,5	6,5	5,5	6,5	7,5	6,0	5,0	6,0	6,5	6,5	7,0	7,5
12:39:43	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,0	5,5	6,5	7,0	6,0	5,0	6,0	6,0	6,0	6,5	7,0
13:09:43	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,5	6,0	6,0	5,5	6,5	6,5	6,5	6,5	6,5	5,5	6,0	6,0	6,5	6,5	6,0	5,5	6,5	6,5	6,0	7,0	7,0
13:39:43	5,5	5,5	6,5	5,5	6,0	5,5	6,0	6,0	6,5	6,0	6,0	6,5	5,5	6,5	7,0	7,0	6,5	6,0	6,0	6,5	6,0	6,5	7,5	6,5	5,5	6,5	7,0	6,5	7,0	8,0
14:09:43	6,0	6,0	6,5	5,5	6,0	6,5	6,0	6,0	6,5	6,5	6,0	6,0	6,0	6,5	8,0	7,0	6,5	5,5	6,0	6,5	6,5	6,5	8,0	6,5	5,5	6,5	7,0	7,0	7,0	8,0
14:39:43	6,0	6,5	6,5	6,0	6,0	6,5	6,0	6,0	6,0	6,5	6,5	6,5	6,0	7,0	7,5	7,5	6,5	5,5	6,5	6,5	6,0	6,5	8,0	6,5	6,0	7,0	6,5	7,0	7,5	7,5
15:09:43	6,0	6,0	6,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	7,0	7,0	6,0	5,5	6,0	6,0	6,0	6,0	7,5	6,0	6,0	6,5	6,0	6,5	7,0	7,0
15:39:43	6,0	6,0	6,5	6,0	6,5	5,5	6,5	5,5	6,0	6,0	6,0	7,0	5,5	6,5	7,5	7,0	6,5	5,5	6,0	6,5	6,0	7,0	7,5	6,5	6,0	7,0	6,5	7,0	7,5	7,5
16:09:43	6,0	6,0	6,5	6,5	5,5	5,0	6,5	5,5	6,0	5,5	6,0	6,5	5,5	6,5	7,0	7,0	6,5	5,5	5,5	6,0	5,5	6,5	7,0	6,5	6,0	7,0	6,5	7,0	7,5	7,5
16:39:43	6,0	6,0	6,5	8,0	6,0	5,0	6,0	5,5	6,0	5,5	6,0	6,5	5,5	6,5	7,0	6,5	6,5	5,5	5,5	6,0	6,0	7,0	7,0	6,5	6,5	7,0	6,0	7,0	7,0	7,5
17:09:43	6,0	6,0	7,0	9,0	6,0	6,0	8,0	6,0	6,5	5,5	5,5	7,0	5,5	6,5	6,5	6,0	6,0	5,5	6,5	6,5	6,0	7,5	6,5	6,5	6,5	7,0	6,5	7,0	7,5	8,0
17:39:43	6,5	6,0	6,5	9,5	6,0	6,5	7,5	6,5	6,5	5,5	6,0	7,0	5,0	6,5	6,5	6,0	6,0	5,5	6,5	7,5	6,0	8,0	7,0	6,5	6,5	7,5	7,5	7,0	8,0	8,0
18:09:43	7,0	6,5	6,5	10,0	6,5	7,0	7,5	6,5	6,5	6,0	6,0	7,0	5,5	6,5	6,5	6,0	6,5	5,5	6,5	7,5	6,5	8,0	7,0	7,0	6,0	8,0	8,0	7,5	8,0	8,0
18:39:43	6,5	6,5	6,5	10,0	6,5	6,5	7,5	6,5	6,5	6,5	6,0	7,0	6,0	6,5	6,5	6,0	6,5	6,0	6,5	7,5	6,5	8,0	7,5	7,5	6,0	8,5	8,0	8,0	8,5	7,5
19:09:43	6,5	6,5	6,5	10,0	6,5	6,5	7,5	6,5	6,5	6,5	6,0	7,0	6,0	7,0	7,0	6,5	7,0	6,5	6,5	7,5	7,0	7,5	7,5	7,5	6,5	8,5	8,0	8,0	8,5	7,5
19:39:43	6,0	6,0	6,0	10,0	6,5	6,0	7,0	6,0	6,5	6,0	7,0	6,5	5,5	6,0	7,0	6,0	6,5	6,0	6,5	6,5	6,5	7,0	7,0	7,5	6,5	9,0	7,5	8,0	8,5	7,5
20:09:43	5,5	6,0	5,0	9,5	6,5	6,0	6,0	6,5	5,5	5,5	7,0	5,5	5,5	6,0	6,0	5,5	6,5	5,5	7,0	6,0	5,5	6,5	6,0	7,0	6,5	7,5	7,0	7,0	7,5	6,5
20:39:43	5,0	6,0	5,5	9,5	6,5	5,5	6,0	6,5	5,5	6,5	7,5	5,5	5,5	6,0	5,5	5,5	6,5	5,5	7,5	5,5	5,5	6,0	6,0	7,0	7,0	7,0	7,0	6,5	7,0	6,0
21:09:43	5,5	6,0	5,5	9,5	6,5	5,5	6,0	7,0	6,0	6,5	7,5	5,5	5,5	6,0	6,0	6,0	6,5	5,5	8,5	6,0	6,0	6,0	6,0	7,0	7,5	6,5	7,0	6,5	7,0	6,5
21:39:43	5,5	6,0	6,0	9,5	6,5	6,0	6,5	7,0	6,5	6,5	7,0	6,5	6,5	6,5	6,0	6,5	6,0	6,0	9,5	7,0	7,0	7,0	6,5	6,5	8,0	7,5	7,5	7,0	7,5	7,0
22:09:43	6,0	6,5	6,0	9,5	7,0	6,0	7,0	7,0	6,5	6,0	6,5	6,5	6,5	7,0	7,0	7,0	6,5	6,0	10,0	7,0	7,5	7,0	7,0	6,5	7,5	7,5	7,5	7,0	8,0	7,0
22:39:43	5,5	6,0	5,5	9,5	6,5	5,5	7,0	6,5	6,0	6,0	6,0	6,0	6,5	6,5	7,0	6,0	6,0	6,0	9,0	7,0	7,0	6,5	7,0	6,0	6,5	7,0	7,5	7,0	8,0	7,5
23:09:43	5,5	5,5	5,5	9,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	6,5	6,0	6,0	5,5	7,5	6,0	6,0	6,0	6,0	6,0	6,0	7,0	7,0	6,5	7,5	8,0
23:39:43	6,0	5,5	5,5	9,5	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,5	6,0	6,0	5,5	7,0	6,0	6,5	6,0	6,0	6,5	6,0	7,0	7,0	6,5	7,5	8,5

Apêndice XVI – Valores das temperaturas do ar na zona do *stock* da charcutaria medidas durante o mês Maio.

TEMPERATURAS DO AR DA ZONA DO *STOCK* DA CHARCUTARIA MEDIDAS DURANTE O MÊS MAIO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	8,0	6,5	7,0	7,0	6,0	6,0	6,0	6,5	6,0	6,0	5,5	6,0	6,0	5,5	6,5	6,5	6,0	6,0	6,5	7,0	7,5	8,0	7,5	6,5	7,0	6,5	7,0	7,0	7,0	8,0	7,5
00:39:43	8,0	6,0	6,5	6,5	5,5	6,0	6,0	5,5	6,0	6,0	5,0	6,0	6,5	5,5	6,5	6,5	6,0	6,0	6,5	6,5	7,0	7,0	7,0	6,5	7,0	6,0	6,5	6,0	6,5	7,5	7,0
01:09:43	8,5	6,0	6,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	5,5	6,5	5,5	7,0	6,0	6,0	6,0	6,0	6,5	6,0	6,5	6,5	6,0	6,5	6,0	6,0	6,0	6,5	7,0	6,5
01:39:43	7,5	6,5	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,5	5,5	6,5	5,5	5,5	6,0	6,0	7,0	5,5
02:09:43	7,5	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,5	6,5	6,5	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	5,5	5,5	6,5	6,0	7,0	5,5
02:39:43	7,0	6,5	6,5	7,0	6,5	5,5	6,0	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,5	6,5	6,5	6,5	6,0	6,5	6,0	6,5	6,5	6,0	6,0	6,0	6,5	7,0	6,0	7,0	5,5
03:09:43	7,0	6,5	6,5	6,5	6,5	6,0	6,0	6,0	6,5	6,0	6,5	6,0	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,5	7,0	6,5	6,5	6,0	6,5	6,5	7,0	6,5	7,0	6,0
03:39:43	7,0	6,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,5	6,5	7,0	7,0	6,5	6,0	6,5	6,5	6,5	7,0	6,5	7,5	6,0
04:09:43	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,0	6,5	6,0	5,5	6,0	6,5	6,0	7,0	6,0	7,5	5,5
04:39:43	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,5	6,5	6,0	6,0	6,0	6,0	6,5	6,0	6,0	5,0	5,5	6,0	6,0	6,5	6,0	5,5	5,5	6,0	6,0	7,0	6,0	7,0	5,5
05:09:43	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,5	6,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,5	6,0	6,5	5,5
05:39:43	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	6,0	6,5	5,5
06:09:43	6,0	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,5	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	5,5
06:39:43	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,0	5,5	6,0	5,5	5,5	5,5	6,0	6,5	6,5	6,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,5	6,0
07:09:43	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,0	6,0	6,0	6,5	6,0
07:39:43	6,0	5,5	6,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	6,5	7,0	5,5	6,0	6,5	5,5	5,5	6,0	6,5	6,5	5,5
08:09:43	6,0	5,5	6,5	6,5	5,0	5,5	6,0	5,5	6,0	6,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,5	7,0	6,5	5,5	6,0	6,5	5,5	6,0	7,0	6,5	6,5	6,0
08:39:43	6,0	5,5	7,0	6,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,5	6,0	6,0	5,5	5,5	6,0	5,5	6,5	7,0	7,0	5,0	6,0	7,0	6,0	6,5	7,0	6,5	6,5	6,0
09:09:43	6,5	6,5	6,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,5	6,0	5,5	5,5	6,0	5,5	6,5	7,0	7,0	5,0	6,5	6,0	5,5	6,5	7,0	6,5	6,5	6,0
09:39:43	6,5	6,5	7,0	6,5	5,5	5,5	6,5	6,5	6,0	5,5	6,5	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,0	6,5	7,5	7,0	5,5	6,0	6,5	6,0	6,5	8,0	6,5	6,5	6,0
10:09:43	7,0	6,5	6,5	6,5	5,5	6,0	7,0	6,5	6,0	6,5	6,5	6,0	6,5	6,5	6,5	6,0	6,0	6,0	6,0	7,0	7,0	6,5	6,0	7,0	6,5	6,0	6,5	8,0	7,0	6,5	6,5
10:39:43	7,0	6,5	7,0	7,0	5,5	5,5	7,0	7,0	6,5	6,5	7,0	6,0	6,0	6,5	7,0	5,5	6,0	6,0	6,0	6,5	7,0	7,5	6,5	6,5	7,0	6,0	7,0	8,5	8,0	6,5	6,5
11:09:43	7,0	6,5	7,0	6,5	6,0	6,0	6,5	7,0	6,0	6,5	7,0	6,5	6,5	6,5	7,0	6,0	6,5	6,5	6,5	7,0	7,0	8,0	6,5	7,0	7,0	6,5	7,5	8,5	8,0	6,5	7,0

11:39:43	7,5	6,5	6,5	6,5	6,0	6,0	6,5	7,0	6,5	6,5	6,5	6,5	7,0	6,5	7,0	6,0	6,5	6,5	6,5	7,0	8,0	7,5	7,0	8,0	7,0	7,0	7,5	8,5	8,0	7,0	7,0
12:09:43	7,0	6,5	6,0	6,5	5,5	6,0	6,5	7,0	6,5	6,0	6,0	6,0	6,5	6,0	7,0	5,5	6,0	6,0	6,0	6,5	8,0	7,0	6,5	7,0	6,5	6,5	7,0	8,0	8,0	6,5	7,0
12:39:43	7,5	6,5	6,5	6,0	5,5	5,5	6,5	7,0	6,5	6,0	6,0	6,0	6,5	6,0	7,0	5,5	5,5	6,0	6,0	6,5	8,0	6,5	6,0	6,0	6,5	6,0	7,0	8,0	7,5	6,5	7,0
13:09:43	7,5	6,5	7,0	6,0	5,5	5,5	6,5	7,0	6,5	6,0	6,0	6,0	6,5	6,5	6,5	5,5	6,0	6,5	6,5	6,5	8,5	7,0	6,5	5,5	6,5	6,0	8,0	8,0	8,0	6,5	7,0
13:39:43	8,0	6,5	7,0	6,0	6,0	5,5	7,0	7,0	6,5	6,5	6,5	6,0	6,5	6,5	7,0	6,0	6,0	6,5	6,5	6,5	8,5	7,5	6,0	6,5	6,5	6,5	7,5	8,0	8,0	7,0	7,5
14:09:43	8,0	6,5	7,0	6,0	6,0	6,0	7,0	7,0	6,5	7,0	7,0	6,5	6,5	7,0	7,0	6,0	6,5	7,0	7,0	7,0	8,5	8,0	6,0	6,5	7,0	7,0	7,5	8,0	8,0	7,5	7,0
14:39:43	8,0	7,0	7,0	6,5	6,5	6,0	7,5	7,0	6,5	6,5	7,0	6,5	6,5	7,0	7,0	6,5	7,0	7,0	7,0	7,5	8,0	8,0	6,0	7,0	7,0	6,5	7,5	8,0	8,5	7,5	8,0
15:09:43	8,0	6,5	7,0	7,0	6,5	6,5	6,5	6,5	6,5	6,0	7,0	6,0	6,5	6,5	7,0	6,5	7,0	6,5	6,5	8,0	8,5	8,0	6,0	6,5	6,5	6,0	8,0	8,0	8,5	7,0	8,5
15:39:43	8,0	6,0	7,0	7,0	6,5	6,0	7,0	6,5	6,5	6,5	7,0	6,0	6,5	7,0	7,0	7,5	7,0	7,0	6,5	7,5	8,5	8,0	6,5	7,5	7,0	6,5	8,0	8,5	8,5	7,5	9,0
16:09:43	8,0	6,5	7,0	7,0	6,5	5,5	7,0	6,5	6,5	6,5	6,5	6,0	6,5	7,0	7,0	7,5	7,0	7,0	6,5	7,0	8,5	8,0	6,0	7,5	7,0	6,5	8,0	8,0	8,0	7,5	9,0
16:39:43	8,0	7,0	7,0	6,5	6,0	6,0	7,0	6,5	6,5	6,5	6,0	5,5	6,5	7,0	7,0	7,5	7,0	7,0	6,0	7,0	8,0	7,5	6,5	7,5	7,0	6,5	7,5	8,0	7,5	7,0	9,0
17:09:43	8,0	7,0	7,0	6,5	6,5	7,0	6,5	6,0	6,5	6,5	7,0	6,0	7,0	7,0	7,0	8,0	7,5	7,0	7,0	7,5	7,5	8,0	6,5	7,5	7,0	7,0	8,0	8,0	7,5	7,5	9,0
17:39:43	8,0	7,5	7,5	7,0	7,0	7,0	7,0	6,5	6,5	7,0	7,5	6,5	7,0	7,0	7,0	8,0	8,0	8,0	7,5	7,5	7,5	8,0	7,0	7,0	6,5	7,0	8,5	8,0	8,0	8,0	9,0
18:09:43	8,0	7,0	8,0	7,0	7,5	7,0	7,0	6,5	6,5	7,0	7,5	7,0	8,0	7,5	7,0	7,0	8,0	8,5	7,5	8,0	8,0	8,5	6,5	7,0	6,5	7,0	8,5	8,5	8,5	7,5	10,5
18:39:43	8,5	6,5	8,0	7,5	7,5	7,0	7,5	7,0	6,0	7,0	7,5	7,0	8,0	7,5	7,0	7,0	8,0	8,5	8,0	8,0	8,0	8,5	6,5	7,5	6,5	7,5	8,5	8,5	9,5	8,0	10,5
19:09:43	8,0	7,0	8,0	7,5	7,0	7,0	7,0	6,5	6,5	7,0	7,0	7,0	7,5	7,5	7,0	7,0	8,5	8,5	8,0	8,0	8,0	8,5	6,5	7,5	7,0	7,5	8,0	8,0	9,5	8,0	10,0
19:39:43	8,0	6,5	7,5	7,0	6,5	6,5	7,0	6,5	6,0	7,0	7,0	7,0	7,0	7,5	7,0	7,0	8,5	8,5	8,5	8,0	8,5	8,0	6,5	8,0	7,0	7,5	8,0	8,5	9,0	8,0	10,0
20:09:43	8,0	6,0	6,5	6,0	6,0	6,0	6,5	6,0	6,0	6,0	6,0	6,5	6,0	7,0	6,0	7,0	8,0	7,5	7,5	7,5	9,0	7,0	6,0	7,0	6,5	7,0	7,0	8,0	8,5	7,5	9,0
20:39:43	7,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,5	6,5	6,5	7,0	7,0	7,0	6,0	8,0	7,0	6,0	6,5	6,5	6,5	7,0	7,0	8,5	7,0	8,0
21:09:43	6,5	6,0	6,5	6,0	6,0	6,0	5,5	6,5	6,0	5,5	6,0	5,5	6,0	6,5	7,0	6,5	7,0	6,5	7,0	6,0	7,5	7,5	6,0	6,5	6,5	6,5	6,5	7,0	9,0	6,5	7,0
21:39:43	6,5	7,0	7,0	7,0	6,5	7,0	6,0	6,0	6,5	6,0	6,5	6,5	7,0	7,0	7,0	7,0	7,0	7,5	7,5	7,5	8,5	7,5	7,0	8,0	7,5	7,0	7,0	7,0	9,0	7,0	8,0
22:09:43	7,0	7,0	7,5	7,5	6,5	7,5	6,5	6,5	6,5	6,0	6,5	6,5	7,0	7,0	7,0	7,0	7,5	8,0	8,5	8,5	9,0	7,0	7,0	9,0	7,5	7,5	8,0	8,0	9,5	7,5	9,0
22:39:43	7,0	7,0	7,5	6,5	6,5	7,5	6,5	6,5	6,0	6,0	6,5	6,5	6,0	7,0	7,0	7,0	7,5	7,5	7,5	8,0	9,0	7,0	6,5	8,5	7,5	7,0	7,5	7,5	9,5	7,0	10,0
23:09:43	6,5	6,0	7,0	5,5	6,0	7,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	7,0	7,0	7,0	6,5	6,5	7,0	8,0	8,5	7,5	6,0	7,5	6,5	6,5	7,5	7,0	8,5	7,0	9,5
23:39:43	6,5	5,5	7,0	5,5	5,5	6,5	6,5	6,5	6,0	5,5	5,5	5,5	6,0	7,0	6,5	6,0	6,0	6,5	7,0	7,5	8,5	7,5	6,5	7,5	6,5	7,0	7,0	7,5	8,0	7,0	8,5

Apêndice XVII – Valores das temperaturas do ar na zona do *stock* dos hortofrutícolas medidas durante o mês Fevereiro.

TEMPERATURAS DO AR DA ZONA DO *STOCK* DOS HORTOFRUTÍCOLAS MEDIDAS DURANTE O MÊS FEVEREIRO																						
HORA\DIA	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**
00:09:43		5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,0	5,5	6,0	6,0	6,0	5,5	5,0	6,0	6,0	5,0	5,5	5,5
00:39:43		5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,0	5,0	5,5	6,0	5,0	5,5	5,5
01:09:43		5,5	5,5	5,0	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,0	5,0	5,5	6,0	5,0	5,5	5,5
01:39:43		5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5	5,0	5,0	6,0	5,0	5,5	5,5
02:09:43		5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5
02:39:43		6,0	5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0
03:09:43		6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,0	6,0
03:39:43		6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0
04:09:43		6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0
04:39:43		6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,5	6,0	6,0	5,5	6,0	6,0	5,5
05:09:43		6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,0	5,5	6,0	5,5	5,0	6,0	6,0	5,5
05:39:43		6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,0	6,0	6,0	6,0
06:09:43		5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	6,0	5,5
06:39:43		5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0
07:09:43		5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,5	5,5	6,0	5,0
07:39:43		5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	6,0	5,5	6,0	5,5
08:09:43		5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,0	5,5	6,0	5,5	6,0	6,0
08:39:43		5,5	5,5	6,0	6,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	6,0
09:09:43		5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,0	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,0	5,0	5,5	5,5	5,5
09:39:43		5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0
10:09:43	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	6,0
10:39:43	5,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0

11:09:43	5,0	5,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5
11:39:43	5,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,5	5,5	6,0	6,0	5,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5
12:09:43	5,5	5,5	5,5	5,0	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	6,0	5,0	5,0	5,0	6,0	5,0	5,5	6,0	5,5
12:39:43	5,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,0	5,5	5,0	6,0	5,0	5,5	6,0	5,5
13:09:43	5,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,0	5,5	5,0	6,0	5,0	5,5	6,0	5,5
13:39:43	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,5	6,0	5,0	5,5	5,5	6,0	5,5	5,5	6,5	6,0
14:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	6,5	6,0
14:39:43	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	6,0	5,5
15:09:43	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,0	6,0	5,5	5,5	5,0	5,5	5,5	6,0	6,0	5,0	6,0	5,0
15:39:43	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,0	5,0	6,0	5,5	6,0	5,0	5,5	6,0	6,0	5,5	5,0	6,0	6,0
16:09:43	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,5	5,5	6,0	5,0	5,5	5,0	6,0	5,0	5,0	5,5	6,0
16:39:43	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,0	6,0	5,5	6,0	5,0	5,5	5,5	5,5	5,0	5,0	5,0	5,5
17:09:43	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,0	5,5	5,0	5,5	5,0	5,5	5,0	5,0	5,0	5,5
17:39:43	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,0	5,5	6,0
18:09:43	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	6,0
18:39:43	5,5	5,5	5,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,0	5,0	5,5	6,0
19:09:43	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0
19:39:43	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,0	6,0	5,5	5,5	5,5	5,5	6,0
20:09:43	5,5	6,0	5,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0
20:39:43	5,5	6,0	5,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	6,0
21:09:43	5,5	6,0	5,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,5	6,0	5,0	5,0	5,5	6,0
21:39:43	6,0	6,0	5,0	6,0	6,0	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,0	6,0	5,5	5,0	6,0	6,0
22:09:43	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,5
22:39:43	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0	5,0	5,0	5,0	5,5
23:09:43	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	6,0	5,0	5,5	5,5	5,0
23:39:43	5,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,0	6,0	6,0	5,0	5,0	5,5	5,0

Apêndice XVIII – Valores das temperaturas do ar na zona do *stock* dos hortofrutícolas medidas durante o mês Março.

TEMPERATURAS DO AR DA ZONA DO *STOCK* DOS HORTOFRUTÍCOLAS MEDIDAS DURANTE O MÊS MARÇO																															
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	5,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,0	5,0	6,0	5,5	6,0	6,0	6,0	6,0
00:39:43	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	6,0	6,0	5,5	6,0	6,5	6,0
01:09:43	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	7,0	6,0
01:39:43	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,0	6,0	5,0	5,0	5,5	5,0	5,5	5,5	5,0	6,0	6,0	5,5	5,5	5,5	7,5	6,0
02:09:43	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	6,0	5,0	5,5	6,0	6,0	6,0	5,0	6,0	5,0	5,5	5,5	5,0	5,5	5,5	5,0	6,5	6,5	5,5	5,5	5,5	8,0	6,0
02:39:43	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,5	6,0	6,0	5,0	6,0	6,0	6,0	6,0	5,0	6,0	5,0	5,0	5,5	5,0	5,5	5,5	5,0	6,0	6,5	5,5	5,5	5,5	8,0	6,0
03:09:43	5,5	6,0	6,0	5,5	5,5	5,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,0	5,5	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	8,5	5,5
03:39:43	6,0	6,0	6,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,5	6,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,5	8,5	5,5
04:09:43	6,0	6,0	6,0	6,0	5,5	5,0	6,0	5,5	6,0	6,0	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	8,5	5,5
04:39:43	5,5	6,0	5,5	6,0	5,0	5,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	7,0	5,0
05:09:43	5,5	6,0	6,0	6,0	5,0	5,0	6,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,0	5,0	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,0
05:39:43	5,5	6,0	6,0	6,0	5,0	5,0	6,0	5,5	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,0	5,5	6,0	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,0	5,5
06:09:43	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	5,5	6,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5
06:39:43	5,0	5,5	5,5	5,0	5,0	4,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0
07:09:43	5,5	5,0	6,0	5,0	5,0	5,0	5,0	5,0	5,5	5,0	5,5	5,0	5,5	5,0	5,5	5,0	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0
07:39:43	5,5	5,5	6,0	5,5	5,5	5,0	5,0	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0
08:09:43	5,5	6,0	6,0	5,5	5,5	5,0	5,0	5,0	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5
08:39:43	5,5	6,0	6,0	5,5	5,5	5,0	5,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5
09:09:43	5,5	6,0	6,0	5,5	5,0	5,0	5,0	5,0	5,5	5,0	5,5	6,5	6,0	6,0	5,0	6,0	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,0	5,5
09:39:43	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,0	5,0	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,0	5,5	5,5	4,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5
10:09:43	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,0	5,5	6,0	4,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5
10:39:43	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	5,0	6,0	4,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5

11:09:43	5,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	5,0	6,0	5,0	5,5	5,0	6,0	4,5	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5
11:39:43	5,5	6,5	5,5	5,5	5,5	5,5	5,5	5,5	6,5	5,5	6,0	5,5	6,0	5,5	5,0	6,0	5,0	5,0	5,0	5,5	4,0	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5
12:09:43	5,0	6,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,0	5,5	5,0	5,0	6,0	5,5	4,0	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5
12:39:43	5,5	6,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,0	5,5	5,5	5,5	6,5	6,0	4,0	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5
13:09:43	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,0	6,0	5,5	6,0	6,0	4,5	5,0	5,0	5,0	6,0	5,5	5,5	5,0	5,0	6,0	5,5
13:39:43	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5
14:09:43	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,0	6,0	6,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0
14:39:43	5,0	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,5	6,0	6,0	5,5	6,0	4,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5
15:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,0	5,0	5,0	5,0	5,5	5,5	6,0	6,0	7,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,0
15:39:43	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	6,0	6,0	6,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	6,0	5,5
16:09:43	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	6,0	6,0	6,0	4,5	5,0	5,0	5,0	5,5	5,5	6,0	5,0	5,0	5,5	5,5
16:39:43	6,0	6,0	5,5	5,0	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	6,0	6,0	4,5	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5
17:09:43	6,0	5,5	5,0	5,0	5,5	5,5	5,0	5,5	6,5	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	5,5	6,0	6,0	4,5	5,0	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,5	5,5
17:39:43	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	6,0	5,0	5,0	5,5	5,5	5,0	5,0	5,5	4,5	5,5	5,5	5,5	5,0	5,0	4,5	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5
18:09:43	5,0	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	4,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5
18:39:43	5,0	5,0	5,0	5,0	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,5	6,0	5,0	6,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5
19:09:43	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,0	5,5	6,0	6,0	5,5	5,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5
19:39:43	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,0	5,5	6,0	6,0	6,0	5,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	6,0
20:09:43	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,0	5,0	5,0	5,0	5,5	6,0	5,5	6,0	5,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5
20:39:43	5,5	5,5	6,0	5,0	6,0	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,5	6,0	5,0	5,5	6,0	6,0	5,5	5,5	6,0	5,5	5,5
21:09:43	5,0	5,5	6,0	5,0	6,0	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,0	5,0	5,5	5,0	5,0	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	6,0	5,0
21:39:43	5,0	5,5	6,0	5,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,0	5,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0
22:09:43	5,5	5,5	5,5	5,0	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	6,0	5,5	5,5
22:39:43	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5
23:09:43	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,0	5,5	5,0	5,0	5,5	6,0	5,0	5,0	5,5	5,0	5,5	5,0	5,5	5,5	5,0	5,5	5,0	5,0
23:39:43	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,5	5,5	5,0

Apêndice XIX – Valores das temperaturas do ar na zona do *stock* dos hortofrutícolas medidas durante o mês Abril.

TEMPERATURAS DO AR DA ZONA DO *STOCK* DOS HORTOFRUTÍCOLAS MEDIDAS DURANTE O MÊS ABRIL																														
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
00:09:43	5,0	6,0	5,0	5,5	9,5	5,5	5,0	5,5	5,0	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,0	5,0	5,0	5,0	4,5	5,5
00:39:43	5,0	6,0	5,5	6,0	9,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	4,5	5,5
01:09:43	5,0	6,0	5,0	6,0	9,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,5
01:39:43	5,0	6,0	5,5	6,0	9,0	5,0	5,0	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,0	5,0	5,5	5,0	5,5	5,5	5,0	5,0	5,5
02:09:43	5,5	5,5	6,0	6,0	9,0	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	6,0	5,0	5,5	5,0	5,0	5,0	5,5
02:39:43	6,0	6,0	6,0	6,0	8,5	5,5	6,0	6,0	6,0	5,5	5,0	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,0	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,0	7,0	5,0	6,0
03:09:43	6,0	6,0	6,0	5,5	6,0	5,0	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,0	6,0	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,5	5,5	6,0	5,0	8,0	5,5	6,0
03:39:43	6,0	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	5,0	6,0	6,0	5,5	5,5	5,5	4,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	8,5	5,5	6,0
04:09:43	5,5	5,5	5,5	5,5	5,0	6,0	5,0	6,0	6,0	6,0	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,5	5,5	5,0	5,5	5,5	9,0	5,5	5,5
04:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0	5,5	6,0	5,5	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	5,0	9,0	5,5	5,5
05:09:43	5,5	5,5	6,0	5,5	5,5	6,0	5,0	6,0	6,0	6,0	5,5	5,5	6,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,5	5,0	9,5	5,0	5,5
05:39:43	5,5	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,0	5,0	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,0	9,5	5,5	5,5
06:09:43	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	9,5	5,5	5,5
06:39:43	5,0	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,5	5,0	5,5	5,0	10,0	5,0	5,5
07:09:43	5,5	5,5	5,0	5,5	5,5	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,0	5,5	6,0	5,5	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,5	5,0	10,5	5,0	5,0
07:39:43	5,5	5,5	5,0	6,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	5,0	6,0	6,0	5,5	5,0	5,5	5,0	5,0	5,0	5,5	5,5	5,0	5,5	5,0	8,5	5,0	5,5
08:09:43	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,0	6,0	6,0	5,5	5,5	5,5	4,5	5,0	5,0	5,5	5,5	5,0	5,0	4,5	7,5	5,5	5,5
08:39:43	6,0	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	5,0	6,0	5,5	5,5	5,0	6,5	6,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,0	5,0	4,5	7,5	5,5	5,5
09:09:43	5,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,0	6,5	6,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	4,5	5,0	5,0	6,5	5,5	5,5
09:39:43	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,0	5,5	5,0	6,0	6,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,0	5,0	5,0	6,0	5,5	5,5
10:09:43	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,0	5,0	6,0	6,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	4,5	5,5	5,0	6,0	5,5	5,5
10:39:43	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,5	5,5	6,0	7,0	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,0	4,5	5,0	5,0	6,0	5,0	5,5

11:09:43	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,5	6,5	5,5	5,0	5,5	6,0	6,0	5,0	5,0	5,5	4,5	5,0	5,5	6,0	5,0	5,5
11:39:43	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	4,5	5,0	5,0	5,0	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,0	4,0	5,5	6,0	5,5	5,0	5,5
12:09:43	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,0	5,0	5,0	4,5	5,5	6,0	6,0	5,5	5,0	6,0	5,5	4,5	7,0	4,5	3,5	5,0	6,0	5,5	5,0	6,0
12:39:43	5,5	5,5	5,0	5,5	5,0	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,0	5,0	6,0	5,5	6,0	6,0	5,5	6,0	5,5	4,5	6,5	4,5	4,0	5,0	6,0	6,0	5,0	6,0
13:09:43	5,5	5,5	5,0	5,5	5,0	5,0	5,0	5,5	5,5	5,5	4,5	5,0	5,0	5,5	6,0	5,5	6,0	6,0	5,5	5,5	5,5	5,0	6,0	5,0	4,5	4,5	6,0	6,0	5,0	6,0
13:39:43	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	6,0	5,0	5,5	5,5	5,5	7,0	6,0	6,5	6,0	5,5	6,0	5,5	5,0	7,0	5,5	4,5	5,0	6,5	6,0	6,0	6,0
14:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	5,0	5,5	5,5	6,0	7,0	6,5	6,5	6,0	5,5	6,0	6,0	6,0	7,0	6,0	5,0	6,0	6,5	6,5	6,5	6,0
14:39:43	5,0	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	4,5	5,0	5,0	6,0	6,5	6,5	6,0	5,5	5,0	5,5	6,0	5,5	6,5	6,0	5,0	6,5	6,5	6,5	6,0	6,0
15:09:43	5,0	5,0	5,0	5,0	5,0	5,0	5,5	5,5	5,5	6,0	5,0	5,5	5,0	6,0	7,0	7,0	6,5	5,5	5,5	6,0	6,5	6,0	6,0	6,0	5,5	6,5	6,5	6,5	6,5	6,0
15:39:43	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,5	6,5	6,0	5,0	5,5	6,0	6,0	5,5	6,0	6,0	5,0	6,5	6,0	6,5	6,0	5,5
16:09:43	5,5	5,0	5,5	6,5	5,0	5,0	5,0	5,0	5,0	5,5	5,0	5,5	5,0	5,0	6,0	6,0	6,0	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,0	6,0	5,5	6,0	5,5	5,5
16:39:43	5,5	5,0	5,5	7,5	5,0	5,0	5,0	5,0	5,0	5,5	4,5	5,5	5,0	5,0	5,5	6,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,0	6,0	5,5	6,0	6,0	6,0
17:09:43	5,5	5,0	5,5	8,0	5,0	5,0	6,0	5,0	5,5	5,5	4,5	5,5	5,0	5,0	5,5	5,5	6,0	5,0	5,5	5,5	6,0	6,0	6,0	5,5	5,0	6,0	5,5	5,5	5,5	6,5
17:39:43	6,0	5,5	5,5	9,0	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,5	5,5	6,0	5,0	5,5	5,5	5,5	6,0	6,0	5,5	5,0	6,0	6,0	5,5	6,0	6,5
18:09:43	5,5	5,5	5,5	9,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	5,0	6,5	5,5	5,5	5,0	5,0	5,5	5,5	6,0	5,5	5,5	4,5	6,0	6,0	5,5	6,0	6,5
18:39:43	5,5	5,5	5,5	9,5	5,0	5,5	5,5	5,0	5,5	5,0	5,5	6,0	5,0	5,5	6,0	5,5	5,5	5,0	5,5	6,0	5,5	6,0	6,0	6,0	4,5	6,5	6,5	5,5	6,0	6,0
19:09:43	5,5	5,5	5,5	10,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,0	5,0	5,5	5,5	5,5	5,5	6,0	5,0	6,5	6,0	5,5	6,0	6,0
19:39:43	5,5	5,5	5,5	10,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,5	6,0	4,5	7,0	5,5	6,0	6,0	6,0
20:09:43	5,5	5,5	5,5	9,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,0	6,5	5,5	5,0	5,0	5,5	5,0	5,5	6,0	5,0	5,5	6,0	6,0
20:39:43	5,5	5,5	5,5	9,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,5	5,5	5,5	5,0	7,5	5,0	5,0	5,5	5,0	5,5	6,0	6,0	5,0	5,0	6,0	6,0
21:09:43	5,5	5,5	6,0	9,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	8,5	5,5	5,0	5,5	5,5	5,0	6,5	5,5	4,5	4,5	6,0	5,5
21:39:43	6,0	5,5	6,0	9,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	6,0	6,0	6,0	6,0	5,5	9,0	6,0	6,0	6,0	5,5	5,5	7,0	6,5	5,5	5,0	6,5	6,0
22:09:43	5,5	5,5	5,5	9,5	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,5	6,0	6,0	5,5	6,0	5,5	9,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,0	5,5	6,5	6,0
22:39:43	5,0	5,0	5,0	9,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,0	5,5	5,0	5,5	5,5	8,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	6,0	6,0
23:09:43	5,0	5,0	5,5	9,5	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,0	7,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	6,0	5,5	6,0	6,0
23:39:43	5,5	5,0	5,5	9,5	5,5	5,0	5,5	5,0	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,5	5,5	5,0	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,0	6,0	6,5

Apêndice XX – Valores das temperaturas do ar na zona do *stock* dos hortofrutícolas medidas durante o mês Maio.

TEMPERATURAS DO AR DA ZONA DO *STOCK* DOS HORTOFRUTÍCOLAS MEDIDAS DURANTE O MÊS MAIO																														
HORA\DIA	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**
00:09:43	6,0	5,5	6,0	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,0	5,5	4,5	5,5	6,0	5,5	5,0	6,0	5,0	5,0	5,5	5,0	5,0	5,5
00:39:43	6,0	4,5	5,5	5,0	5,5	6,0	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	6,0	5,0	5,0	5,5	5,5	5,0	5,5	6,0	5,5	4,5	5,5	5,0	5,0	5,5	4,5	5,5	5,5
01:09:43	6,0	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	6,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	4,5	5,5	5,0	5,0	5,0	4,5	5,0	5,0
01:39:43	5,5	6,0	5,5	6,0	5,5	6,0	5,5	5,0	5,5	6,0	6,0	5,0	5,5	5,5	5,5	6,0	5,5	5,0	5,0	5,0	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,0	5,5	5,0	5,0
02:09:43	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,5	5,5	5,0
02:39:43	5,5	5,5	6,0	5,5	6,0	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	6,0	6,0	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,0	5,5	6,0	5,5	5,5	4,0
03:09:43	5,5	5,0	5,5	5,0	5,5	6,0	6,0	5,5	5,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	4,5	5,5	5,0	5,5	4,5	5,5	5,5	5,5	4,0
03:39:43	6,0	5,5	5,5	5,0	5,5	6,0	5,5	5,5	5,0	6,0	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	4,5	5,0	5,0	5,5	5,0	5,0	4,5	5,5	4,5
04:09:43	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,0	5,5	5,0	5,0	5,5	6,0	5,5	5,0	5,0	4,5
04:39:43	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,0	5,5	6,0	5,5	6,0	5,5	5,0	5,5	5,5	5,0	4,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	4,0	5,0
05:09:43	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5	5,0	5,5	6,0	5,5	6,0	5,5	5,0	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,0
05:39:43	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5
06:09:43	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5
06:39:43	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	5,0	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,5	5,0	5,0	5,0	5,0	5,0	5,0	5,5	5,0
07:09:43	5,0	5,0	5,5	5,5	5,5	6,0	5,0	5,0	5,0	5,5	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,0	5,0
07:39:43	5,5	5,0	6,0	6,0	5,5	6,0	5,5	5,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	6,0	5,5	5,0	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0
08:09:43	5,0	5,0	5,5	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,5	6,0	5,5	5,0	5,0	5,5	5,5	5,0	5,0	5,5	5,0	5,0	6,0	5,0	5,5	5,0	5,0	5,0	5,5	5,0
08:39:43	5,0	5,5	6,0	6,0	5,5	5,5	5,5	5,0	5,0	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	6,5	5,0	5,5	5,5	5,5	4,5	5,5	5,5
09:09:43	5,0	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,0	5,5	5,5	5,0	5,0	5,0	5,5	5,0	5,5	5,5	5,5	5,0	6,0	6,0	5,5	5,5	5,0	5,0	4,0	5,5
09:39:43	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,5	5,0	6,0	6,0	5,0	5,5	5,0	4,5	4,0	5,5
10:09:43	5,5	5,5	6,0	5,5	5,5	5,5	5,5	6,0	4,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	5,0	5,0	5,5	5,5	5,5	5,0	6,5	5,5	5,0	5,5	6,0	5,5	4,5	5,5
10:39:43	5,5	5,5	6,0	5,5	5,5	5,5	6,0	6,0	4,5	5,5	6,0	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	6,0	6,0	5,5	6,0	5,5	5,0	5,5	6,0	5,5	4,5	5,5
11:09:43	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	6,0	5,5	6,0	6,0	6,0	5,5	6,5	6,0	5,0	5,5	5,5	5,0	4,5	6,0

11:39:43	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,0	6,0	5,5	6,0	6,0	6,5	5,5	6,5	6,0	5,0	5,5	5,0	4,5	4,5	6,0
12:09:43	6,0	5,5	5,5	5,5	5,5	5,5	4,5	6,0	5,0	5,5	5,0	5,5	5,5	4,5	6,0	5,0	5,0	5,5	5,5	6,0	6,0	6,5	5,0	5,5	5,5	5,0	5,5	5,0	5,0	5,0	6,0
12:39:43	6,0	5,5	6,0	5,5	5,0	5,5	5,5	6,5	5,0	5,5	5,0	5,5	5,5	4,0	5,0	5,0	5,0	5,0	5,0	5,5	6,0	6,5	5,0	5,5	5,5	5,0	5,5	5,5	5,5	5,0	6,5
13:09:43	5,5	6,0	6,0	5,5	5,5	5,0	5,5	6,0	5,0	5,0	5,0	5,0	5,5	5,0	5,5	5,0	5,0	5,0	5,5	5,5	6,0	6,5	5,0	6,0	5,0	5,0	4,5	5,5	5,5	5,0	6,0
13:39:43	6,5	5,5	6,0	5,5	5,5	5,5	6,0	6,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	6,5	7,0	5,0	6,0	6,0	5,0	5,0	6,0	6,0	5,0	6,5
14:09:43	6,5	5,5	6,0	5,5	6,0	5,5	6,0	6,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,5	6,5	7,0	5,5	6,5	6,0	6,0	6,0	6,5	7,0	6,0	6,5
14:39:43	6,0	5,5	6,0	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,0	5,0	5,5	5,5	5,5	5,0	5,5	5,5	6,0	6,5	6,5	7,0	5,0	6,5	6,0	5,5	5,5	6,5	6,5	5,5	7,0
15:09:43	6,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,0	6,0	6,5	7,0	7,5	5,5	6,5	6,5	6,0	6,0	6,5	7,0	5,5	7,0
15:39:43	6,5	5,5	6,0	6,0	5,5	5,5	6,0	6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	7,0	7,0	5,5	6,0	6,0	5,5	7,0	6,5	6,5	5,5	7,5
16:09:43	6,0	6,0	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,5	5,5	5,5	5,5	5,0	6,5	6,0	6,0	5,5	7,0
16:39:43	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,0	5,5	6,0	5,5	6,0	5,5	5,5	5,5	5,5	6,0	6,5	7,0	5,0	6,0	5,5	5,0	5,5	6,0	6,0	5,0	6,5
17:09:43	6,0	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,0	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,5	6,5	5,5	6,5	5,5	5,5	5,5	6,0	6,0	5,5	6,5
17:39:43	6,0	5,5	6,5	5,5	6,0	6,0	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,5	6,0	5,5	6,0	6,5	6,5	5,5	6,0	5,5	5,0	5,5	6,5	6,0	5,5	6,5
18:09:43	6,5	5,5	6,5	5,5	6,0	5,5	6,0	6,0	5,5	6,0	5,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	5,5	6,0	6,5	6,5	5,0	7,0	5,5	5,5	5,5	6,0	6,0	5,5	7,0
18:39:43	6,0	5,5	6,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	5,5	5,5	6,0	6,0	6,0	5,5	6,5	6,0	5,5	6,0	6,5	6,5	4,5	6,5	5,5	5,5	6,0	6,0	5,5	5,5	7,0
19:09:43	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	5,5	6,0	5,5	6,0	5,5	6,5	6,0	6,0	6,0	6,5	6,5	4,5	6,5	5,5	5,5	6,0	6,0	6,5	5,5	7,0
19:39:43	5,5	5,5	6,0	5,5	5,5	5,5	5,5	5,5	5,5	6,0	5,5	6,0	6,0	5,5	5,5	6,0	6,5	6,0	6,0	6,0	6,5	6,5	5,0	6,5	5,5	5,5	6,0	6,0	5,5	5,5	7,0
20:09:43	6,0	5,5	6,0	5,5	5,5	5,5	5,0	5,5	5,5	6,0	5,0	5,5	5,5	5,5	5,5	6,0	6,0	6,0	6,0	5,5	6,0	6,5	5,0	6,5	5,5	5,0	5,5	5,5	5,0	5,0	7,0
20:39:43	5,5	6,0	6,0	6,0	5,5	6,0	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	6,0	6,0	5,5	5,5	5,5	6,0	6,5	5,5	6,0	5,0	5,5	5,0	5,5	6,0	5,0	6,0
21:09:43	5,5	6,0	6,0	6,0	6,0	6,0	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	6,0	6,0	6,0	5,5	5,5	5,0	6,0	6,5	4,5	6,0	5,0	5,0	5,5	5,5	6,5	5,0	5,5
21:39:43	5,5	6,0	6,5	6,5	6,0	6,5	5,5	5,5	5,5	6,0	6,0	5,5	6,0	6,0	6,5	6,5	6,0	6,5	6,5	6,0	6,5	6,5	5,5	6,5	6,0	6,0	6,0	6,0	7,5	5,5	6,5
22:09:43	6,0	6,0	6,5	6,5	5,5	6,5	6,0	6,0	5,5	6,0	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,5	6,5	6,5	7,0	6,5	5,5	7,0	6,0	6,0	6,5	6,5	7,5	6,0	7,0
22:39:43	5,5	5,5	6,0	6,0	5,5	6,0	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	6,0	6,0	6,0	6,0	6,0	6,0	6,5	6,5	5,0	7,0	5,5	5,5	6,5	6,0	7,0	6,0	7,0
23:09:43	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,5	5,5	5,5	5,5	5,5	6,0	6,5	6,5	6,5	7,0	5,5	5,5	5,5	5,5	6,5	6,0	7,0
23:39:43	5,5	5,0	5,5	5,0	5,5	5,5	5,5	5,0	5,5	5,5	5,0	5,5	5,5	6,0	5,5	5,0	5,5	5,5	5,5	6,0	6,5	6,0	5,0	6,5	5,0	5,0	5,5	5,5	6,5	5,5	6,5