

# YONEX SHUTTLE NEWS



# HISTORY OF THE YONEX SHUTTLE

In 1965 the YONEX shuttlecock was selected by the 9th Uber Cup as the official shuttlecock for the International Badminton Federation. YONEX shuttlecocks were also used for the first time in 1965 at The All England Open Badminton Championships. 2,000 boxes of YONEX shuttlecocks were requested; however, only 300 boxes were used. Badminton England were impressed with the greater level of durability of the YONEX shuttlecocks. Hitherto, European players had often broken shuttlecocks with their aggressive and powerful smashing style. But the YONEX shuttlecock withstood this attacking style of play.

From this point onwards, the YONEX shuttlecock became an important part of the All England Championships, and its performance was a significant factor in YONEX becoming the title sponsor in 1984.

Now, it is integral to many top level tournaments, such as at major BWF tournaments, and is the shuttle of choice for many world class players.

This was the beginning of the YONEX shuttlecock legend.

In this shuttlecock newsletter, we assess the design strengths of YONEX shuttlecocks by interviewing the players who use them at the highest level and by putting the shuttlecocks themselves to the test.

We've nothing to hide!

**LONDON 2012 OLYMPIC GAMES,  
YONEX BWF WORLD BADMINTON CHAMPIONSHIPS LONDON 2011,  
THOMAS & UBER CUP, BWF WORLD JUNIOR CHAMPIONSHIPS,  
BADMINTON ASIA CHAMPIONSHIPS,  
YONEX ALL ENGLAND OPEN BADMINTON CHAMPIONSHIPS,  
YONEX DENMARK OPEN, YONEX OPEN JAPAN,  
MALAYSIA OPEN SUPERSERIES,  
YONEX - SUNRISE INDIA OPEN SUPERSERIES,  
YONEX BADMINTON FRENCH OPEN,  
YONEX - SUNRISE HONG KONG OPEN SUPERSERIES**

OFFICIAL  
SHUTTLECOCK

# VOICE

## TOP PLAYERS' OPINIONS

### Saina Nehwal (IND)

I have used YONEX shuttlecocks ever since I have been competing globally. There are three main reasons why I use YONEX, their stable and consistent flight, their durability and their quality.

### Lee Chong Wei (MAS)

Shuttlecocks are important factor to be in control of a game. I think YONEX shuttlecocks are the best in the world because of their superior levels of consistent flight path, distance and durability. Their fast recovery and stable trajectory help me when I smash.

### Peter Gade (DEN)

The flight distance of the YONEX shuttlecocks is consistent at any venue in the world. I can concentrate on the game because I don't have to worry about the peculiarity of a shuttlecock. It is vital to me that the shuttlecocks have stable performance and each of them maintains the same quality.

### Mathias Boe (DEN)

There are many different makes of shuttlecock, however I think the YONEX shuttlecocks are the best. They spin very well, their flight trajectory and distance is always consistent and perfect. I'm happy to be using the YONEX shuttlecocks.

### Tan Boon Heong (MAS)

I use the YONEX shuttlecocks not only in matches, but also when I am training. Using poor quality shuttlecock for training makes it difficult to adapt to the difference in quality and performance of the tournament models. So, I make sure I always use YONEX shuttlecocks in training, they are durable and they maintain their flight quality, even in the practice models.

### Taufik Hidayat (INA)

YONEX shuttlecocks have the same consistent quality at any tournament venue in the world. Their consistent flight path, distance and trajectory never change unlike other makes of shuttlecocks.



In Conversation with:

# Kenichi Tago Kumiko Ogura



To understand the importance of using the best shuttlecocks, we spoke to Kenichi Tago, one of Japan's leading national team members, and Kumiko Ogura, a former Japan national team member and Quarter Finalist at The Beijing Olympics.

## » MAIN POINT

**'The importance of shuttlecock performance and durability for quality practice.'**

**Why should you consider the quality of the shuttlecocks you use?**

**Tago:** Of course the choice of shuttlecock is important. The stability of the flight and the durability are important. Shuttlecocks that are made by the other companies and used international tournaments are often less durable and stable.



Unfortunately, we cannot decide which shuttlecocks are used in tournaments, we just have to adapt to their performance.

**Ogura:** There are a lot of shuttlecock makers in the world. For me, some makers' shuttlecocks are too heavy, others are too light. Obviously the shuttlecocks have an effect on my performance. If I use YO-NEX shuttlecocks, I can hit the shuttlecock accurately. But if I use the others' shuttlecocks, it's difficult for me to control them because their flight distance and trajectory are not all that stable. So, the shuttlecocks are vital influence on the quality of my performance.

## How do the shuttlecocks have an effect on your performance?

**Ogura:** I care about each shuttlecock. If I use poor quality shuttlecocks, they turn round and round in flight when I smash, because their trajectory is not stable.

**- What exactly do you mean by 'turn round and round'?**

**Ogura:** Some makers' shuttlecocks wobble in flight, so I can't predict where the shuttlecock will land.

**Tago:** The reason why the shuttlecock wobbles is because it's out of balance. The shuttlecock flies unsteadily and its trajectory isn't stabilized because the balance between the feathers and the cork is poor, and the rotation number of the shuttlecock isn't constant.

There are two challenges in shuttlecock design. One is that its flight distance is too long. The other is that it slows down too easily. A contradiction I know! But that's where the balance comes in. Whether a shuttle is not affected by air resistance enough or whether it is affected too much. Hopefully I don't have to use such shuttlecocks in a game because the timing with which I hit the shuttlecock changes by the second and, this being so, the balance of the shuttle then becomes a vital factor.



## Is there a difference in shuttlecock type between singles and doubles matches?

**Tago:** In singles, rallies tend to be longer because you are trying to force your opponent to make errors. A shuttlecock's potential wobbling doesn't affect this as much as the doubles game.

**Ogura:** In doubles, there are more attacks than in singles. So a shuttlecock's wobble can have a large affected because, when an attack comes, I need to react quickly to hit the shuttlecock. If the shuttlecock is wobbling, when I hit a lob, it is sometimes difficult to time the shot properly.

**- How do you need to adjust your play to the make to the shuttlecock?**

**Tago:** I use the YONEX shuttlecocks for practice to make sure I am prepared for the tournament. If you do not use YONEX shuttles you will need to adapt your style of play, this is a major factor and can be decisive.

**Ogura:** We don't know which shuttlecocks will be used in any given tournament. It is even an unknown factor at the junior high and high school tournaments.

That's why it's important for us to have a solid grounding in practice with a top quality shuttle like YONEX. This establishes a technique that protects you against the uncertainty of shuttle choice when it comes to the big day.

## Do you feel strongly about the choice of shuttlecock for practice?

**Tago:** Yes, of course. I insist on YONEX because their shuttlecocks have durability and stability in the flight trajectory.

**Ogura:** Durability especially is very important for high school students. There are some shuttlecocks used

for practice which wobble very soon. However, the YONEX shuttlecocks have strong, reliable feather shafts. They last two or three times as long as other brands' of shuttlecocks. If you change a shuttlecock frequently, you cannot concentrate on practice. In addition, our club budget is limited for junior high and high-school students so we can't use a lot of shuttlecocks. So it's very important that the shuttlecocks have durability.

#### - How about the consistent performance of the shuttlecocks?

**Tago:** A good and consistent shuttlecock performance would mean that the flight distance is stable, that it the shuttle goes neither too far, nor too short. In other words, the shuttlecock flies towards your target. Also, a great aspect of YONEX is that their shuttlecocks maintain the same performance in all conditions, despite the fluctuations in heat and humidity etc.



**KUMIKO OGURA**

## » MAIN POINT

### 'Can the shuttlecock be the reason why you lose the game'

#### What's the strongest point of the YONEX shuttlecocks?

**Tago:** I can attack with confidence even when using a hairpin shot. If I use other shuttlecocks, I can't attack with as much confidence. Sometimes, I have to play defensively. In tournaments like YONEX All England Open and YONEX OPEN JAPAN, I play more aggressively than usual because YONEX shuttlecocks are used.

**Ogura:** The shuttlecock flies with stability and consistency. I smash many times during the game and my racquet can bite the shuttlecock. I could not smash with total confidence without the YONEX shuttlecock.

#### What's the feeling of the shuttlecock when you hit it?

**Tago:** The hitting feeling is the time of contact between shuttlecock and racquet, plus the launch feeling of the shuttlecock from the racquet. Good shuttlecocks have a longer time to press upon the strings and also absorb the power from the swing of the racquet, making it fly straight. Bad shuttlecocks come off the racquet quicker, there is little responsiveness and therefore little control. This might be a very small difference, but advanced players can feel the difference.

**Ogura:** That's right. I can catch the shuttlecock against the racquet tightly in case of a good shuttlecock. It's like a bite and then a controlled spring into repulsion.

## Can high school student notice the difference?

**Tago:** I have been using YONEX shuttlecocks since high school, so if I use another shuttlecock during a tournament, I would certainly notice!

**Ogura:** I used nylon shuttlecocks until junior high school. When I started to use feather shuttlecocks, I noticed the difference, however, when I first used the YONEX shuttlecock, I was impressed by the difference they made.

**Tago:** I want current high school students to try to compare the difference between shuttlecocks. If they notice the difference, their style of play will change.

### - How do you begin to use a better class of shuttlecock?

**Tago:** I think it is better to change shuttlecocks gradually. If your goal is to break through the local tournament, use a lower level shuttlecock to make your base. If your goal is to break through the bigger tournament, use a good shuttlecock several months before the tournament to become familiar with it. If your goal is to go beyond this then use higher level shuttlecock for practice and use a high-grade shuttlecock before the tournament. I think this gradual phasing in of high class shuttles is a good way to progress and helps you improve your game.

### - What difference can shuttlecocks make to players who are training hard but who are struggling with their game?

**Ogura:** It may be that one of the reasons is their choice of shuttlecock. Players may be unaware that part of the reason why they are struggling is because of the difference between their practice shuttlecock and tournament shuttlecock. So, as Tago says, improve the quality of shuttlecock and it can help improve your game.



## What is your message to badminton players reading this YONEX shuttle news.

**Tago:** The YONEX shuttlecock is accepted as the world's leading shuttlecock. It is used at the major tournaments. You can improve your performance by being aware of the reliability of the YONEX shuttle. If you have never used YONEX shuttlecocks, you should try just at least a dozen. You can improve when you notice the shuttlecock's impact on the racquet.

**Ogura:** Shuttlecock awareness is necessary if players are to develop from junior high, to high school, to university student level. With YONEX you can achieve the kind of growth which you may not have even thought possible before. Go on! Aim for a higher level.

Comparing YONEX and the other makers of shuttlecocks

# Report on shuttlecock experiments

Flight and durability are the two most important factors when testing the capabilities of shuttlecocks. Here we look at the difference between YONEX shuttlecocks and products from other brands.

01

## Flight experiment

**Observation: There is a lot of difference in the flight distance between brands**

### The experiment overview

#### ● Test shuttlecocks

- Company A temperature indication 4
- Company B temperature indication 4
- YONEX temperature indication 4

#### ● The location of the experiment

YONEX, Tokyo Factory, Gym

#### ● The experiment

24 shuttlecocks are hit by a racquet simulator at the same speed and rate, in controlled conditions – temperature, atmosphere, pressure etc.

#### ● The comparison method

Compare the difference in the points of fall of the 24 shuttlecocks between the three brands.

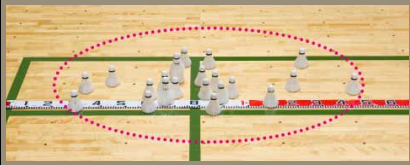
#### Company A

Almost all of the 24 shuttlecocks landed within 70 centimetres.

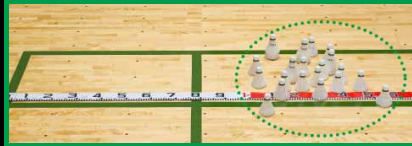


#### Company B

Almost all of 24 shuttlecocks landed within 120 centimetres.



Almost all of 24 shuttlecocks landed within 50 centimetres.







The experiment took place under strict conditions. We hit the shuttlecock cleanly with the racquet simulator, which provides a constant hit in terms of contact and power, the racquet and string are set up exactly the same throughout the experiment. We catch the shuttlecock, shot by the simulator on the brink of landing in the court, to ensure pinpoint accuracy avoiding any shuttle movement on the floor. We then mark this precise point of fall. After hitting all of 24 shuttlecocks, we take photographs for the analysis and compare the difference in the points of fall of the 24 shuttlecocks between the three brands.

## Result of the experiment

It's common knowledge that shuttlecocks are easily affected by temperature. Results showed that with YONEX shuttles there is difference of about 25 to 30 centimetres depending on temperature indication. So, it's important that you understand whether the shuttlecocks you use are suitable for the environment you practice in.



### Temperature experiment

Observation: shuttlecock flight is affected by temperature

#### The experiment overview

##### ● Test shuttlecocks

- YONEX temperature indication 4
- YONEX temperature indication 3
- YONEX temperature indication 2



The experiment took place under strict conditions. We hit the shuttlecock cleanly with the racquet simulator, which provides a constant hit in terms of contact and power, the racquet and string are set up exactly the same throughout the experiment. We catch the shuttlecock, shot by the simulator on the brink of landing in the court, to ensure pinpoint accuracy avoiding any shuttle movement on the floor. We then mark this precise point of fall. After hitting all of 24 shuttlecocks, we take photographs for the analysis and compare the difference in the points of fall of the 24 shuttlecocks between the three brands.

##### ● The location of the experiment

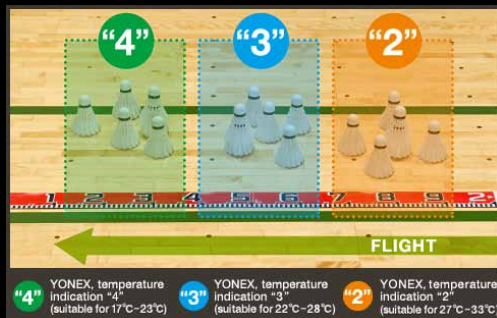
YONEX, Tokyo Factory, Gym

##### ● The experiment description

We hit each of the numbered shuttlecocks six times in a constant and controlled temperature (17°C).

##### ● The comparison method

Compare the difference in the flight distance of the shuttlecocks depending on the numbers of the temperature indication.



## Result of the experiment

It's common knowledge that shuttlecocks are easily affected by temperature. Results showed that with YONEX shuttles there is difference of about 25 to 30 centimetres depending on temperature indication. So, it's important that you understand whether the shuttlecocks you use are suitable for the environment you practice in.



### Durability experiment

**Observation: Durability depends on thickness of feathers' shafts and a cork.**

#### The experiment overview

##### ● Test shuttlecocks

- Company B
- YONEX

##### ● The comparison method

We compared the degree of alteration in shuttlecock shape and body.

##### ● The location of the experiment

YONEX, Tokyo Factory, shuttlecock durability laboratory

##### ● The experiment description

The racquet simulator smashed the shuttlecock 40 times under a room temperature of 5 degrees Celsius.



We compared the durability of two aspects of the product: feathers and corks.

## Result of the experiment

### Feathers

- The shuttlecock of company B  
Most of the shafts broke, and feathers became misshapen.
- YONEX shuttlecock  
Shafts broke, but the feathers held their shape.

### The cork

- The shuttlecock of company B  
The cork of the shuttlecock is made by sandwiching polyurethane between corks. Therefore, the cork became misshapen because the polyurethane disintegrated.
- YONEX shuttlecock  
Very little change in shape of the cork, this is because the shuttlecock is made purely of natural cork.

# Interview with YONEX shuttlecock craftsmen.

The results of the experiments show that YONEX shuttlecocks are made to exacting standards, ensuring that they perform with a consistently high level of accuracy, flight stability, and durability in all temperatures. Here we meet the custodians of YONEX shuttlecock quality.

## INTERVIEW 1 **All about feathers!** With Mr Hiroshi Igarashi

“Sixteen of the finest feathers from one wing are used for one shuttlecock”



Shuttlecock Manufacturing Division Product Management Division General Manager **Hiroshi Igarashi**



YONEX craftsmen with years of experience ensure the feathers fit perfectly into the cork.

### **The feather selection**

Each feather is meticulously selected for its individual flight characteristics. Feathers are assessed for their accuracy, as any slight curve in the feather, or variation in weight, could affect the shuttlecock's flight, causing it to wobble. Sixteen feathers of all the same length are used for one shuttle.

### **The craftsmanship**

Each individual feather angle is adjusted to a slightly different angle before they are fixed into the cork base using precision machinery,



Rigorous shuttle inspection analyses the balance and angle of the feathers and ensures that there is no damage to the feathers.

a compressed air process known as 'feather thrusting'. Each shuttlecock is checked by our YONEX craftsmen to ensure they meet our high standards of quality and balance. Our aim is produce consistently true flight in every shuttlecock.



## INTERVIEW 2 **The Inspection,** with Mr Makoto Hasegawa

**“Players expect nothing but the best from Yonex.”**

**Shuttlecock Manufacturing Division Manager** **Makoto Hasegawa**



YONEX craftsmen check every shuttlecock. Inevitably some fail to reach our standards.

Badminton players trust YONEX shuttlecocks to deliver high standards of fast recovery and accurate flight trajectory over distance and in all temperatures.

To achieve this we test all the shuttlecocks, from top models to practice models, checking the flight performance. Our craftsmen inspect ten aspects of the shuttlecock, such as the perfectly circular spread of feathers, individual feather condition, pristine sealant finish etc.

Even though we produce shuttlecocks for the world market we like to think that each one we make is an individual tiny work of art.



Because our shuttlecocks are made from natural materials – which have their own behaviour patterns – we check thousands every day to ensure consistency in manufacture and flight characteristics.



## Shuttlecock facts - Did you know...?

### 01 Each shuttlecock has a character.

Well, we like to think so! YONEX shuttlecocks are made of only natural materials: goose feathers, high-grade cork, also used for champagne. Our highly skilled YONEX craftsmen ensure that every single shuttlecock meets our high standards of quality and balance ensuring each shuttle produced offers consistently true flight.

### 02 We can make a judgment about the quality of the shuttlecock just by checking the shafts of the feathers.

If the thickness of the shafts were not uniform, we would not recommend you use the shuttlecock, even in practice. The uniform thickness of the feather shafts is a good indicator of shuttle quality.

### 03 The flight distance of the shuttlecock changes with location.

Yes, there is a difference in the flight distance depending on temperature, humidity, and altitude.

Have a chat with your teammates and look at the difference between the shuttlecocks used in the competition and the shuttlecocks you use in practice.

### 04 The feathers of a goose or a duck are used for our shuttlecocks.

The shuttlecock's feathers do indeed come from a goose or a duck. The feathers used for producing one shuttlecock are 16 feathers from either right or left wing. We don't use feathers from both right and left wings for one shuttlecock as this affects flight.

### 05 The corks used for champagne are better than those for used wine to produce shuttlecocks.

We use the same quality of cork that is used for champagne because it is stronger and more stable than the softer and less stable cork that is used for wine bottles. Compare a used YONEX shuttlecock with the used product from the others. There is a clear difference in the shape of the cork.

### 06 There is difference in the flight distance between in the first round and in the finals at tournaments.

During tournaments the shuttle flight distance can vary. This is because the speed of the shuttle is influenced by changes in the playing conditions - for example, heat and humidity that can change during the tournament. So it is vital that players check that the speed of shuttle will produce the flight distance that best suits their game.

### 07 The flight trajectory naturally veers to the right.

To maintain consistency YONEX always produce shuttlecocks which veer right to the same degree.

### 08 How much do shuttlecocks weigh and what direction do they spin.

International rules state that the standard weight of a feathered badminton shuttlecock should be within the range from 4.74 to 5.50 grams. Despite working with only natural materials, our shuttles are manufactured with skill and precision to keep them within this 0.76g weight range. Due to the way that its feathers overlap, a shuttlecock also has a natural spin about its axis of rotational symmetry. When seen flying towards you, this spin is always in a clockwise direction.

### 09 The shuttlecock case should be placed vertically.

To keep the shuttlecocks in good condition, please place the shuttle case vertically and aim the cork head downward. This helps keep their shape and retain their quality.

### 10 The shuttlecock case is also important for the protection of shuttlecocks.

We put aluminium foil inside the shuttlecock case to keep the shuttles in the right humidity and preserve the shuttles' natural materials in the best condition possible.

# YONEX SHUTTLECOCK LINEUP

THE OFFICIAL CHOICE OF INTERNATIONAL TOURNAMENTS.

YONEX Feather Shuttlecocks are precision-manufactured to ensure the correct speed, distance and stability performance in different temperatures and environments. Their precise design delivers an exceptionally fast recovery and stable trajectory.

This is why YONEX has been appointed as the Sole Supplier of shuttlecocks and stringing service to the London 2012 Olympic Games.

YONEX AEROSENZA Shuttlecocks are the official shuttlecock for the world's leading international tournaments. The precisely engineered technology in every lightweight YONEX Feather Shuttlecock is extensively checked and tested to guarantee consistent performance. These high standards are the reason that YONEX Feather Shuttlecocks are the official choice of international tournaments.



AEROSENZA 50



AEROSENZA 40



AEROSENZA 30



AEROSENZA 20



AEROSENZA 10



World #1 in badminton.

Y GmbH

Flüelastr. 27, 8047 Zürich  
James-Areal

Tel. 043 444 40 60  
Fax. 043 444 40 60

info@yonex.ch  
www.yonex.ch