



Re: *Controlled Atmospheric Stunning*

Fatwā Ref Number: 001013

Date: 5 June, 2024/ 28 Dhul Qa'adah 1445

General Islamic Ruling on Controlled Atmospheric Stunning (CAS)

Controlled Atmospheric Stunning (CAS) can be acceptable under Islamic law. Poultry that are gas stunned in this manner, can be deemed *ḥalāl* provided the following conditions are met:

- The gas amounts released in the CAS process should be adjusted to bird sizes, thus retaining the life of the birds, without killing or causing death to the birds prior to the ritual slaughter.
- A Muslim, Jew or Christian should slaughter the poultry, post the gas stunning, with a blessing or recitation, while the poultry is still alive.
- At least 3 of the 4 arteries must be severed (trachea, esophagus and two jugular veins) by the slaughtermen during the ritual slaughter.

Physical Observance of the Procedure and Related Facts

My verdict on the CAS gas stunning and its religious permissibility is based on physical observance of the procedure at a state-of-the-art facility here in Ontario, Canada, as well as scientific reports and data, by experts in the field including veterinary scientists, experienced slaughter-men, monitoring inspectors and fellow muslim jurists. The following summarizes major details of the CAS stunning operation that was witnessed:

- Chickens are gassed which results in them slowly losing consciousness thus making the handling and slaughter process easier. The gas amount released, according to the bird sizes, in this plant did not cause death of the birds prior to slaughter¹.

¹ Presence of a consistent heartbeat was observed in all 20 stunned birds evaluated in this experiment. Heart rates observed using the ECG monitoring reports were variable and changed throughout the monitoring period for each bird, which is consistent with results of previous trials (Long, 2023a, 2023b). Variation in the heart rate is normal following controlled atmosphere stunning, and heart rates did not decline in a linear fashion after stunning. Observations in this trial and previous trials (Long, 2023a, 2023b) suggest that heart rates may be lower and more

- CAS gas stunned chickens bled the same as electrical water stunned and non-stunned birds, during slaughter². In contrast, a dead bird does not bleed during slaughter³.
- Numerous signs of life were very evident in CAS gas stunned birds, such as the presence of continuous heart-beat⁴, the existence of pulse⁵, the pliant nature and temperature⁶ of the birds, and ample bleeding⁷ during slaughter⁸.

rhythmic immediately following stunning, and then increase as the bird approaches death. In all cases, the detection of a regular heart rate is a sign of life. Twenty out of 20 birds had a regular heart rate observable by electrocardiography, which is considered a sign of life. – (See: Heart Rate Assessment of Chickens Stunned Using Controlled Atmosphere Stunning: London Poultry Study 2 by Dr. Dr. Kathleen E. Long, DVM, MAHM, Dipl. ACPV)

² CAS system, although slower in the beginning, is more consistent throughout the process and bled out better in all tests validating on average +23% improvement overall vs ES. CAS process enables better bleed out. – (See: Halal Hand Slaughter & Controlled Atmosphere Stunning (CAS) by Onder Ozturk)

An interesting observation that was made was that CAS chickens bled 10% more than electrically stunned birds at this facility. The average amount that a CAS chicken of 2.2 kg bled was 75 ml while that same size bird that was electrically stunned bled an average of 61 ml. The two are visually different as well. The CAS chicken is clearly whiter than an electrically stunned bird. Another observation that was made was that both the CAS bird and the electrically stunned bird bled in the same manner. There was no difference in the way the blood flows out from the throat upon being cut. – (See: Navigating the Tide of Controlled Atmospheric Stunning (CAS) in Muslim Minority Countries by HMA of CCMT)

³ Any bird which was dead at the time of cutting would not have adequate blood pressure to bleed out and would be removed from the line as a DOA carcass (dark bird). – (See: Poultry Health Services, Review of Maple Leaf Chicken Heart Rate Assessment of Chickens Stunned Using Controlled Atmosphere Stunning at London Poultry and Edmonton Poultry Facilities)

⁴ These reports demonstrate that heartbeats are routinely present in birds that have been exposed to controlled atmosphere stunning at these facilities, which is considered a sign of life. – (See: Poultry Health Services, Review of Maple Leaf Chicken Heart Rate Assessment of Chickens Stunned Using Controlled Atmosphere Stunning at London Poultry and Edmonton Poultry Facilities.)

⁵ A CM560D-VET pulse oximeter was used for this test. The stunner was set at 66% upon exit. The current distance between the first hanger and the last slaughterer is 1:23 minutes while the distance between the last hanger and the first slaughterer is 35 seconds. The line speed is set at 225 chickens per minute. Specimens were taken from the pile of dead birds that were pulled by the hangers post-CAS to see whether they had a reading or not, and to compare them to the live birds that were being tested. It is clear from this test that all birds were alive at the time of slaughter. – (See: Navigating the Tide of Controlled Atmospheric Stunning (CAS) in Muslim Minority Countries by HMA of CCMT)

⁶ The average temperature of a non-stunned adult bird is between 40.6 C to 41.7 C. Dead birds are easily detected by the hangers as they are stiff and cold. – (See: Navigating the Tide of Controlled Atmospheric Stunning (CAS) in

- In the rare occasion, a dead chicken was present, it was easily spotted and taken off the line. Canadian government policy for food safety and CFIA inspectors do not allow the slaughter of dead (red) birds at this plant⁹.

Islamic Jurisprudence Surrounding Controlled Atmospheric Stunning

Stunning a bird or animal without causing death, prior to slaughter, although in principle is disliked (*makrūh*), is acceptable, if done to ease the handling and slaughter process.

The known Ḥanafī jurist, Imam Burhān Al-Dīn Al-Marghinānī (*may Allāh have mercy on him*) states, “A disliked act, such as some pain to the animal [in the slaughter process] for a higher purposeful objective, prior or post slaughter, does not render prohibition. This is why such a slaughtered animal can be consumed.” – (Al-Bināyah Sharḥ Al-Hidāyah Vol. 11, Page 564, Dār Al-Kutub Al-‘Ilmiyyah¹⁰)

Muslim Minority Countries by HMA of CCMT)

⁷ Upon concluding the tests, three birds were taken from the slaughter area, slaughtered and measured for blood drainage. The average bird size was 2.3 kg. The results were as follows: • Bird 1: 100 ml, • Bird 2: 98 ml, • Bird 3: 105 ml - (See: Navigating the Tide of Controlled Atmospheric Stunning (CAS) in Muslim Minority Countries by HMA of CCMT)

⁸ The series of tests that have been conducted thus far clearly show that CAS birds are not dead at the time of slaughter. Their body temperature, flaccidity, the amount of blood they drain and the manner in which they drain, the constant readings of their ECG’s and pulse all give us the assurance that the criterion of the birds being alive at the time of slaughter is being met without compromise. No shariah guideline is being violated thus resulting in the deliberate or inadvertent labelling of a non-halal bird as halal. As a result, the HMA has accepted the use of CAS for halal poultry slaughter provided it is regulated and meets all the criterion set forth by the organization. – (See Navigating the Tide of Controlled Atmospheric Stunning (CAS) in Muslim Minority Countries by HMA of CCMT)

⁹ The reason why blood drainage was tested was because dead birds don’t bleed out the way a live bird does. A dead bird retains blood in the body and ultimately becomes a “red bird,” which would be pulled out at evisceration. Such birds are condemned and are immediately discarded of. - (See: Navigating the Tide of Controlled Atmospheric Stunning (CAS) in Muslim Minority Countries by HMA of CCMT)

¹⁰ إلا أن الكراهة لمعنى زائد وهو زيادة الألم قبل الذبح أو بعده فلا يوجب التحريم فللهذا قال توكل ذبيحته - كتاب البناء شرح الهداية ج ١١ / ص ٥٦٤ دار الكتب العلمية

“The stun that that does not cause death is from the act of excellence [and good treatment] to the animal that is being slaughtered, due to the reason that the animal will not feel much pain during its slaughter.” – (See: Ma’āyir Al-Ḥalāl Wa Al-Ḥarām, Page 318¹¹)

As long as there is some form of life in the animal or bird being slaughtered, it is permissible for *ḥalāl* consumption.

The Holy Qur’ān declares, “Prohibited to you are dead animals, blood, the flesh of swine, and that which has been dedicated to other than Allāh, and [those animals] killed by strangling, by a violent blow, by a head-long fall, by the goring of horns, and those from which a wild animal has eaten, except what you [are able to] slaughter [before its death].” – (See: Qur’ān 5:3¹²)

Ibn Ka’b bin Mālik reported from his father, “We had some sheep which used to graze at Sala’. One of our young girls saw a sheep dying and she broke a stone and slaughtered the sheep with it. My father said to the people, “Do not eat it until I ask the Prophet (*peace and blessings be upon him*) about it [or until I send someone to ask the Prophet]. So, he asked or sent someone to ask the Prophet, and the Prophet (*peace and blessings be upon him*) permitted him to eat it.” – (Ṣaḥīḥ Bukhārī 2304¹³)

It is documented in Al-Fatāwā Al-‘Ālamghirīyyah, “Animals injured by a head long fall, strangulation, a violent blow, a sickly sheep, a jabbed animal, an animal whose stomach is torn, when [any of these] are to be slaughtered, if there is the presence of on-going

فالصعق الذي لم يصل الى درجة القتل من باب الاحسان للحيوان المذبوح لانه لا يشعر باي الم عند الذبح – معايير الحلال¹¹
والحرام للدكتور علي مصطفى ص ٣١٨

حُرِّمَتْ عَلَيْكُمْ الْمَيْتَةُ وَالِدَمُّ وَالْحَنْزِيرُ وَمَا أَهَلَ لِغَيْرِ اللَّهِ بِهِ وَالْمُنْخَنِقَةُ وَالْمَوْقُوذَةُ وَالْمُتَرَدِّيَةُ وَالنَّطِيحَةُ وَمَا أَكَلَ السَّبْعُ إِلَّا مَا ذَكَّبْتُمْ – سورة المائدة ٣¹²

عَنْ نَافِعٍ أَنَّهُ سَمِعَ ابْنَ كَعْبِ بْنِ مَالِكٍ يُحَدِّثُ عَنْ أَبِيهِ أَنَّهُ كَانَتْ لَهُمْ غَنَمٌ تَرَعَى بِسَلْعٍ فَأَبْصَرَتْ جَارِيَةً لَنَا بِشَاةٍ مِنْ غَنَمِنَا مَوْتًا فَكَسَّرَتْ حَجَرًا فَذَبَحَتْهَا بِهِ فَقَالَ لَهُمْ لَا تَأْكُلُوا حَتَّى أَسْأَلَ النَّبِيَّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ أَوْ أُرْسِلَ إِلَى النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ مَنْ يَسْأَلُهُ وَأَنَّهُ سَأَلَ النَّبِيَّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ عَنْ ذَلِكَ أَوْ أُرْسِلَ فَأَمَرَهُ بِأَكْلِهَا – رواه البخاري ٢٣٠٤¹³

life, the animal is rendered permissible through the act of slaughter by consensus. If life in the animal is diminishing, the animal is permissible for consumption regardless if the animal is able to live on further or not. This is the verdict of Imam Abū Ḥanīfah (may Allāh have mercy on him). This is the correct position and the *fatwā* is issued on this.” – (See: Al-Fatāwā Al-Hindiyyah, Vol 5, Page 286, Dār Al-Fikr¹⁴)

The great Syrian Ḥanafī jurist, Imam Aḥmad Ibn Muḥammad (may Allāh have mercy on him) has written, “Imam Al-Sarakhsīy (may Allāh have mercy on him) has mentioned that when it is known that an animal has life, during slaughter, it is permissible for *ḥalāl* consumption, whether it can be ascertained that it will continue to live on or not.” – (See: Lisān Al-Ḥukkām Fī Ma’arifat Al-Aḥkām, Page 373, Al-Bābīy Al-Ḥalabīy¹⁵)

The famous Ḥanafī fiqh manual, Badā’i Al-Ṣanā’i states, “As long as there is some life present, a little or a lot [during slaughter], the animal will be deemed permissible as per the *fatwā* of Imam Abū Ḥanīfah (may Allāh have mercy on him).” – (See: Badā’i Al-Ṣanā’i, Vol 5, Page 50, Dār Al-Kutub Al-‘Ilmiyyah¹⁶)

Conclusion

The CAS method of stunning can be rendered islamically permissible with strict adherence to the specified conditions, as was witnessed and attested to by a number of Canadian imams and muftis, at two plants, in Ontario and Alberta. It should be noted that a case-by-case analysis

14 الْمُرْدِيَّةُ وَالْمُنْحَنَقَةُ وَالْمَوْقُودَةُ وَالشَّاةُ الْمَرِيضَةُ وَالنَّطِيحَةُ وَمَشْقُوقَةُ الْبَطْنِ إِذَا ذُبِحَتْ يُنْظَرُ إِنْ كَانَ فِيهَا حَيَاةٌ مُسْتَقَرَّةٌ حَلَّتْ بِالذَّبْحِ بِالْإِجْمَاعِ وَإِنْ لَمْ تَكُنْ الْحَيَاةُ فِيهَا مُسْتَقَرَّةً تَحِلُّ بِالذَّبْحِ سَوَاءً عَاشَ أَوْ لَمْ يَعِيشْ عِنْدَ أَبِي حَنِيفَةَ رَحِمَهُ اللَّهُ تَعَالَى وَهُوَ الصَّحِيحُ وَعَلَيْهِ الْفَتْوَى كَذَا فِي مُحِيطِ السَّرْحَسِيِّ - كتاب الفتاوى العالمكبرية الفتاوى الهندية ج ٥ / ص ٢٨٦ دار الفكر

15 وَذَكَرَ الْإِمَامُ السَّرْحَسِيُّ إِذَا عَلِمَ أَنَّهَا كَانَتْ حَيَّةً حِينَ ذُبِحَتْ حَلَّ أَكْلِهَا سَوَاءً كَانَتْ الْحَيَاةُ فِيهَا يَتَوَهَّمُ بَقَاؤُهَا أَوْ لَا يَتَوَهَّمُ بَقَاؤُهَا - لسان الحكام في معرفة الأحكام ص ٣٨٣ البابي الحلبي القاهرة

16 قِيَامُ أَصْلِ الْحَيَاةِ فِي الْمُسْتَأْمَنِ وَقَتِ الذَّبْحِ قَلَّتْ أَوْ كَثُرَتْ فِي قَوْلِ أَبِي حَنِيفَةَ وَعِنْدَ أَبِي يُوسُفَ وَمُحَمَّدٍ رَحِمَهُمَا اللَّهُ لَا يُكْتَفَى بِقِيَامِ أَصْلِ الْحَيَاةِ بَلْ تُعْتَبَرُ حَيَاةٌ مُقَدَّوْرَةٌ ... فَإِذَا ذُبِحَتْ وَفِيهَا قَلِيلٌ حَيَاةٍ عَلَى الْوَجْهِ الَّذِي ذَكَرْنَا نُؤَكَّلُ عِنْدَ أَبِي حَنِيفَةَ ... وَلِأَبِي حَنِيفَةَ قَوْلُهُ تَعَالَى ﴿حُرِّمَتْ عَلَيْكُمُ الْمَيْتَةُ﴾ [المائدة: ٣] إِلَى قَوْلِهِ تَعَالَى ﴿وَالْمُنْحَنَقَةُ وَالْمَوْقُودَةُ وَالنَّطِيحَةُ وَمَا أَكَلَ السَّبْعُ إِلَّا مَا ذَكَيْتُمْ﴾ [المائدة: ٣] اسْتَنْتَى الْمُدْكِيُّ مِنَ الْجُمْلَةِ الْمُحَرَّمَةِ وَالِاسْتِثْنَاءُ مِنَ التَّحْرِيمِ إِبَاحَةٌ وَهَذِهِ مُدْكَاءٌ لَوْجُودِ فَرْيِ الْأَوْدَاجِ مَعَ قِيَامِ الْحَيَاةِ فَدَخَلَتْ تَحْتَ النَّصِّ - كتاب بدائع الصنائع في ترتيب الشرائع ج ٥ / ص ٥٠ دار الكتب العلمية

should be done for each operation at each facility. Consistent monitoring by a trusted religious body, organization or certifying body is also vital to ensure ongoing adherence. In a modern world, with changing technology, as well as the increased population of muslims in western countries, such as Canada, it is essential to work with mainstream meat and poultry plants that are willing to cooperate to implement religious requirements of *ḥalāl*, to meet the needs of the muslim masses.

And Allāh Knows Best.



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