

National Code of Practice for the Safe Transportation and Release of Racing Pigeons By Dr Rob Marshall/ S.A.H.P.A. Inc. May 2014

Section 1: Safe Transportation of Racing Pigeons

This protocol details the conditions within the transporter which are required to ensure the welfare of racing pigeons is maintained whilst racing pigeons are being transported to a race.

Basketing Rate: Number of Birds per Basket

The number of birds in the basket varies according to the number of nights spent away prior to release. There is a difference between the number of cocks and hens, with fewer cocks per basket as compared to hens.

The air space and thermal environment is affected by the number of birds in the transporter and it is important not to overcrowd the baskets. Overcrowding can lead to increases in air temperature, humidity and carbon dioxide concentrations.

The recommended racing pigeon stocking density (basket rate) during transportation is 0.007 – 0.008 cubic meters per bird. This rate is based upon scientifically based poultry recommendations and from our own collective experiences with basketing numbers during the transport of pigeons to the race. The higher stocking rate of 0.007 cubic meters per bird is recommended for overnight transportation whilst the lower stocking rate of 0.008 cubic meters should be used for longer races when one or more nights in the race baskets are required to reach the race release point.

For example: CCF has 25 birds in their standard basket size (1.2m x 0.60m x 0.24m = 0.1728 cubic meters) which equates to 0.0069 cubic meters per bird for overnight races and 21 birds per race basket for longer races which equates to 0.008 cubic meters per bird.

SAHPA recommendations are 52 birds per bay baskets (sized at 1.7m x 0.93 x 0.23m = 0.36 cubic meters). This equates to 0.0069 cubic meters per bird for overnight races. For longer races 40 birds per bay basket is recommended (0.009 cubic meters per bird).

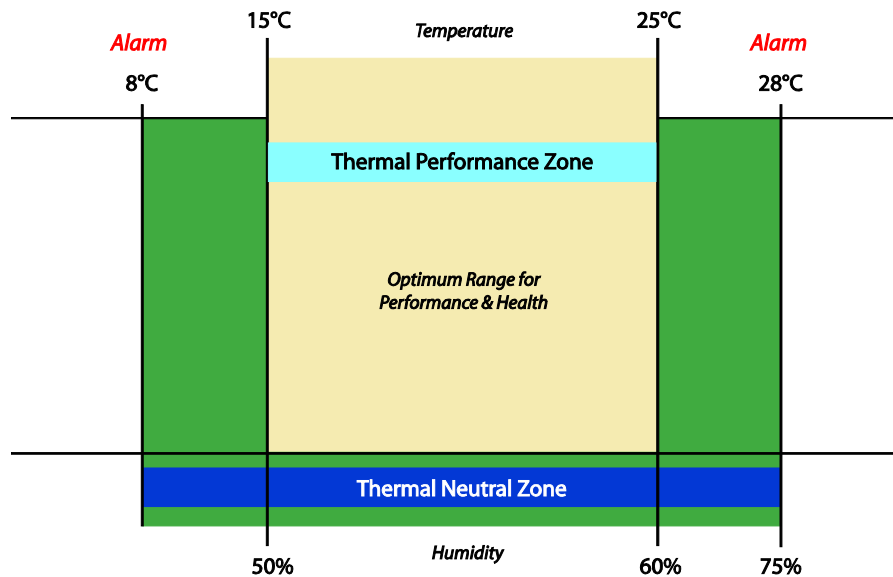
Because conditions within the transporter vary from race to race, humidity can be used as a measure of overcrowding. When humidity in the transporter exceeds 70% it may indicate that the birds are overcrowded. Changes to the stocking rate may vary according to the humidity findings so that with humid weather conditions stocking rates may need to be reduced and in dry cool weather conditions stocking rates may be increased.

Optimal Thermal Environment in the Transporter

The thermal environment is determined by the combined effects of the air temperature, ventilation, relative humidity and heat radiation within the transporter. The “**thermal neutral zone**” within the transporter is the safe zone for transportation and through careful monitoring; the aim is to maintain conditions within this zone throughout transportation. Outside of this zone, temperature and humidity monitoring alarms should sound and measures be taken to adjust conditions so that the thermal neutral zone is maintained? The “**thermal performance zone**” refers to the optimal thermal range for maintaining health and maximising performance of racing pigeons during transportation and release.

The term “**thermal neutral zone**” describes the range of temperatures of the immediate environment in which a standard healthy pigeon can maintain its normal body temperature without needing to use energy above and beyond its normal metabolic rate. It is a comfortable temperature within a controlled environment where the bird does not need to fluff up to prevent loss of heat or pant and hold out their wings to lower their body temperature. Within this zone, no extra energy is exhausted in an effort to actively regulate normal body temperature. In cold weather, there is a considerable safe margin, however there is much less flexibility in high temperatures. The optimal temperature range (thermal performance zone) for pigeon transportation is within 15 to 25°C. The safe (thermal neutral zone) zone is within 10-28°C.

Insert Chart: Thermal Zones for Pigeon Transportation



Air Temperature

Bird responses are predominantly affected by the dry bulb temperature of the air space in the transporter. Dry bulb temperature is the temperature of the air measured by a thermometer freely exposed to the air but shielded from radiation and moisture. Temperature monitoring within the transporter is imperative to ensure the ambient air temperature remains within the thermal neutral zone (10-28°C) at all times.

Air temperatures that cause heat stress (> 95F, 35°C) are considerably lower than the normal pigeon body temperature (42°C).

Ventilation

Ventilation is the exchange of air within the transporter with fresh air from outside. Ventilation systems in the transporter should be designed to maintain air quality and to regulate temperature during hot weather. Heat, moisture, gases, dust and micro-organisms are produced within the transporter as a result of bird metabolism, waste decomposition, feeding and drinking activity.

The ventilation rate refers to the amount of air exchanged in a given time and is usually expressed in CFM (cubic feet per minute) per bird (or per unit of bodyweight). It may also be expressed as ACH (air changes per hour) which reflects a complete replacement of the transporter's air volume during a time period.

Ventilation systems in the transporter should be designed to provide a uniform environment (within the thermal neutral zone) that is most suitable to provide optimum performance and health in racing pigeons.

An important goal for hot weather ventilation systems is to keep the air temperature within the transporter below 28°C. Insufficient ventilation removes too little moisture and produces moist air conditions and thereby increases humidity within the transporter. A monitor that detects dew point is especially helpful in the efforts to prevent condensation when outside temperatures are much colder than the temperature within the transporter.

Condensation predisposes the spread of airborne infections and must be avoided. These conditions occur mostly at the beginning of the season during May, June and July, a time when young birds are new and most susceptible to the spread of respiratory diseases within the confines of the transporter.

Carbon Dioxide Concentration

Carbon dioxide is produced by the birds when they exhale. Elevated carbon dioxide levels can negatively impact on bird performance and lead to lethargy and therefore should be kept below 5000 parts per million and ideally below 3000ppm. The optimum upper limit is 3500ppm and an alarm should sound at 5000ppm.

When a carbon dioxide monitor is not available, humidity can be used as an indicator of air quality. A humidity reading below 70% is a good indication that air quality is within the healthy range. A low humidity reading is also a good indication that the birds are not overcrowded.

Relative Humidity

Indoor relative humidity is most important within the transporter. Humidity should be kept between 50-70% and an alarm should sound when it exceeds 75%. Low humidity does not present any real problems to pigeon health.

Overcrowding causes an increase in humidity. This can result in condensation on the walls of the transporter and subsequently, lead to infection. In hot and humid weather, heat stress can also be a problem because the pigeons have a difficult time getting rid of their body heat.

When a relative humidity of 60% or lower is maintained air quality tends to be within acceptable limits.

Conversely, a relative humidity of 70% or greater tends to be a good indicator of poor air quality. In this way, humidity can be used as a measure of air quality.

Heat Radiation

Radiant heat loads come from the transporter surface and from the birds themselves. Overcrowding increases the radiant heat within the transporter and should be avoided.

Measurements of the surface temperature of the transporter are helpful in evaluating the overall thermal environment.

Toxic Gases

Prior to the race season, the transporter should be evaluated for toxic gases (mostly from exhaust fumes such as Carbon Monoxide) when empty. As an extra precaution, repeat tests should be done during the year when the truck is empty. Carbon monoxide monitors are available for hire.

Ongoing Monitoring Systems

A baseline reading of temperature, humidity and carbon dioxide levels in the transporter should be taken during the first races. Adjustments to ventilation or stocking rates may need to be made throughout the season according to the initial baseline reading.

During the race season, continual monitoring whenever the transporter is in use will facilitate the safe transportation of racing pigeons. The monitoring system should incorporate an alarm for when conditions are outside the safe thermal neutral zone and also provide a digital or printed record of the readings. These results should be made available by the liberation committee as soon as possible after release.

The monitoring system should include capabilities to measure air temperature, relative humidity, dew point and where possible, carbon dioxide levels. When carbon dioxide concentration cannot be measured, relative humidity can be used as an indirect measure of carbon dioxide. If relative humidity is below 70 %, the carbon dioxide level can be considered safe.

Changes to the transporter design can be made throughout the year based upon the monitoring device read-outs each week until perfect transport conditions are achieved.

Fine-Tuning Transport Conditions/ Feed & Watering. This section is to be read in conjunction with the SAHPA.inc Code of Practice 2013 section 5, 5.1, 5.2, 5.2.1.

1/ Transporter design that promotes a good air flow and insulates against temperature and humidity extremes is pivotal to the safe transport of racing pigeons. Insulation of the roof and any other hard metal surfaces is needed to reduce radiant heat during hot temperatures and condensation during cold weather. Adjustments to the ventilation systems are made according to the read-out from the monitoring device. Ventilation is improved by airspaces between the baskets e.g. gangways etc. On hot days for the longer races a closed in transporter should stop at least each 4 hours in a shaded place and be opened to the air to allow the birds to receive a fresh air supply if extraction and fresh air systems are not fitted. Fresh drinking water may also be provided during the stop.

2/ Feed & Watering for Friday night hampering for Saturday liberation: The Transporter should travel through the night (adhering to transport regulations) and on arrival at the release point the birds should have water available until one hour before liberation.

3/ Feed & Water for Thursday night hampering for Saturday liberation: After travelling through the night (adhering to transport regulations) the birds should be watered between 7.00am and 9.00 am of the Friday morning and plan to arrive at the liberation point by 4.00pm the day before the race where the birds will be offered feed and water for upto (3) three hours then the feed will be withdrawn and water only will be supplied continuously until (1) one hour before liberation.

Communicating Information to Members

Nowadays, real time video surveillance is easily installed and should be incorporated into the monitoring system as a device that allows members to view the birds drinking, eating and relaxing after arrival at the race point.

This can be streamed to Federation's webpage together with the liberation report. It should also be used to view

the release of the pigeons and the weather conditions at this time. This type of feedback gives members great confidence that all efforts are being taken to ensure the safe return of their pigeons.

Transporter Contamination and Disease Control

Disease control in the transporter, mostly a result of cold weather and condensation is largely controlled by ventilation routine. Whenever condensation or moisture from rain enters the transporter, the inside of the transporter and all basket surfaces should be disinfected as soon as possible after the returning from the race.

Section 2: Liberation Protocols for the Safe Return of Pigeons

This protocol ensures racing pigeons sent to the race are given every opportunity to return home safely.

Liberation Protocols

Each federation should have a written code of practice concerning the liberation protocol. Central Cumberland Federation has a well-considered liberation protocol that should be adopted nationally (refer to CCF Liberation Protocol – Part 6 for details). I would suggest a few changes and additions to their protocol. The following list details liberation considerations that should be made:

- Teaching Young Birds to Drink in Transporter
- Weather Restraints
- Temperature En-route
- UV sunlight Range
- Wind Speed and Direction
- Cloud Cover Parameters

Teaching Young Birds to Drink in Transporter

Although weather considerations are of utmost importance, pigeons that are accustomed to eating and drinking in the race baskets are best placed to return safely home. For this reason, time must be taken to teach the young birds how to eat and drink in baskets prior to racing.

Weather Restraints

Weather restraints include the conditions at the time of liberation and forecasts during the race. These include temperature, wind speed, cloud cover and UV sunlight.

Safe Temperature Range for Liberation: 4-28°C

Excessively low temperatures (below 4°C) impair muscle function and when overnight temperatures drop below freezing, race birds must be given additional time (one hour) to warm up prior to release to prevent cramping. Liberation should not occur until the UV index (4.0-7.0) and the outside air temperature (4-28C) is in the safe range. The safe range is normally reached at around 8.00am.

Pigeons cannot sustain the energy levels required to home safely when temperatures are above 28°C at the time of release, when they are facing head winds on their return. During tail winds pigeons fly at a higher altitude where it is cooler so that they can be released when temperatures are forecast to rise above 28°C but no higher than 30°C. Temperatures above these limits predispose birds to heat stress and dehydration, preventing their safe return.

Safe UV sunlight Range: UV 4.0 -7.0

Experience has shown that extreme losses occur when UV radiation levels rise above 7 even when perfect weather conditions are forecast along the entire race route. Heavy inexplicable losses have also been experienced when UV levels are between 0-3. The race should be postponed (held over) until UV radiation levels return to the safe levels (4.0-7.0).

Safe Wind Speed and Direction

Refer to CCF Liberation Protocol*.

Safe Cloud Cover Parameters

Refer to CCF Liberation Protocol*.

* See Part 6 of CCF 2013 Constitution Racing Rules (see below or www.ccfpigeons.com) Liberation Protocol sections 5, 6 & 7 (Page 28).

Special Note for Long Distance Races

SAHPA recommendations for long distance races should be adopted nationally. Here, races over 1000km are restricted to old birds. These races should where possible should be held mid rather than late season when temperatures are not extreme.

PART 6 – CCF LIBERATION PROTOCOL (Exert from CCF 2013 Constitution Racing Rules)

1. Objectives.

- 1.1. To optimize race returns by the use of best practices within our control.
- 1.2. To identify and avoid liberating the birds in conditions that could jeopardize their chance of returning home safely.
- 1.3. To set parameters within which the Liberation Committee and liberator are required to operate, in order to avoid foreseeable and therefore preventable losses from occurring.

2. Liberation Guidelines.

- 2.1 The Liberation Committee shall consist of three members who shall communicate with each other and in consultation with the liberator shall oversee all liberations conducted by the Central Cumberland Racing Pigeon Federation Inc.
- 2.2 The Liberation Committee shall, prior to the release of birds, examine the current and forecasted weather conditions which are considered to be along the expected line of flight during the flight time.
- 2.3 The use of current weather reports and forecasts are to be obtained from the Bureau of Meteorology and Weather Zone and are to be used in conjunction with the liberators observations at the liberation site.
- 2.4 The liberation committee shall make every effort to avoid clashes with other federations where possible by taking into consideration factors such as forecasted weather conditions, liberation times and liberation locations.
- 2.5 Confirm weather conditions on the ground by seeking advice from local contacts along the flight path.
- 2.6 The Liberation Committee shall then determine whether liberation will be undertaken based on the “Application of Liberation Guidelines”.
- 2.7 The Liberation Committee shall not liberate the pigeons for any race unless all Committee Members agree to do so.
- 2.8 The Liberation Committee shall complete the attached form (A), detailing the conditions of liberation, for future reference.

3. Interpretation of Liberation Protocols.

- 3.1 The birds shall be liberated or held over based on a set of defined parameters which come under the umbrella of a “Green Light, Amber Light and Red Light” system.
- 3.2 “**Green Light**” is defined as a high certainty in the liberation of the birds.
- 3.3 Weather conditions, defined under “Favourable or Neutral Weather Conditions” which satisfy the conditions set out in rule 6.1 to 6.9 inclusive, allowing for the liberation of the birds.
- 3.4 “**Amber Light**” is defined as lesser certainty in the liberation of the birds, with a high degree of caution to be exercised by the Liberation Committee.
- 3.5 Weather conditions which do not satisfy rule 6.1 to 6.9 in every respect, but are reasonably close to satisfying the required conditions for liberation.
- 3.6 The birds will not be liberated unless and confirm ground observations along the flight path indicate that the forecast conditions are incorrect or the weather conditions are moderating quicker than forecasted.
- 3.7 Extreme caution shall also be exercised if the defined temperature conditions in Item 6.9 are satisfied and a head wind or side wind is blowing.
- 3.8 Examples as follows: a. Fog at liberation point or fog along the line of flight. Delay the liberation time by up to 2 hours to allow fog to clear. b. Rain or low and heavy overcast at race point or along flight path clearing. Delay liberation time by up to 2 hours to reach Green Light conditions. c. Where clearing rain is forecast along the flight path, birds may be liberated provided that the rain(s) encountered are light and of a sufficiently short duration that shall not impede the progress of the birds. d. Provided rule 6.6, 6.7, 6.8 are satisfied at the liberation point, wind conditions which slightly exceed the defined limits for a short distance or duration over the flight path may be acceptable for liberation. e. Temperature conditions which are slightly outside the limits of rule 6.9 with a tail wind condition.
- 3.9 “**Red Light**” is defined as a very low certainty in the Liberation of the birds, under this indicator the birds will automatically be held over. Refer to “4 Operational Procedures” below. Red Light conditions are defined in rule 7.1 to 7.11 inclusive.
- 3.10 A head wind or side wind even of moderate strength in combination with a low or high temperature could result in a bad race and is considered as detrimental to the birds.

4. Operational Procedures.

4.1 Where circumstances prevail and **GREEN LIGHT** parameters are satisfied other than one (1) parameter which falls within the **AMBER LIGHT** zone, then the Liberation Committee shall, within its discretion, liberate the birds provided the Liberation Committee is satisfied that the pigeons will perform on their merits and not be unduly obstructed on the flight path home.

4.2 Where circumstances prevail and **GREEN LIGHT** parameters are satisfied other than two (2) parameters which fall within the Amber Light zone the liberation committee shall normally hold the birds or exercise extreme caution in its deliberations and further document an objective case for the liberation of the birds.

4.3 Where two or more **AMBER LIGHT** conditions form part of the liberation parameters the birds will be held over.

4.4 Where circumstances prevail and **GREEN LIGHT** parameters are satisfied other than one (1) parameter which falls within the **RED LIGHT** zone, the liberation committee shall exercise extreme caution when deciding to liberate the birds provided it is satisfied that the forecasted **RED LIGHT** parameters are unlikely to eventuate and and/or on the ground sightings do not support the non-forecasted conditions.

4.5 Where circumstances prevail with two or more **RED LIGHT** conditions forming part of the liberation parameters, the birds will be held over.

5. Observation and Analysis of Weather Conditions.

5.1 The interpretation and analysis of weather conditions will take into account those conditions which may adversely affect the pigeons' ability to successfully navigate their path home, while identifying those conditions which may prove favourable.

5.2 Analysis of weather conditions will take into account the estimated flying time, which is outlined as follows: flying time is the time between liberation and the anticipated arrival home of the majority of the pigeons (this will be calculated by using a velocity of 1200mpm) for races less than 800km.

5.3 **Example:** a. A race from approximately 300km shall have a flying time of approximately 4 hours and 10 minutes. b. For all races in excess of 800km the weather for the day after liberation shall also be taken into account before birds are liberated.

6. Favourable or Neutral Weather Conditions (Green Light/Amber Light).

6.1 Favourable or neutral weather conditions are defined as: those which are known to be helpful or have no known effect on the pigeon's ability to navigate their way home and will result in the liberation of the pigeons.

6.2 Clear sky: Is defined as a day with no cloud.

6.3 Fine conditions: A combination of sun and cloud cover where the Weather Bureau predicts no rainfall at liberation point or along the expected flight path.

6.4 High cloud cover: Along the flight not associated with rain, and the sun clearly visible from behind it.

6.5 Patchy cloud: Is a day with patchy cloud not associated with rain.

6.6 A tail wind or gusts: Is wind or gusting winds heading in the same direction as the birds and is 49kph (27 knots) or less. (Weather Bureau forecast is a fresh to strong breeze).

6.7 A headwind or gusts: Is wind or gusting winds heading into the expected line of flight which do not exceed 29kph (17knots). (Weather Bureau forecast is moderate to fresh wind strength).

6.8 Wind other than a headwind: Is wind or gusting wind in any direction other than a headwind that is less than 29kph (17 knots) especially as a cross wind on coastal routes (Weather Bureau forecast is a moderate to fresh wind strength).

6.9 Temperature: The temperature at the race point shall not be lower than 4°C and not exceed 30°C at ground level at the liberation site at the time of liberation.

6.10 Note: The trailer to be stationary for a minimum of 4 hours prior to any liberation except when the trailer has been moved to an alternate liberation site, in which case the birds shall have at least 1 hour rest for every 2 hours of travel time.

7. Unfavourable Weather Conditions (Red Light).

7.1 Unfavourable weather conditions are those conditions which are known to obstruct or affect the ability of the birds to navigate their way home. Should any of the following conditions be detected or be predicted during the flying time the liberation shall be postponed or cancelled.

7.2 Fog, dust storms or smoke haze: At the liberation site or in close proximity to the expected line of flight, at any pass or mountain range on the expected line of flight.

7.3 Overcast conditions: With one hundred percent low cloud coverage, poor visibility, no wind and without sun being visible or no shadows cast.

7.4 Poor light: A light meter reading at the liberation site of less than 10 is regarded as poor visibility.

7.5 Poor visibility: A clear line of sight that is less than 5 kilometres.

7.6 Rain: Should it be raining at the liberation site or over moderate stretches on expected line of flight.

7.7 Snow: Should it be snowing at the liberation sight or be predicted to fall on expected line of flight.

7.8 Stormy weather or lightning: Predicted anywhere on or approaching the expected line of flight.

7.9 Temperature: Should temperature along the expected line of flight be predicted lower than 4°C or higher than 30°C at ground level.

7.10 Wind or gusts in any direction: Wind or gusts, with the exception of tail winds, in excess of 40kph from any direction, especially as a cross wind when racing on coastal routes. (Weather Bureau forecast for wind is given as high wind strength).