Brahma - Cochin News

Inside this Issue


Photo: © Andy Vardy

ROYAL CANBERRA NATIONAL POULTRY SHOW 2012

The largest poultry show in the Southern Hemisphere occurs every four years in our nation's capital. In June this year the Royal National Capital Agricultural Society hosted the National Show at Exhibition Park in Canberra. Four of our members attended the show with their Brahma and Cochin. It was a great opportunity to promote our breeds and learn from experts. Despite around 2000 entries being rejected, over 5000 birds were entered!

The judge for both bantam and large fowl was Mr Guy Wailes. In the Softfeather heavy breed there were three classes available for Large Fowl: Brahma Light, Brahma AORC, and Cochin ARC. For Bantam fowl the following classes were available: Brahma Dark, Brahma Light, Brahma Buff Columbian, and Brahma AORC. The Shoalhaven Poultry Club kindly provided a prize for Best Cochin.

Neal and Linda Lynch, Victoria Sherborne Fulton and Franz Mahr were in attendance. Victoria and Franz kindly took some great photos to share with our members, overleaf. Victoria and Franz were unable to photograph birds belonging to other breeders outside of their pens but fortunately Andy Vardy

Brahma Club of Australia & Cochin Breeders Group of Australia Annual Show 2012

Important Dates & Times:

Entries Open: 5 July
Entries Close: 1 August
Judging: 5 August (9 am)
Club Dinner: 4 August (8 pm)
Penning: 4 August (4 pm – 8 pm), 5 August (7 am – 9 am)
AGM: 4 August 4 pm – 7.20 pm

Phone: 0431 346 326
Show Schedule & Entry Form: www.cgpoultryclub.com

has generously allowed our club to display his beautiful photos in our newsletter. Besides having a very successful website www.backyardpoultry.com, Andy is also a highly regarded poultry photographer, and took photos of the winning birds to go on the Canberra National DVD. Victoria informs me that Andy took an awesome 'Big v's Little' photo of Brett O'Brien's Buff Cochin male and a Buff Pekin pullet owned by Kevin Adams. Check out Cochin's Corner to see it! Victoria reported '…temperatures were minus 5°C everyday and many birds found it cold until things had warmed up in the afternoons. Whilst the boys were standing for the camera, the girls just wouldn't stand correctly.'

Judge Guy Wailes was very helpful and eager to chat, and provided Victoria with some great tips on preventing sun fade of Buff Cochin feathers. Guy also informed Victoria that her Black Brahma pullets were the best he had seen; a well deserved compliment!

Neil and Linda Lynch entered three bantam Dark and three bantam Light Brahma and reported '…a positive of entering the show is that we had two "new to the breed" breeders obtain stock, and since June four others have called enquiring as to the virtues of the bantam.' Entries of Large Brahma and Cochins were low. It was unfortunate that only one Large Brahma possessing a colour recognised in the new Australian Standard was benched this year; a Light Brahma cock bird. It wasn't all that long ago when we would see over 20 Large Light Brahmas at our Club show. Where have they gone? Hopefully as the popularity of the Brahma and Cochin breeds increase we will see more entries at major shows. A disappointing outcome of Black not being listed in

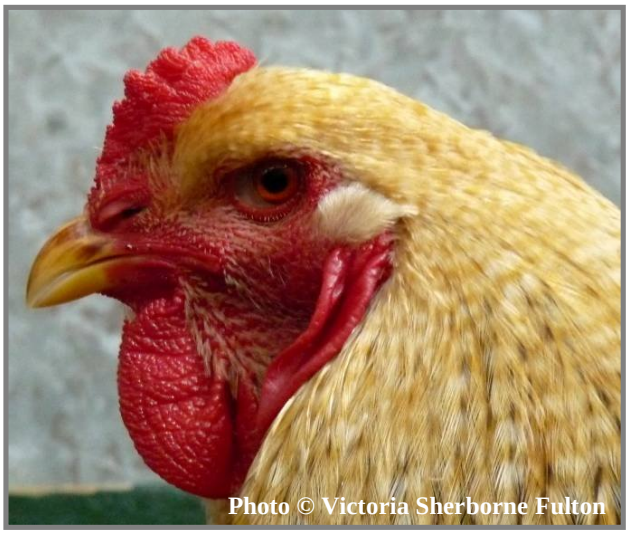
Above: Champion Large Brahma Canberra National Show, a Light Cock owned by Adam Van Dooren.

Above: Barred Cockerel owned by Franz Mahr. Interestingly, this boy is the result of a first cross between a Barred Buff Columbian Brahma and a Dark Barred Plymouth Rock.

Above: Canberra National Show AOC Champion, a Black Brahma Pullet owned by Victoria Sherborne Fulton.

the new Australian Standards of Perfection was that Victoria's black pullet was not considered for a major award.

South Australian breeder Adam Van Dooren won Champion Large Brahma with a Light Cock bird. Victoria Sherborne Fulton won Champion Large Brahma AORC with a black pullet (pictured on front page) and Reserve AORC with a black pullet.



Above & Left: Barred Buff Columbian Cockerel owned by Franz Mahr.

Above: Canberra National Show AOC Champion, a Black Brahma Pullet owned by Victoria Sherborne Fulton.
Left: Barred Buff Columbian Pullet owned by Franz Mahr.

Neal and Linda Lynch won Champion Bantam Dark Brahma, Champion Bantam Light Brahma, and their Light Brahma also received the white satin sash provided by the Brahma Club of Australia for Champion Brahma of Show. Congratulations Neal and Linda!! Brett O'Brien won Champion Cochin with a Buff cock bird and Reserve with a Buff hen.

BRAHMA CLUB OF AUSTRALIA PRESIDENT'S REPORT

Hi all Brahma club members. As usual it was good to catch up with our core group of Brahma breeders at the 2011 show and this time it was very hard for most of us just getting there! But it was well worth it, even our Vice President made it at the last moment. Cindy you are truly a legend; you never let the club down. As usual your Brahmas looked great. As a past champion breeder we all value Cindy's input and support that she gives our club. Thanks Cindy.

Paul Rodgers presented his Cochins very well, and won Champion Cochin. Paul has done a lot of work to support and encourage other Cochin breeders to get involved in the club, and make this years Cochin show a real success. There are always inquires regarding Cochins, so get in touch with Paul and give him some support helping to encourage others to be a part of our show. Go Cochin breeders, get involved!

Victoria was also at the show with her Cochins, winning Champion AOC with a Blue Laced Gold Cock bird. Victoria and I are really working hard to get a standard Dark Brahma up as show champion. We have both come a close second, but never quite made it. The standard Dark Brahma still need size and weight. Victoria and I are going to make that happen one day, just like Neal and Linda Lynch have done with the Dark Brahma bantams. Neal and Linda have bred Dark Brahma bantams for many years and have been champion breeders of our club on numerous occasions. Their show presentation is superb. If someone needs to understand the finer points of presenting your Brahmas just have a look at the way Neal and Linda show them. That is why, with their breeding and presentation, they won Champion Brahma at last years show. Congratulations Neal and Linda.

Joel Giusti has come a long way from winning rookie of the year in 2010 to winning reserve champion and Champion Standard Brahma with his black Brahma hen. Congratulations Joel, keep up the good work, and all the best with your Birchin Brahmas. Well done to Franz winning Best Standard Barred AC Brahma again and well done Lucas for winning the Best Standard Partridge with a hen, one of our premier classes. Thanks to Lucas also for his help in looking after all the birds with food and water and on Sunday cleaning up and giving the shed a good sweep out. Many hands make light work.

Helpful Tip

If you are struggling to trim your bird's spurs on your own. Hold the bird, and with one hand, use a set of sharp secateurs (large dog nail clippers are good too). Have a bar of soap handy.
Cut the spur so it's not too close to the leg and quickly trim the rough edges; then without due haste plug the spur with the soap to stop the bleeding (and they do bleed a lot). Then do the other spur, and then, whilst on the job, do your other boys.....

Thanks for the tip Victoria Sherborne Fulton

It was great to see Franz Mahr and his daughter Natasha at the show with some of their Barred Buff Brahmas. Congratulations to Natasha on winning junior of the year. I am pleased to have Franz help out with the newsletter. He gives a lot of advice and help to anyone that is interested in learning about how to breed great Brahmas. Franz got away early on Sunday morning as he had a long trip home to the Mornington Peninsula; he would be in big trouble with Natasha if he was not home to see Merlyn. Thank you Franz. But the longest trip goes to Eric Black up there in Queensland. Eric travelled home, with a stop over and arrived home safe and sound. I had a very easy trip home, having moved to Cann River, it was only a 4 hour trip and with Lucas doing all the driving it was great. I hope everyone arrived home with their Brahmas and Cochins without any problems. Congratulations to all the winners at this years show and to everyone that had birds in the show.

A special thanks to Luke Price, as usual he was the steward for our show and did a fantastic job. But more to the point; Luke is so important as he runs our web site, he is our genetics expert and now he is the new Club Secretary. Luke is also our treasurer, with a bit of help from oneself and if that's not enough he is also putting together our newsletter together with Franz Mahr. Luke is always there to help anyone that needs any advice on all things about Brahmas and Cochins.

Our club also would like to thank the judge Kim George for judging our 11th show. Kim gave us some very good advice, that we will take on board and use it to keep improving our brahmas. After many years of not being sure of the import syndicate, five members of our club are going to give it a go. We will be importing Gold Partridge and maybe Dark Brahmas. It is a bit of a 'hit and miss' thing as we still don't know where or who they come from and when they get here. But having five of us in the syndicate, it is not going to cost an arm and a leg. We just hope Meredith Parker has got the correct contacts. If it works out we hope to improve the size, weight and type of our Brahmas. The recreation of Brahmas in Australia has been such a difficult process.

Thanks to Belinda and Grant for running the show. Belinda knows how it works and every club needs a good show manager. Special thanks to the Canberra and Queanbeyan Poultry Club for their support and providing a superb pavilion. As usual we had a great day. This June is the Canberra National show that is held every four years.

After talking to the Queanbeyan Club they are very happy to host our show with their annual show in the first week of August. Other than that we are likely to be hosted by the Orpington Club at Queanbeyan on the other years. Thank you Dallas Smith.

Our AGM was held at our motel after the show, on the Saturday, and went well. Just look in the minutes of the meeting, it is all there. Belinda stood down from Club Secretary, as she does not have the time. Luke has taken over her position as secretary/treasurer and is working with Franz to put out our newsletters. We hope to be able to make paying your membership and purchasing club products easier with an on-line shop. That's Luke's and Franz's plan and I am sure it will work out great. Regards, Bryan

White Brahma Pullet (Bryan Jon) Photo: © L. Price

SECRETARY'S REPORT

The word on the street is the Brahma and Cochin Breeds are more popular than they have been in a long time. Our club's Facebook Group is a hive of activity! At the time of writing, membership of our Facebook group has grown to over 230 people. Many members of the group now communicate on a daily basis – taking advantage of our very own social network.

I initially created the Facebook group because I recognised the need for a simple and easy to access method for club members, from across Australia, to communicate with each other. At first I was disappointed because uptake on membership and interaction via the group was very slow. It has taken several years for the group to reach the level of use it receives today. I'm delighted to see so many users from both Australia and overseas making regular use of Facebook; posting photos of their beautiful birds from all over the world and sharing with us their experiences and knowledge. Because the Brahma Club and Cochin Group have members spread across Australia our increased ability to communicate and share information is vitally important if we are to progress with the improvement of our breeds.

The club's website is steadily growing with a current membership of 106. We recently purchased a new domain name and an upgrade of our website services from website host Freewebs. So whilst our website is no longer free we can now enjoy many additional benefits, including additional pages and the ability to include much more website content. Our website's new domain name is www.brahmacochin.org. Next time you're on-line check it out, if you think you may forget the domain name just 'Google it' using the key words Brahma and Cochin Club. You can still access the website via old links but you will be redirected to the new web address. Funds raised from membership fees will contribute to the ongoing website fees and the costs of domain name renewals.

Standard Light Hen (Andrew Rathbone). Photo: © A. Vardy

Are you looking for Brahma or Cochin?

Check out our club website Breeders Directory. You will find a list of breeders from across Australia; they may have what you're looking for. Or place a post in our For Sale or Wanted section in our website Forum.

A post on the Facebook page is also a great way to find that 'hard to get' bird.

www.brahmacochin.org

Whilst at present our website forum is receiving less use than that of the Facebook group, I have no doubt it will prove to be an invaluable tool in the development and promotion of our breeds. *Continued page 7…*

Help preserve our Brahma and breed Bantams in your favourite colour variety

Whilst a number of breeders have Standard Brahma, very few have Bantams. If you have space for a small pen, breeding Bantam Brahma is a great way to help preserve our breed. The added benefit of breeding Bantams in a colour variety that you already have in Standard is that you can easily improve your bantams by crossing them to a Standard bird with the desired traits. An extra benefit of having some Bantams is that you always have a good supply of reliable broody hens; Bantam Brahmas are fantastic mothers.

Bantam Brahmas are available in a variety of colours. A few colours are generally relatively easy to acquire; such as Light and Dark. Other colours which tend to be harder to acquire are Blue Light, Buff Columbian, Blue Buff Columbian and Gold Partridge. Even rarer colours are Black and White. Colours which are in development, that I'm aware of, are Barred, Black, Golden Crele, Birchin and Pile. White Laced Bay may also be in development in the Bantam.

If you can't find some Bantams in your colour of choice; consider creating your own. Exhibition quality Bantam Wyandottes is a good place to start. *LP*

Blue Buff Columbian Brahma (C. Pretty) Photo: © L. Price

As more content is steadily added to our website it will be the one stop shop for people wanting to know about all things Brahma and Cochin in Australia. I also hope that much of the content that our website provides will benefit Brahma and Cochin fanciers across the world.

I have recently taken on the role of Club Secretary, following on from Belinda. Many thanks to Belinda for her years of hard work; we have really appreciated the effort you put in over the years! Because of the change over we have combined what would have been two newsletters into one 'super' newsletter to allow myself time to get on top of the various functions of club secretary and still have a life outside of my full time job. From this point on we will continue producing two newsletters a year. Franz Mahr has also offered to format our future newsletters; which is fantastic!

Very special thanks to Franz Mahr, Noel Blake, Johan Wiklund, Victoria Sherborne Fulton. Co Pham, Hans-jürgen Neder and Andy Vardy for their valuable contributions to our club newsletter, we really appreciate you taking the time to contribute. Thanks also to Franz Mahr and Sam Williams for editing the text in the newsletter. I look forward to seeing you all at the show! Cheers, Luke (*LP*)

Spicy Chicken Sticks

Ingredients: 1 tsp ground cardamom, ½ tsp ground turmeric, ½ tsp ground allspice, 2 tbs lemon juice, 1 clove crushed garlic, 1 tbs chopped Italian parsley, 1 ½ tbs olive oil, 6 chicken tenderloins or strips of corn-fed breast chicken.

What to do: Soak wooden skewers in cold water for 1 hour to prevent burning. Mix together the spices, lemon juice, garlic, parsley and oil and season with salt and pepper. Remove the sinew and any fat from the chicken, place in the marinade, cover and refrigerate overnight. Preheat the bbq or grill. Thread the chicken onto the skewers and grill for 2-3 minutes each side or until cooked through.

Serving suggestion: Side of mixed salad greens topped with mango, avocado and cashew nuts dressed in lime juice and finely chopped chilli; and a dipping sauce of lightly seasoned natural yoghurt. *LP*

Photo: © R. Price

ANNUAL BRAHMA & COCHIN SHOW QUEANBEYAN 2011

On the second weekend in July, 2011, the Brahma club of Australia and Cochin Breeders Group of Australia held their annual show, as guests of the Orpington Club of Australia, at the Canberra and Queanbeyan Poultry Club pavilion in Queanbeyan NSW. A fantastic time was had by all who attended.

We would like to thank the Canberra Queanbeyan Poultry Club for hosting our show. Their club members were very friendly and accommodating, and the facilities were fantastic. A big thank you to the Orpington Club of Australia; we really appreciate the effort your hard working and friendly members made to bring our show to fruition. Special thanks also to Roger Price for making the trip down from the Central Coast in NSW to take photos, assist with photographing of the show winners, and allowing Luke to use your camera. *LP*

Champions of the Brahma Club of Australia 11th Annual Show

CHAMPION OF SHOW
Bantam Dark Cockerel - Neal and Linda Lynch


Photo: © L. Price

RESERVE CHAMPION
Standard Black Hen - Joel Giusti


Photo: © L. Price

Are you looking for the Australian Standards of Perfection for Brahma and Cochin? The standards tell us what we should be aiming for in our Breeds. If you're not sure what weight your fowl should be, what feather colour and pattern they should have, or what is considered a defect or disqualification; read the standards. You can find the standards on our club website www.brahmacochin.org.

NOTE

We have a new Club Secretary
Luke Price
0431 346 326
brahmacochin@gmail.com

Right: Judge Kim George with the 2011 Brahma Club of Australia Champion Bird of Show, a Bantam Dark Cockerel owned by Neal and Linda Lynch

Photo: © R. Price

Brahma Club of Australia 2011 Show Champions

Champion of Show	Neal and Linda Lynch	Bantam Dark Cockerel
Reserve Champion	Joel Giusti	Standard Black Hen
Champion Standard	Joel Giusti	Black Hen
Champion Bantam	Neal and Linda Lynch	Dark Cockerel
Best Hen or Pullet	Joel Giusti	Standard Black Hen
Champion Junior	Natasha Mahr	Standard Blue Buff Columbian Pullet
Best Standard Light	Paul Rodgers	Pullet
Best Standard Dark	Bryan Jon	Hen
Best Standard Partridge	Lucas Barker	Pullet
Best Standard Columbian AC	Natasha Mahr	Blue Buff Columbian Pullet
Best Standard Self Colour AC	Joel Giusti	Black Hen
Best Standard Barred AC	Franz Mahr	Barred Buff Columbian Cockerel
Best Standard AOC	Bryan Jon	Birchin Cockerel
Best Bantam Light	Neal and Linda Lynch	Cockerel
Best Bantam Dark	Neal and Linda Lynch	Cockerel
Best Bantam Partridge	No Birds Benched	
Best Bantam Columbian AC	Cindy Pretty	Blue Buff Columbian Hen
Best Bantam Self Colour AC	No Birds Benched	
Best Bantam AOC	Joel Giusti	Barred Cock

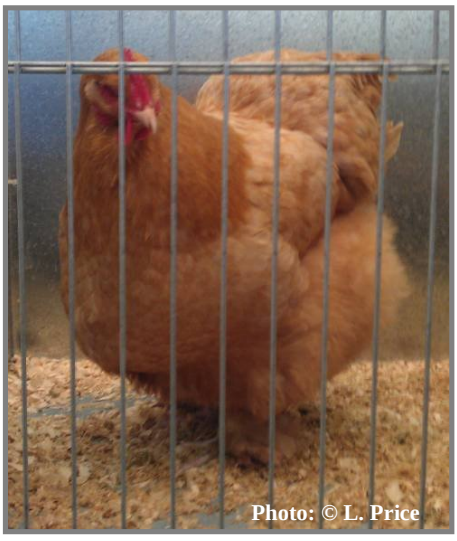
COCHIN'S CORNER

COCHINS ON SHOW AT THE ROYAL ADELAIDE

The Royal Adelaide show occurs every year in September at the Royal Adelaide Showgrounds in Wayville, South Australia. The 2011 show was, as always, a fantastic event with a very high standard of exhibition fowl. The volume and quality in the Soft Feather classes is always a sight to behold.

Above: Judge Kim George with the 2011 Cochin Breeders Group of Australia Champion Bird of Show, a Buff Hen owned by Paul Rodgers.

This year was particularly exciting for me because, for the first time, I saw Buff Cochins and Light Brahma exhibited. Two of our newer club members, D. Jacob and M. Crouch, entered several Buff Cochins in the Any Other Variety - Heavy Breed Class. A Light Brahma Cock bird was also entered by A. and S. Van Dooren.



Above Left: Buff Hen (Champion Any Other Variety – Heavy Breed). Above Right: Buff Cock (Best Opposite Sex) at the Royal Adelaide Show 2011. Both owned by D. Jacob and M. Crouch.

Champion Any Other Variety (Buff Hen) and Best Opposite Sex (Buff Cock) was awarded to D. Jacob and M. Crouch. Although competition in the Any Other Variety - Heavy Breed Class was limited to the Cochin and Brahma exhibits, the birds were of a high standard and the awards well deserved.

LP

COCHIN BREEDERS GROUP PRESIDENT'S REPORT

It was great to catch up with all those who could make it to the Annual show. It's still disappointing not to have more Cochin breeders exhibiting. It would be great to have as many breeders as we can attend our next show, please try to make it if you can. It's exciting to think that in 2 years from now we will have more colours to choose from as by then there will hopefully be some of us with imported birds. The colours coming in are Buff, Black, Cuckoo, Blue and White. Buffs are our main colour in cochins until the imports arrive in 2013/2014. I am bringing in blacks and whites and hope to spread as many as I can around, so that should kick things along a bit. The imported stock should really liven things up on the show bench. The birds are laying a bit later this year as it has been a very cold winter so far in Southern Victoria. The Buffs are coming along nicely around the traps but the other colours have a way to go; with the exception of some Blues I have seen belonging to Valda Jackson, which was very encouraging at the Kyneton Feature Cochin Show in November 2010.

I am very pleased that there are still plenty of newcomers to the breed and that speaks well for the future. I should have quite a few eggs spare this year as I am not setting many as I am relocating. Keep breeding from those birds that display masses of feather and cushion, look to the size in your birds too. Colour and foot feather in my opinion is the next consideration. A little trimming of the fluff around the vents is also a requirement I still pluck, not cut feathers but you must only do a small amount at a time. Vulture hock in Cochins is not an issue so let's keep it that way. When breeding buffs select for good depth of under colour as this will help maintain good rich gold top colour. Don't tolerate too much black in tails as it is hard to get out once bred in to your lines, but white is worse. Keep your buffs out of the harsh summer sun to, as it fades them rapidly and ruins them for show.

Buff Cochin Cockerel (Paul Rodgers) Photo: © L. Price

They say time flies when you are having fun I must have been having a ball. Now it was great to hear about 2 of our members showing at Canberra this year well done Victoria and Franz. I am proud that these good people made the effort to get our breeds out there. I hope that many of you can make it to Queanbeyan for our club show, as it is great time to catch up with others and compare notes. Well that is all from me, all the best to every one for their breeding season and keep looking up, you never know what is around the corner. The Cochin Man

Champions of the Cochin Breeders Group of Australia Annual Show

CHAMPION COCHIN
Buff Hen- Paul Rodgers

BEST COCHIN AOC
Blue Laced Gold Cock – Victoria Fulton

~NEWS FLASH~

Congratulations Victoria Fulton! Victoria's Blue Laced Gold Cock bird caused quite a stir amongst Brahma and Cochin breeders, and judges and exhibitors from The Orpington Club of Australia. His type was considered exceptional by all who had the pleasure of seeing him. One of the Orpington judges described him as being 'a very well balanced bird, of excellent type'. What a compliment! The back story is; he wasn't meant to be shown because he had a few broken tail feathers. He was only at the pavilion because a member had brought him to the show to return to Victoria, along with some of her other birds, after looking after them while Victoria moved house. Interestingly, his father was a Buff Cochin and his mother was a single combed Splash Buff Columbian with lacing. His mother's father was a Blue Laced Gold Brahma and her mother was a Blue Buff Columbian Brahma. The same Blue Laced Gold Brahma Rooster is also the great grandfather of Victoria's yellow-legged Black Brahma. I was saddened to hear Victoria's Blue Laced Gold Cochin Cock passed away not long after the show. He fell ill whilst being minded by a friend. We hope his mother will produce more birds, with his size, balance and type for you Victoria. *LP*

Cochin Breeders Group of Australia 2011 Show Champions

Champion Cochin	Paul Rodgers	Buff Hen
Best Buff	Paul Rodgers	Buff Hen
Best AOC	Victoria Fulton	Blue Laced Gold Cock

Above: Canberra National Champion Cochin, a Buff Cochin cockerel (Brett O'Brien) and a Buff Pekin pullet owned by Kevin Adams.

Club members at the 2011 Annual Show in Queanbeyan

BRAHMA CLUB OF AUSTRALIA

12th Annual Show

Brahma & Cochin

5th August 2012

Queanbeyan Showground Poultry Pavilion, Glebe Avenue - Hosted by Canberra Queanbeyan Poultry Club, NSW

9am Start Sunday 5th

Did you know?

The Golden Crele colour in Brahma and Cochin has essentially the same mix of genes in its makeup as a Gold Partridge but with the addition of the sex-linked barring gene. This is the same barring gene that is present in Plymouth Rocks.


Photo © Andy Vardy


Photo © Andy Vardy


Photo © Andy Vardy


Photo © V. Sherborne Fulton


Photo © Victoria Sherborne Fulton

Cochins from the 2012 Canberra National


Photo © Andy Vardy

Top Left: Champion Cochin – Buff Cockerel (Brett O'Brien). Top Right: Reserve Champion - Buff Hen (Brett O'Brien). Centre Left: Head shot of Champion Cochin. Centre middle: Head shot of Buff Cockerel (Victoria Sherborne Fulton). Centre Right: Buff Cockerel (Victoria Sherborne Fulton). Immediate Right: Headshot of Reserve Champion.

Blue Brahma Pullet (Joel Giusti) Photo: © L. Price

How I Started

….and a little bit more

By Luke Price

My first introduction to Brahmas was through some friendly members of the Central Coast Poultry Club (CCPC), who had Bantam Light Brahmas. Whilst I thought the Bantam Lights were superb, it was at the 5th Annual Brahma Club Show, held in the magnificent pavilion of the CCPC, in Wyong NSW in 2004, that I became hooked. As a member of the CCPC, I attended the show to look at the unusual birds on display. After watching Dallas Smith diligently judge these impressive fowl, I was drawn to the large Brahma on display. I was fortunate enough to listen to a lively discussion about the Australian Standards of Perfection for Brahma, and after asking Andrew Rathbone and Bryan Jon a million questions, joined the club. Bryan was kind enough to give me a pair of Standard Gold Partridge Brahma to start me on my way. But the story doesn't end there, it wasn't until over a year later that I was able to begin breeding Brahma.

My rooster, whilst looking very impressive and dominant over his partner, acted like a broody (clucky) hen and wasn't interested in siring offspring. Although he never fathered any children of his own he was a fantastic father and fostered many chicks from the other breeds that I kept and in later years raised many Brahma and Cochin chicks. To add to my less than ideal start, less than a month after bringing the pair home I almost lost them to a respiratory infection. But with the help of my Mum, a registered nurse, we rehabilitated the pair and brought them back to good health. It took over a month of hand feeding both birds, whilst they lived in boxes in our lounge room, and a lot of antibiotics to restore their health but our efforts paid off.

Some may ask, why would we have bothered to put so much effort into restoring the health of my Gold Brahma pair? Especially considering the rooster was not performing his role description. Besides the fact that my folks and I will always try and save the life of a sick bird if we have the means, it was also incredibly difficult to get hold of any Brahma in colours other than Light, particularly in the Standard size. Therefore these two birds, and especially the hen, were like, pardon the pun, 'Gold' to me. Both birds were by no means stand out Brahma, they had walnut combs (not the desired pea comb), the rooster was too short in the leg, the hen had dusky legs with very indistinct pencilling and was also split for the wild type and brown E series alleles. True breeding Gold Partridge should have purity of the E series allele brown (eb). The absence of any patterned feathers on her upper chest gave some indication that she possessed both the wild type (ewh) and brown E series alleles, but it was the salmon breasted pullets that she produced a few years later when paired with a Golden Crele Rooster that confirmed my suspicions.

Some time later, Bryan Jon flew to Sydney for a holiday and brought some eggs up with him; these were a mixture of colours including Gold Partridge and experimental Gold Laced. After a 2 hour drive to Sydney to pick up the eggs, I was heading home with what would become part of my foundation flock. Not long after these birds had reached maturity, I attended the 6th Annual Brahma Club Show 2005, in Albury; where I

was given a second rooster from Bryan, a Golden Crele, and also purchased a trio of Gold Partridge from Andrew Rathbone. The Gold Partridge Rooster later turned out to be infertile; and down the track Andrew informed me that he had also had issues with rooster fertility and many of his Gold Partridge Roosters were also infertile. I think Andrew ended up using his 3rd or 4th best Gold Partridge Rooster that year; a good example of why it is important to keep some spare roosters as a 'back-up'. Following these acquisitions, it was in mid 2005 that I was finally able to begin breeding Brahma.

My interest in Brahmas has not only developed because I like the look of the breed. A big part of my desire to keep Brahma is because it gives me the opportunity to be involved in the recreation of a lost breed in Australia, which I think is very special. Brahmas, and Cochins, also allow me to foster my keen interest in the development and improvement of different colours which has grown out of my passion for 'genetics'. This passion has led me to acquire many other colours of Brahma over the years, by picking them up at club shows and making several road trips to Melbourne to visit fellow enthusiasts. Several breeders have generously provided me with these colours, giving them away or selling them at reduced cost; Andrew Rathbone, Bryan Jon and Rocky Delaney, to name a few. Whilst I dabble in the creation of a colour or two, in the past, much of the creating I have been involved in has been carried out with the help of fellow enthusiasts including; Daron Pratt (from the CCPC), Joanne Aggar, Victoria Sherborne Fulton, Belinda Bertram, Cindy Pretty, Bryan Jon and Joel and Gianni Giusti. I'm very privileged to be a part of both the CCPC and the Brahma and Cochin Club, whose members are so supportive.

Even with all the help I have received, the creation process has been slow. Several years ago I moved to Adelaide South Australia to study, leaving my birds in the care of my parents in NSW, who have also developed an interest in the breed. It is hard work continuing with my hobby from so far away and I'm very fortunate to have my folks as partners in the journey. Without their support I would have had to give the Brahmas away years ago. My folks and I now maintain far fewer birds than we had in the past and this year we are likely to only hatch a few birds under broodies. However, with the kind support of a friend and fellow CCPC member Daron Pratt, and the use of the club incubator which he maintains, I hope to have a few extra chicks on the ground. Whilst we have had to reduce our numbers we have endeavoured to continue to promote the Brahma and Cochin breeds and carry on the friendly tradition of the club by supporting newcomers to the breed and other club members by giving many birds and eggs away. I have passed on or loaned much of my breeding stock, in several colours, on to Joel and Gianni Giusti, Franz Mahr, Joanne Aggar and Victoria Sherborne Fulton, several breeders with lovely fowls of their own, who are doing great things with them! Well, I shall leave the story of my introduction to Cochin for another day. I look forward to the day when I'm settled and have the opportunity to spend more time on these breeds. *LP*

Birchin Cockerel (Bryan Jon) Photo: © L. Price

Psychiatrist: What's your problem?

Patient: I think I'm a chicken.

Psychiatrist: How long has this been going on?

Patient: Ever since I was an egg!

My chick feeding regime

By Franz Mahr

Over the last three to four years I have been experimenting with an improved diet program for my newly hatched chicks.

When I first started breeding I hatched both naturally and artificially as I only had a small capacity incubator and what else do you do with clucky hens! After this first season though, it was very obvious that the artificially-reared birds were of a larger size. Both groups of chicks had been fed the same food (chick starter) and had the same access to water. The only real difference I could determine was that my brooder used incandescent light bulbs as the only heat source, thereby exposing the chicks to a 24 hour lighting period. Potentially these birds could feed at any time during a 24 hr period. Immediately I thought, "can I improve their size even more"? So I started looking at protein levels in chick starter as well as researching what the maximum protein levels young chicks could tolerate. I found many studies using over 30% protein (some as high as 64% (Ketola and Nesheim 1974)) so I decided my initial feed would be a commercial crumble at a protein level close to 30%. After some quick research I found a commercial turkey starter with a protein level of 28%. My chicks seemed to thrive on this and grew fast! However, I noticed that at about 8-10 weeks that my mortality rate was higher than I expected; I lost 12 chicks from 70 hatched. I didn't think much about it at the time and assumed it was just a freak event.

I kept on looking for new information on maximising bird size and in a discussion I had with another breeder I decided to add glucose to the water at the rate of 1 teaspoon per litre for the first week. This is a critical time in chick gut length development as the more nutrients they take in over the first three days, the longer the total gut length. This in turn means potentially larger adult birds. The reason I continued to add glucose to the water for the first week was to accommodate a staggered 3-4 day hatching period.

Bantam Light Cockerel (N & L Lynch) Photo: © L. Price

My next hatch again showed fast early growth but again the slightly higher than expected mortality rate (14 from 82). More research and discussions with other breeders allowed me to identify why my mortality rate was probably running high; the protein level I was using was putting too much strain on the young birds' kidneys and they were probably dying from renal failure. So, more research, more discussions with breeders and I have come up with a diet that this year has seen a reduced mortality, only 6 birds from 82 (2 were leg deformities). By blending the commercial chick starter and turkey starter at a 1:1 ratio I have lowered the protein level to 24% and have shifted from glucose to an electrolyte mix used for greyhounds and a powered amino acid complex. Both of these products are used at the recommended rates. Recent studies have shown these two products, supplied in the early stage of development, increase the final weight of adult birds (Geyra *et al* 2001).

After hatching, chicks are removed as soon as they are dry (approx 6-8 hours) to a heated brooder box under a 24 hr lighting regime. The amino acid/ electrolyte blend is supplied to the chicks for the first 7 days, ensuring all chicks are exposed to the blend for at least the critical three day period of intestinal growth (Croom *et al*

1999). After this period, the chicks are supplied with fresh water and the 24% protein chick mix for the next 4 weeks. The heat is slowly reduced from 36 ^{o}C to 15 ^{o}C over this 4 week period and 2 days before they are moved outside, all heating is turned off.

When the birds are moved outside they are maintained on the 24% protein chick mix for a further 4 weeks (so 8 weeks in total) and are put back on the amino acid complex (no electrolytes) for a week to minimise the stress associated with the move.

At the end of the eight weeks on the chick starter a one week transition period is used to switch the birds to commercial pellets, by slowly increasing the pellet to chick mix ratio. A scratch mix (approx 1 kg/50 birds/day) is also introduced at this time to keep the birds active and stimulated. This is spread on the ground and straw of the run to promote "scratching".

To date the changes made to the feeding regime of my chicks has been ad hoc and unstructured. Although the benefits seem to be visible in my birds, and significant weight gains have been observed in this year's young pullets compared to last year's birds of the same age, it is hard to say how much better this program is to what I originally started out using. There are too many other variables that could be causing improved bird size.

Blue Buff Columbian Pullet (N. Mahr) Photo: © L. Price

To better understand this, next year I am going to start a structured study into the importance of early feeding in Brahma chicks.
Information collected will be

1. egg weight and size
2. hatch weights
3. and the tracking of individual bird's weights from day old to maturity

Whilst developing this chick feeding program it also came to light that supplying your breeding birds with some additional supplements pre egg collection can have benefits to fertility and hatch rates. The results of this supplementary adult feeding program will be outlined in a future newsletter.

Products Used

24% protein Chick Feed mix
(Blend mix of Turkey and Chick starter at a ratio of **1:1**)
Laucke Turkey Starter (28% protein) contains coccidiostat (Lasalocid sodium 100 ppm)
Laucke Chick Starter (20% protein) contains coccidiostat (Lasalocid sodium 100 ppm)

Supplementary Feed Items

Aminovit, (Solaminovit) a powered amino acid complex
Recharge, a greyhound electrolyte mix
Scratch mix: 70% wheat, 20% corn, 10% Lupins (total blend equals 14% protein). This mix is used to stimulate and exercise the chickens in my runs. The mix is put through a crusher and I purchase it in 650 kg lots. Any good grain supplier should be able to supply a similar blend.

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Dark Brahma Cockerel (N. & L. Lynch) Photo: © L. Price

Pea, Rose, Walnut & Single Comb inheritance explained

By Luke Price

In Australia, the four most common comb types you will encounter are the Single (or blade) comb, Rose comb, Pea (or triple) comb, and Walnut (or cushion) comb.

Inheritance of the genes responsible for producing the four comb types listed above is the same in all breeds of poultry, with few exceptions, and accordingly you can apply the information presented in this article to pairings involving every breed of fowl that possess these four comb types.

In addition to the four comb types listed above there are other comb types displayed in a variety of breeds. Further genes have been identified that help to produce the variety of different comb types, and include; the Duplex (either Cup shaped (D^c) or V shaped (D^v)), and Combless (bd), found in the Breda breed. To keep things simple this article will only focus on the inheritance of Single, Rose, Pea and Walnut combs. The purpose of this article is to provide you with a basic understanding of comb inheritance and present a list of expected outcomes from crosses involving the four comb types. It is hoped that this information will serve as an easy reference guide and prove of some use to most poultry breeders, particularly those with a creative inclination.

Most breeds have specific comb type requirements, and in general are only permitted to display one comb type to be considered true to type. For example; true to type Cochin must have a Single comb, Wyandotte must have a Rose comb, Brahma must have a Pea comb (Figure 1) and Malay must have a Walnut comb (also called a Strawberry comb in this breed). For a variety of reasons, you may encounter birds with a comb other than what is required in the standard of perfection for the breed, such as a Walnut comb on a Brahma.

If you have birds with a comb other than what is required for the breed but they, depending on

your needs, have some, many, or all of the other breed characteristics you desire; don't despair. You can easily mate these individuals to an appropriate bird and produce offspring which will posses the correct comb and be useful in your breeding program.

Additionally, you can use the expected outcomes below as a guide to help you with your planning of breeding pens; particularly if you would like to create a new colour in your chosen breed by introducing a new colour from a breed with a different comb type, or improve a colour variety using a different combed breed. The expected outcomes may also help you understand why you may not have observed the anticipated results from a pairing, and should also help direct you to the most appropriate crosses i.e. the ones that will take the least amount of time to reach your goal, such as one or two generations, or maximise the number of chicks hatched with the desired comb type. Depending on the comb types present on the birds being mated together, an informed decision could mean the difference between having to hatch a couple of hundred birds or a couple of dozen to get a handful of birds with the correct comb.

The four comb types are caused by the presence or absence of two genes and their alternatives; the Pea comb gene (P) and the Rose comb gene (R), and the alternatives p and r respectively. The uppercase P and R indicate the Pea and Rose comb genes are dominant to their recessive alternatives p and r. Generally a superscript plus symbol ($^+$) is used after the wild-type alleles p (p^+) and r (r^+) to indicate the wild-type condition; however I have removed this for ease of reading.

The P and p alleles are located on a different chromosome to the R and r alleles. The Pea comb allele and its wild-type alternative p are located on chicken chromosome 1 and the Rose comb allele and its wild-type alternative r are located on chicken chromosome 7 (Imsland *et al* 2012; Wright *et al* 2009). This means the P and R alleles are not alternatives of each other, i.e. they don't replace each other at a locus. Chromosomes are a physically organised form of DNA present in the cell, and are self replicating structures.

A man visits a psychiatrist and says, "Doctor, you've got to help me. My wife thinks she's a chicken!"
The doctor asks, "How long has she had this condition?"
"Two years," says the man.
"Then why did it take you so long to come and see me?" asked the shrink.
The man shrugs his shoulders and replies, "We needed the eggs."

Chickens are diploid, and possesses 38 pairs of autosomes and a pair of sex chromosomes. Autosomes are chromosomes not involved in specifying the sex of an individual. The genes responsible for comb type are present on autosomes and are therefore present in duplicate, meaning there are four genes involved in producing the Rose, Pea, Single or Walnut comb types. It is the various combinations of these four genes that make this possible. There are two loci (positions on a chromosome) available for P or its alternative p, and two loci available for R or its alternative r. How is this possible? Because one locus is present on each chromosome and therefore two loci are available per chromosome pair. The partial genotypes listed below assume homozygosity (purity) for d^+ and Bd^+, which are the wild-type alternatives of the Duplex and Combless genes, respectively. The possible gene combinations that produce the four comb types are listed below:

Single: pp/rr
Rose: pp/RR, pp/Rr
Pea: PP/rr, Pp/rr
Walnut: PP/RR, PP/Rr, Pp/RR, Pp/Rr

As you can see there is one possible gene combination which produces a Single comb; two gene combinations which produce a Rose comb; two gene combinations which produce a Pea comb; and four gene combinations which produce a Walnut comb. Images of birds displaying the four comb phenotypes are shown in Figure 3. The forward slash symbol (/) between the pea comb alleles and rose comb alleles indicates they are on different chromosomes. Some authors may use a different

notation to indicate this; such as brackets and commas e.g. Single comb represented as (p,p)(r,r) or (p,p/r,r). The expected outcomes from mating birds possessing these gene combinations together are shown below.

The Single comb is a single straight row of spikes beginning at the nostril and sweeping back past the skull, and is considered to be the wild-type comb. The Single comb is produced by the absence of the Rose comb (R) allele and Pea comb (P) allele, and purity of their alternatives p and r. Purity meaning that the two loci available for P or its alternative p both have the p allele, and the two loci available for R or its alternative r both have the r allele. The correct terminology for an individual which has two identical copies of the same allele at a given locus is a homozygote; i.e. it is homozygous for that allele. The results of crossing two Single combed birds are shown below.

Single (pp/rr) x Single (pp/rr) = 100% Single (pp/rr)

You can see this cross will always result in 100% single combed birds.

The Pea comb is smaller than the single comb, low and elliptic in shape with three longitudinal rows of papillae (small round or conical shaped bumps); with the middle row slightly higher and more prominent. When r is homozygous and the Pea comb gene P is heterozygous, the Pea comb allele shows incomplete dominance to its alternative p, and produces a somewhat intermediate phenotype. We call this an impure Pea comb or Pea split Single comb. The term Pea split Single comb could also be used to refer to the phenotype of the comb produced by this gene combination. The appearance of the impure Pea comb is similar to a Pea comb but is generally larger, less compact, lacking definition, and with a higher, more developed centre ridge (see Figure 3). It can sometimes look like a Single comb with small, blunt serrations and a few side sprigs or small ridges running along either side of a less serrated single comb. Heterozygosity for the Pea comb allele is particularly obvious when the individual also possesses genes that increase comb size, such as those present in Mediterranean breeds. Occasionally an impure Pea comb will look like a pure Pea comb with very subtle changes in appearance, and one may be led to think it is a pure Pea comb; which is slightly untidy or poorly developed. This can sometimes lead to confusion, especially when Single combed offspring are unexpectedly bred from two individuals that were thought to possess pure Pea combs. The Pea comb gene has pleiotropic effects and is not only responsible for a reduction in comb size and alteration of comb shape, but causes a reduction in wattle size and the formation of a dewlap (ridge of thickened skin) that runs from the chin to the breast bone (Crawford 1961; Munro and Kosin 1940)

But what does this all mean? You may say. It means that when a Rose comb (R) gene is not present, then only one copy of the Pea comb (P) gene needs to be present to produce the pea comb phenotype (appearance). Why is this only the case when an R gene is not present? Because when at least one copy of R and one copy of P are present, the Walnut comb phenotype is produced; but more on that later. The expected outcomes from mating birds possessing the pea comb gene P and its alternative p are listed below. You will notice that in the crosses shown below that homozygosity (purity) for the Rose comb alternative gene r is maintained.

Pure Pea (PP/rr) x Pure Pea (PP/rr) = 100% Pure Pea (PP/rr)
Pure Pea (PP/rr) x Single (pp/rr) = 100% Impure Pea (Pp/rr)
Pure Pea (PP/rr) x Impure Pea (Pp/rr) = 50% Pure Pea (PP/rr) and 50% Impure Pea (Pp/rr)
Impure Pea (Pp/rr) x Impure Pea (Pp/rr) = 25% Pure Pea (PP/rr), 50% Impure Pea (Pp/rr) and 25% Single (pp/rr)
Impure Pea (Pp/rr) x Single (pp/rr) = 50% Impure Pea (Pp/rr) and 50% Single (pp/rr)

The Rose comb can take several forms and its appearance can be quite different between breeds. Generally the Rose comb is flat and covered with small prominences, wider at the front and tapering to the back; and usually ending in a spike which points up or down, or curves around the head. When p is homozygous, the Rose comb gene R is completely dominant to its alternative r and consequently no intermediate comb phenotype is produced. To clarify; impure Rose combed individuals, with two copies of the p allele, that possess one copy of the R allele and one copy of the r allele will possess a Rose comb

without any obvious changes to the appearance of the comb. However, like the Pea comb allele, the Rose comb allele has pleiotropic effects; in addition to altering the comb shape it causes defective sperm motility (Imsland *et al* 2012). Males homozygous for the Rose comb allele show poor sperm motility. The expected outcomes from mating birds possessing the Rose comb allele R and its alternative r are listed below. You will notice that in the crosses below, purity for the Pea comb alternative gene p is maintained.

Pure Rose (pp/RR) x Pure Rose (pp/RR) = 100% Pure Rose (pp/RR)
Pure Rose (pp/RR) x Single (pp/rr) = 100% Impure Rose (pp/Rr)
Pure Rose (pp/RR) x Impure Rose (pp/Rr) = 50% Pure Rose (pp/RR) and 50% Impure Rose (pp/Rr)
Impure Rose (pp/Rr) x Impure Rose (ppRr) = 25% Pure Rose (ppRR), 50% Impure Rose (ppRr) and 25% Single (pprr)
Impure Rose (ppRr) x Single (pprr) = 50% Impure Rose (ppRr) and 50% Single (pprr)

Keeping in mind, it is the absence of either the Pea (P) or Rose (R) comb genes and homozygosity of their wild-type alternatives p and r that produces the Single comb; we move to the Walnut comb.

The Walnut comb is generally smaller, and more rounded than the Rose or Pea comb, and usually rounded at the back and lacking papillae. There is often a transverse groove which divides the front 1/3 from the rear part. The Walnut comb is created by the interaction of the Pea comb gene P and the Rose comb gene R which are epistatic to each other (Bateson *et al* 1905, 1906, 1908). The presence of one or more R allele and P allele will produce the Walnut phenotype. To reiterate; the Walnut comb is not produced by a single 'Walnut' gene it is actually the product of the expression of one gene altering the expression of another; the Pea comb allele P and the Rose comb allele R. Remember, these alleles are not alternatives of each other and you can have purity for both the P and R alleles. The expected outcomes from crosses which will produce or involve Walnut comb are listed below. With the exception of the pure Walnut comb I have refrained from individually naming the other gene combinations that produce the Walnut comb phenotype and just named them Walnut.

Pure Pea (PP/rr) x Pure Rose (pp/RR) = 100% Walnut (Pp/Rr)
Pure Pea (PP/rr) x Impure Rose (ppRr) = 50% Walnut (Pp/Rr), 50% Impure Pea (Pp/rr)
Impure Pea (Pp/rr) x Pure Rose (pp/RR) = 50% Walnut (Pp/Rr), 50% Impure Rose (pp/Rr)
Impure Pea (Pp/rr) x Impure Rose (ppRr) = 25% Walnut (Pp/Rr), 25% Impure Pea (Pp/rr), 25% Impure Rose (pp/Rr), 25% Single (pp/rr)

Pure Walnut (PPRR) x Pure Walnut (PPRR) = 100% Pure Walnut (PPRR).
Pure Walnut (PPRR) x Walnut (Pp/Rr) = 25% Pure Walnut (PP/RR), 25% Walnut (PP/Rr), 25% Walnut (Pp/RR), 25% Walnut (Pp/Rr)
Pure Walnut (PPRR) x Walnut (PP/Rr) = 50% Pure Walnut (PP/RR), 50% Walnut (PP/Rr)
Pure Walnut (PPRR) x Walnut (Pp/RR) = 50% Pure Walnut (PP/RR), 50% Walnut (Pp/RR)
Pure Walnut (PPRR) x Pure Pea (PPrr) = 100% Walnut (PP/Rr)
Pure Walnut (PPRR) x Impure Pea (Pp/rr) = 50% Walnut (PP/Rr), 50% Walnut (Pp/Rr)
Pure Walnut (PPRR) x Single (pp/rr) = 100% Walnut (Pp/Rr)
Pure Walnut (PPRR) x Pure Rose (pp/RR) = 100% Walnut (Pp/RR)
Pure Walnut (PPRR) x Impure Rose (ppRr) = 50% Walnut (Pp/RR), 50% Walnut (Pp/Rr)

Walnut (Pp/Rr) x Walnut (Pp/Rr) = 6.25% Pure Walnut (PP/RR), 12.5% Walnut (PP/Rr), 6.25% Pure Pea (PP/rr), 12.5% Walnut (Pp/RR), 25% Walnut (Pp/Rr), 12.5% Impure Pea (Pp/rr), 6.25% Pure Rose (pp/RR), 12.5% Impure Rose (pp/Rr), 6.25% Single (pp/rr)
Walnut (Pp/Rr) x Walnut (PP/Rr) = 12.5% Pure Walnut (PP/RR), 25% Walnut (PP/Rr). 12.5% Walnut (Pp/RR), 25% Walnut (Pp/Rr), 12.5% Pure Pea (PP/rr), 12.5% Impure Pea (Pp/rr)
Walnut (Pp/Rr) x Walnut (Pp/RR) = 12.5% Pure Walnut (PP/RR), 12.5% Walnut (PP/Rr), 25% Walnut (Pp/RR), 25% Walnut (Pp/Rr), 12.5% Pure Rose (pp/RR), 12.5% Impure Rose (pp/Rr)
Walnut (Pp/Rr) x Pure Pea (PP/rr) = 25% Walnut (PP/Rr), 25% Walnut (Pp/Rr), 25% Pure Pea (PP/rr), 25% Impure Pea (Pp/rr)
Walnut (Pp/Rr) x Impure Pea (Pp/rr) = 12.5% Walnut (PP/Rr), 25% Walnut (Pp/Rr), 12.5% Pure Pea (PP/rr), 25% Impure Pea (Pp/rr), 12.5% Single (pp/rr), 12.5% Impure Rose (pp/Rr)
Walnut (Pp/Rr) x Single (pp/rr) = 25% Walnut (Pp/Rr), 25% Impure Pea (Pp/rr), 25% Impure Rose (pp/Rr), 25% Single (pp/rr)
Walnut (Pp/Rr) x Pure Rose (pp/RR) = 25% Walnut (Pp/RR), 25% Walnut (Pp/Rr), 25% Rose (pp/RR), 25% Single (pp/Rr)
Walnut (Pp/Rr) x Impure Rose (ppRr) = 12.5% Walnut (Pp/RR), 25% Walnut (Pp/Rr), 12.5% Impure Pea (Pp/rr), 12.5% Pure Rose (pp/RR), 25% Impure Rose (pp/Rr), 12.5% Single (pp/rr)

Walnut (PP/Rr) x Walnut (PP/Rr) = 25% Pure Walnut (PP/RR), 50% Walnut (PP/Rr), 25% Pure Pea (PP/rr)
Walnut (PP/Rr) x Walnut (Pp/RR) = 25% Pure Walnut (PP/RR), 25% Walnut (PP/Rr), 25% Walnut (Pp/RR), 25% Walnut (Pp/Rr)
Walnut (PP/Rr) x Pure Pea (PP/rr) = 50% Walnut (PP/Rr), 50% Pure Pea (PP/rr)
Walnut (PP/Rr) x Impure Pea (Pp/rr) = 25% Walnut (PP/Rr), 25% Walnut (Pp/Rr), 25% Pure Pea (PP/rr), 25% Impure Pea (Pp/rr)
Walnut (PP/Rr) x Single (pp/rr) = 50% Impure Pea (Pp/rr), 50% Walnut (Pp/Rr)
Walnut (PP/Rr) x Pure Rose (pp/RR) = 50% Walnut (Pp/RR), 50% Walnut (Pp/Rr)
Walnut (PP/Rr) x Impure Rose (ppRr) = 25% Walnut (Pp/RR), 50% Walnut (Pp/Rr), 25% Impure Pea (Pp/rr)

Walnut (Pp/RR) x Walnut (Pp/RR) = 25% Pure Walnut (PP/RR), 50% Walnut (Pp/RR), 25% Pure Rose (pp/RR)
Walnut (Pp/RR) x Pure Pea (PPrr) = 50% Walnut (PP/Rr), 50% Walnut (Pp/Rr)
Walnut (Pp/RR) x Impure Pea (Pp/rr) = 25% Walnut (PP/Rr), 50% Walnut (Pp/Rr), 25% Impure Rose (pp/Rr)
Walnut (Pp/RR) x Single (pp/rr) = 50% Walnut (Pp/Rr), 50% Impure Rose (pp/Rr)
Walnut (Pp/RR) x Pure Rose (pp/RR) = 50% Walnut (Pp/RR), 50% Pure Rose (pp/RR)
Walnut (Pp/RR) x Impure Rose (ppRr) = 25% Pure Rose (pp/RR), 25% Impure Rose (pp/Rr), 25% Walnut (Pp/RR), 25% Walnut (Pp/Rr)

The expected percentage of comb types hatched is not affected by the sex of the birds mated together because the comb genes are autosomal (located on chromosomes not involved in specifying sex). E.g. a Pea combed rooster can be mated with a Single combed hen and vice versa and the expected ratios of comb types in the hatch is always the same for males and females.

If you are unsure what combination of comb alleles a bird possesses then mate it to another bird with the same or different comb type, and see what you produce. You can then look at the expected outcomes above, compare them to your actual birds hatched and make an informed inference of the comb gene combination the bird possesses. Make sure you hatch a large number of chicks otherwise you won't see a true reflection of the expected outcomes in your actual hatch.

You can see above that some crosses are likely to be more beneficial than others if you are aiming to produce more offspring of a particular comb type. This is important to note because the more variation you have in your offspring the more birds you have to hatch to produce birds that conform to the standards. When you take into consideration all the other genes involved in producing a true to type Brahma or Cochin, e.g. Feathered legs, leg colour, plumage colour, size, shape, brow etc., you can see how increasing the number of offspring with the desired comb type can improve your chances of producing a useful bird (i.e. possessing the correct colour and all the desired breed characteristics); saving you time and money. If the comb genotypes of the parent birds are known, we can predict which comb types will be present in the offspring produced; but keep in mind we are dealing with complex organisms and not mathematical equations, so expected results will vary.

Comb shape and size can vary greatly, even between birds with identical comb alleles. Hence, two birds with the same genotype for combs (e.g. pure pea comb PP/rr) may have very different looking combs (Figure 2). This is because there are other genes that can modify the shape and size of the comb. An example of this is clear when you compare the Single comb of a Leghorn (a Mediterranean breed) and the Single comb of a Plymouth Rock. The Leghorn breed's comb type is much larger and a different shape than the comb type of the Plymouth Rock. Combs can also vary dramatically between different strains of the same breed, as shown in Figure 2. This is often seen in Wyandottes where some strains have large coarse Rose combs and other strains display small smooth Rose combs. Some genes which modify comb shape and texture have been identified and others simply theorised, however an exploration of the inheritance of genes which modify the shape, size and texture of comb types will have to wait for a future article.

Thanks taking the time to read my article. I sincerely hope it will help you with your poultry breeding endeavours. If you are interested in knowing more about comb inheritance have a read of the references listed below. The Imsland *et al* (2012) and Wright *et al* (2009) papers are excellent, and demonstrate how the application of molecular genetic techniques is shedding light on the molecular machinery responsible for producing these complex traits. *LP*

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Glossary

Autosomes: chromosomes not involved in specifying sex.
Allele: an alternative form of a gene.
Chromosome: a physically organised form of DNA in a cell. The fowl has 38 pairs of autosomes (=76 total) and a pair of sex chromosomes, for a total of 78 chromosomes.
Diploid: having a pair of each type of chromosome.
Dominant: the allele that generates the phenotype in a heterozygous organism.
Epistasis: the interaction between two or more nonallelic genes to control a single phenotype (epistatic *adj.*).
Expression: the process by which the information in a gene is made into a functional gene product.
Gametes: the haploid germ cells; sperm in males, eggs (ova) in females.
Genotype: the genetic composition of an organism.
Haploid: having a single set of chromosomes.
Heterozygote: has two different alleles at a given locus (heterozygous).
Homozygote: has two identical alleles at a given locus (homozygous).
Incomplete dominance: in a heterozygote both alleles at a locus are partially expressed, resulting in an intermediate phenotype.
Linkage: measure of the probability of two genes being transmitted together to offspring.
Locus: the particular point on a chromosome where a gene is located (loci *pl.*)
Meiosis: the process of cell division by which gametes are formed.
Mendel's laws: all alleles for a character segregate independently of one another and each is represented in 50% of the gametes and all gametes have an equal chance of fertilisation.
Phenotype: the observed physical and physiological traits of an organism, produced by the genotype in conjunction with the environment.
Pleiotropy: The control by a single gene of several distinct and seemingly unrelated phenotypic effects (pleiotropic *adj.*).
Recessive: an allele that only generates a phenotype if it is homozygous.
Sex chromosomes: chromosomes which determine the sex of an individual. ZW in females and ZZ in males. The W chromosome in females is very small and does not carry the same genetic information as the Z chromosome.
Sex linked: carried by a sex chromosome.
Wildtype: allele(s) responsible for the 'normal' (non-mutant) phenotype.

Membership Renewals Are Now Due for 12/13

Our membership year runs from the first Sunday in July. Full membership is $15 per annum and junior membership (under 16 yrs.) is $7. By becoming a financial member of the Brahma Club of Australia and Cochin Breeders Group of Australia you will be doing your bit to financially support and empower our club and group to promote and develop the Brahma and Cochin breeds.
Membership fees help to pay for website hosting and services, a website domain name, trophies and prizes for our annual club show, and the printing and distribution of our newsletter. As a financial member you receive a copy of our biannual newsletter, unrestricted access to our website pages and eligibility to vote at our AGM and have your say in the running of our club and group.

You can now pay your membership fees by direct deposit. For details see page 32 of this newsletter.

Please note our Club Secretary has a new postal address (see page 33).

The membership form can also be downloaded from our website.

Important: please provide your email address if you have one

Figure 1. Selection of Pea combs (PP/rr or Pp/rr) from the 2011 Brahma Club of Australia National Show. You can see the combs vary dramatically in shape, size and texture despite being either pure Pea (PP/rr) or impure Pea (Pp/rr) combs. Top row from left: Btm Dark Ckl; Std Speckled Hen; Std Black Hen. Middle row from left: Std Birchin Ckl; Std Barred Buff Columbian Ckl; Btm Light Ckl; Std Dark Hen. Bottom row from left: Std Blue Plt; Std Black Ckl; Std Blue Buff Columbian Plt; Std Light Plt. Photos © Luke Price.

New Class for Brahma and Cochin

Work In Progress (WIP)

This year's annual show will feature, for the first time, a Work In Progress class. Any colour variety, including non-standard colours can be entered if the breeder considers the bird to be a 'work in progress', i.e. the colour, type or certain breed characteristics aren't correct for the Australian Standard of Perfection. Birds entered into this class will be clearly identified on the pen as a WIP and will not compete against other classes for the major awards but will be eligible to win Best WIP (Cochin and Brahma), Club Medallion, Breeder of the Year and Rookie of the Year. WIP will give you a chance to show the results of your hard work, receive constructive comments from an expert judge; help with planning breeding pens and working out 'where to next?' Whether creating new colours or improving standard colours, this new class will also provide breeders with an opportunity to swap and sell birds that will help assist each other with our breeding programs.

Figure 2. A selection of Pea combs on birds from the pens of Franz Mahr. You can see the combs vary in shape and size yet there are common characteristics between related birds. The combs of the two gold laced birds on the left, whilst differing in size and coarseness, have a characteristic fold in the lower half of the comb. The combs of the Barred Buff Columbians on the right don't possess this fault. Clearly there is a genetic basis for the fold in the comb, i.e. the comb's appearance is not a product of chance; it is an inherited trait and is likely to become fixed in the line if not selected against. Photos © Franz Mahr

Figure 3. Top row from left: Pea comb (PP/rr) (*Photo © Hans-jürgen Neder*); Rose comb (pp/RR or pp/Rr) (*Photo © Co Pham*); Walnut comb with modifying genes (PP/RR or PP/Rr or Pp/RR or Pp/Rr) (*Photo © Bryan Jon/Meade*); Pea comb (PP/rr) or impure Pea (Pp/rr) (*Photo © Victoria Sherborne Fulton*). Bottom row from left: Walnut Comb (PP/RR or PP/Rr or Pp/RR or Pp/Rr) (*Photo © V. Sherborne Fulton*); Rose Comb (pp/RR or pp/Rr) (*Photo © Co Pham*); Single comb (pp/rr) (*Photo © V. Sherborne Fulton*); Impure Pea comb (Pp/rr) (*Photo © V. Sherborne Fulton*).

Brahmas in Sweden

By Johan Wiklund

Johan's Bantam Partridge and Blue Partridge Brahma.

Hello people down under :-), in this short story I will try to tell how, at least me and my nearest friends with Brahmas, we breed them with the winters and predators we have here in the southwest of Sweden in Vastra Gotaland near Gothenburg. Two of the last three winters have been pretty harsh. The snow depth has been about 1.20 meters and minus 20˚C. None of my Brahmas have put their necks out to smell the snow hehe. Up in the north they have much worse with temperatures down to minus 40˚C and a lot more snow ;-) Since we have winter from November until March we start our breeding season approximately in January to have the big Brahmas grown and ready for our National display in November. If we're lucky the chickens can roam around and feast on fresh grass in April, this winter came late and following spring has been wet and a lot of snow, as of today not all of my Brahmas living in their summer housing yet. But today I have been out all day building new houses because yesterday I was at a friends and picked up some blue partridge, partridge, black and blue bantam Brahma. They will hopefully start laying eggs in June/July. Our summer has a max temperature of up to 30-35˚C, but more likely around 25-30˚C in June-August so pretty hot anyways but I figure that's nothing compared to you guys :-). So in the summer months there's a lot to do in this short span of summer months. Now let's talk about our predators here in Sweden at least we have only one poisonous snake that's our viper with a clear zigzag pattern on their backs and only two colours black and brown. I would have been terrified with all poisonous animals you got. But back to the predators, in all Sweden we have foxes and they are probably the worst, they dig in to the henhouses so we must dig down our nets at least 50 cm so the foxes won't dig in. Also there's a small population of wolves here in the Southwest of Sweden that might be a problem if their numbers grow too much, up north the wolves are at a greater number so the threat from them is bigger. Here in Sweden we also have brown bears and wolverines but I haven't heard anything about they attacking henhouses anyway, but a couples of times per year their is close encounters with people but rarely fatal. The most growing threat against our hens is probably the mink; fast and slender they bite the heads of every fowl, all for pleasure kills. Also we have ferrets and another growing

Johan with one of his young Partridge Brahma roosters.

threat is the raccoon dog, we also have bobcats but we rarely see them they are very shy. That was most of the four legged ones, then we have the ones coming from the skies first the Eagles, they have been almost extinct but are coming back strong and we hear more and more about them taking our fowls but the worst predator bird we have is the goshawk. They are the most aggressive one and are furious in their attacks and the roosters can't do anything, they just sink their big claws in the necks and they're gone. That pretty much sums up our predators here in Sweden. Now let's close this story talking a bit more about our lovely Brahmas. We are lucky here in Sweden due to the fact that we live near countries with a long Brahma history so we can easily pick up new blood to our own so the work can carry on. We import eggs from the Netherlands, Belgium, Denmark, Great Britain and Germany. I think here in Sweden we don't try so much to bring up new colours instead we work to get best there is in existing colours the newest we probably working on right now is the Isabelle partridge both bantams and big ones. I really hope you can get hold of new blood from Europe soon so your work can become easier. I truly admire your work from the start with your Brahmas with all the problems you encounter with faulty combs, patterns, less foot feathers and so on. It feels I don't have to work as hard as you guys I just look around see something I like, buy eggs or animals take them home and in a couple of generations I hopefully have what I was aiming for that time around; until the next thing comes up. Cause the quest never stops, so keep up the good work mates, your reward will come; it's around the corner :-)

One of Johan's Dark hens. Four other hens also pictured – can you guess what colour they are?

Johan Wiklund

A group of Johan's Light Brahma Bantams.

In the next newsletter…

Spring/Summer edition

- Results of the 2012 Annual Brahma and Cochin Show
- Minutes of the 2012 AGM
- Have Brahma & Cochin united as one club?
- Treasurer's report
- How I Started….By TBA
- Inbreeding - is it good or bad? *LP*
- Attempting to improve egg quality for better hatch rates *FM*

and much more……..

The Brahma Club of Australia 12th Annual Show & Cochin Breeders Group of Australia 3rd Annual Show

Sunday 5th August 2012

The 2012 national shows of the Brahma Club of Australia and the Cochin Breeders Group of Australia will be hosted by the Canberra Queanbeyan Poultry Club (CQPC) who have kindly offered to include our classes as part of their annual and rare breed show.

All of the usual classes and awards are available; however entries need to be made via the CQPC Annual and Rare Breed Show schedule and entry form. The schedule and entry form have been posted to members with this newsletter.

A major benefit of the 2012 show arrangement will be eligibility to win awards of the CQPC Annual and Rare Breed Show as well as our own club awards.

Entries Close Tuesday 1st August 2012 (For late entries contact Terry Turner on 0416 058 647 or Luke Price 0431 346 326 but there is no guarantee there will be a place for your exhibits)

Show Secretary: Terry Turner ph: 0416 058 647 email: secretary@cqpoultryclub.com

Schedule and entry form available on request or visit www.cqpoultryclub.com to download one.

Entry Fees: See CQPC Annual and Rare Breed Show schedule and entry form, available from Terry Turner.

Where: Queanbeyan Showground Poultry Pavilion, Glebe Avenue

Judges: Dale Ashton (Large) and Wayne Rigby (Bantam)

Time: 9am

Chief Steward for Brahma and Cochin: Luke Price

Stewards: TBA

Penning: Exhibits must be penned before 9 am Sunday 5th August. The pavilion will be open between 4pm and 8pm Saturday 4th August 2012 and before 9am show day. Please let Terry or Luke know if you need to get in at other times. Contact Terry on 0415303464 or Luke on 0431346326.

Show Classes

Brahma

The "Premier 3" Classes

- Dark
- Light
- Partridge includes Gold and Blue Gold

All Other Classes

- Columbian AC (All colours with a Columbian pattern) includes Blue Light, Buff Columbian, Blue Buff Columbian, and White Buff Columbian.
- Self Colour AC includes White, Black, Buff, and Blue.
- Barred AC includes Barred, Cuckoo, Buff Cuckoo, Barred Light, Barred Buff Columbian, Golden Crele, and Silver Crele.
- AOC (All Other Colours) includes Chamois, Salmon, Splash, Speckled, Gold Laced, Silver Laced, Blue Laced Gold and others.
- WIP (Work in Progress) includes all colour varieties including non standard colours

Cochin

- Buff
- AOC (All other Colours)
- WIP (Work in Progress) includes all colour varieties including non standard colours

AWARDS

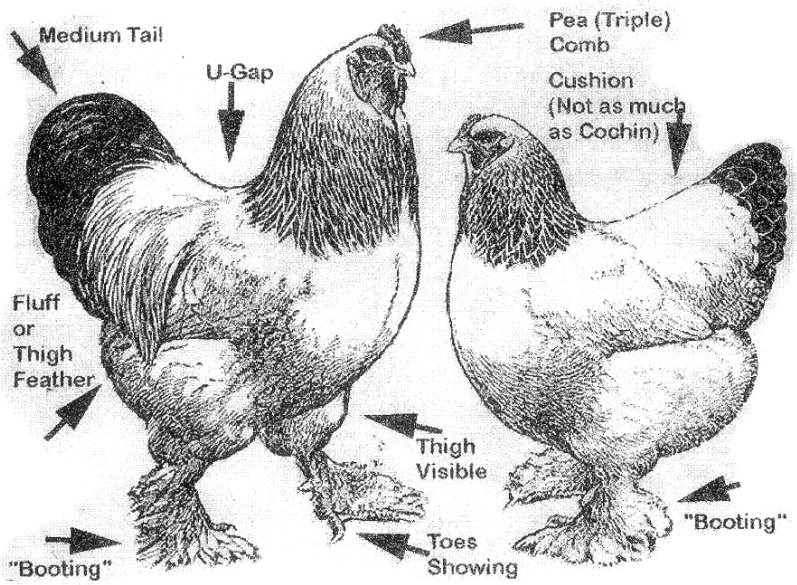
BRAHMA

Champion
Reserve Champion
Best Dark
Best Light
Best Partridge
Best Columbian AC
Best Self-Colour AC
Best Barred AC
Best AOC
Best WIP

For both
Standard and Bantam

COCHIN

Champion
Reserve Champion
Best Buff
Best AOC
Best WIP



Recognition Awards

Champion Junior
Lance Hicks Memorial Award
Hall of Merit – Life Membership
Best Hen/ Pullet
Judge Medallion
Breeder of the Year

Annual General Meeting
Saturday 4th August 2012 - 4 pm

Show Society Office, Queanbeyan Show Grounds, Glebe Ave

Draft Agenda

Opening remarks / welcome	**4.00 pm**
Introductions and apologies	**4.10 pm**
Minutes of 2011 AGM	**4.20 pm**
Matters arising from previous minutes	**4.25 pm**
Adoption of annual reports	
Motion that the minutes be accepted:	
*Moved*_____ *Seconded*_____ *Accepted Y / N*	
Annual executive reports	
Brahma Club President	**4.30 pm**
Cochin Group President	**4.40 pm**
Secretary	**4.50 pm**
Adoption of annual reports	
Motion that the executive reports be accepted:	
*Moved*_____ *Seconded*_____ *Accepted Y / N*	
Presentation of accounts (Treasurer)	**5.05 pm**
Adoption of accounts	
Motion that the accounts be accepted:	
*Moved*_____ *Seconded*_____ *Accepted Y / N*	
Correspondence (Secretary)	**5.15 pm**
Amalgamation of Brahma Club and Cochin Group	**5.20 pm**
Election of the Office Bearers	**5.40 pm**
Brahma Club of Australia	
President *Moved:* _____ *Seconded:* _____ *Accepted Y / N*	
Vice President *Moved:* _____ *Seconded:* _____ *Accepted Y / N*	
Cochin Breeders Group of Australia	
President *Moved:* _____ *Seconded:* _____ *Accepted Y / N*	
Brahma Club and Cochin Group	
Secretary *Moved:* _____ *Seconded:* _____ *Accepted Y / N*	
Treasurer *Moved:* _____ *Seconded:* _____ *Accepted Y / N*	
Editor *Moved:* _____ *Seconded:* _____ *Accepted Y / N*	
Patron *Moved:* _____ *Seconded:* _____ *Accepted Y / N*	
Break	**5.55 pm**
General Business	
Venue for 2013 Show	**6.05 pm**
Raffle Items	**6.10 pm**
Website	**6.15 pm**
Online membership application and payments	
New pages – e.g. FAQ	
The new Australian Standards	**6.25 pm**
Errors and other problems with the standard	
Drafting a letter to the standards committee	
Production of a Brahma and Cochin 'Standards and Colours Guide'	**7.00 pm**
Meeting close	**7.20 pm**

Membership Form

See our website 'Join Our Club' page for an updated membership form.

Contacts

See our website Contact Us page for updated details