Coconut Husk Chips Follow-up to FAQs

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Several questions have arisen about the use of Coconut Husk Chips (CHC) that we felt would be best answered in a follow up.

First, all Coconut Husk Chips are not all the same, and the product we are using and recommending is not the same product that was available several years ago, and is indeed different from many others that are now on the market. The CHC we are suggesting for use has been washed and pressed three times prior to drying and being compressed into bales for sales. This accomplished a few things, the main one being to greatly reduce the initial salt load of the husk. As our article points out, we still do 3 washes to further eliminate salts since we deal with what we consider to be sensitive genera. The importer (Crystal Corporation of St. Louis) also believes that the pressing opens the fiber up a little and that this makes it a better product. At this time, we have not tested CHC from any other sources. I have been asked about several, but we cannot answer about their use as we have no experience with them yet. I have been contacted by one supplier who said he had exactly the same product, but when I asked if he could say with certainty that it had been pressed and washed three times I did not get an answer. I do understand that he has since told others yes, so perhaps he has been able to clarify that situation, and if so I'll obtain some bales from him and test them, and if they prove equal will list them as another source. It is my understanding that even the loose bags of coconut husk chips from Crystal are not at this time the same as the washed and pressed bales, therefore I would certainly ask them about the product and its processing before purchasing. The point of this is, if you tried CHC a few years back, this is a somewhat different and decidedly better product.

We've also been careful to be clear about what Coconut Husk Chips are, but I see through questions and online forums that there is still a lot of confusion regarding CHC versus coir. Coir is a very different product from CHC, as it is basically finely ground coconut husk, whereas the CHC is cut to fairly uniform pieces that are available in three sizes similar to the old Sequoia bark. Coconut Husk Chips would be analogous to Sequoia bark, whereas coir would be to peat.

It is also important to remember that you should adjust any mix to your growing conditions, pot sizes, light intensity and heat availability, and genera grown. We currently use a mixture of two sizes of CHC and amendments consisting primarily of two grades of Aliflor (small and medium) and two grades of charcoal. Some folks can grow quite successfully under certain conditions in pure CHC, others, because of their different circumstances in growing, need to amend the mix (i.e. add either more or less CHC, or more or less Aliflor) to alter its air and water holding characteristics, and its drying characteristics. We listed the current mixes we are using, but indicated that they no doubt will undergo some alterations as we move along and gain more experience with the CHC mix under our conditions. There is nothing magical about these formulations, they are just a starting point that works for us. While we use a pretty standard formulaation for a given pot size for seedlings, we can actually custom tailor the mix

slightly for larger pots of stud plants. This is basically a case of one size does not fit all. We've communicated recently with folks using other mixes that were losing plants after bringing them indoors (not potted in CHC) from growing outside over summer. After some questioning it was determined that they were basically all potted as a "one size pot and mix fits all", and outside the plants got along okay, but then when put back under the HID lights, three to four days after watering some pots were bone dry and some were still wet. Some repotting in different size pots to suit the size of the root system (and not the size of the top growth) and mixes more suitable to the underlight condition will hopefully remedy this situation. It should be noted that plants under fluorescent lights will dry out considerably faster than those growing under HID, due to the heat generated by the former, and the plants generally being placed much closer to the light source (several inches versus several feet). Thus, plants grown under fluorescent lights may need less Aliflor, while those grown under HIDs may need more Aliflor. If you are careful it is possible to gently unpot the plant if you are not sure how well it is growing, and this will allow you to check the root system to see whether there are any new roots tips forming.

There also have been lots of questions about water and water retention. A couple of points are important to remember here, the first perhaps being that air capacity is at least the equal part of the equation for avoiding root rots, and CHC is at least the equal in air capacity of the same size bark, and retains this capacity while bark starts to break down rapidly, losing air capacity and increasing water capacity. You can also, of course alter the air and water capacity of the CHC mix with the use of the amendments, and this is what we suggest you do to customize the mix to your plants, conditions and how they are growing for you. Another variable is how the CHC holds the water, much more within the center of the fiber chunk, and drying on the surface, as opposed to bark which tends to hold more at the surface. Having said all this, we do believe that the CHC mixes are much more forgiving either of slight over or underwatering habits than the same bark mixes. Again, I think this has a lot to do with the excellent air capacity of the medium. As we all know, Paphs and Phrags grown in bark mixes seem to get a real boost after a repotting, in spite of the shock to the roots, and this again tends to point to the importance of good air supply to the roots, which the CHC seems to maintain at or near its original level for substantially longer periods of time than bark. There is some relearning of when to water the CHC mixes; they do dry differently, particularly at the surface of the pot where they dry much faster. (We have been fooled more than once while watering the seedling house, thinking we completely missed a bench, when in fact the surface of the CHC mix has simply rapidly dried while we were watering the other benches.) We also think it is at least as important if not more important when using CHC to be aware of the total salt concentrations of your irrigation mixtures, and to water very generously and flush periodically, not only to reduce salts, but because of the increased capacity of the CHC to adsorb and hold water. Water thoroughly! Alter your mix to suit your conditions!

The pH of the CHC mix we use is also closer to neutral than bark mixes, and this has been useful in allowing us to control the pH of our root environment closer to what we desire. However, it may affect the point to where you adjust your irrigation water, just a point to keep in mind. Most Phrags, with perhaps the exception of (Mexipedium) xerophyticum, seem to like acidic conditions, while the Paphs tend to be a group split between those that grow in somewhat acidic conditions and others that grow in calcareous or other basic rock substrate.

It's been suggested that the CHC mix is suitable only for higher heat conditions found in Florida or California. Candor, NY is not the tropics, with nearly six months of dark and chilly winter, and while we maintain a modest minimum winter temperature in the greenhouses, a simple adjusting of our watering schedule allows the CHC mix to perform admirably. Again, it is a matter of making the appropriate adjustments to the mix, one size pot or one type of mix does not fit all conditions. We feel that you can probably use and get better results from CHC for anything for which you would use a bark mix, you just have to perhaps make up the mix a little differently. In warmer conditions, we suspect you may be able to use CHC where bark is unsuitable due to rapid breakdown, and even under our cooler conditions it is superior also because it does not change characteristics rapidly (note in the article how fast fine bark breaks down even in our northern conditions).

We repotted several plants that were growing poorly in our old bark mix (and were found to be suffering considerable root loss) into the new CHC mix and were amazed by their response and rapid revival. These were plants that were past the point where they would have been invigorated by normal bark repotting, they were basically close to dying, and we firmly believe that repotting in our previous bark mix would not have achieved the same response.

We feel that Paph and Phrag roots are very highly adapted to the medium they grew in, and a dramatic change can quickly cause minimal to moderate loss of roots. We have seen some very well rooted plants formerly grown in bark suffer some initial root loss in the CHC mix, but then an immediate flush of new growth begins with those lovely white tips forging their way out of the base of the plant. There is no doubt in our mind that this is a much superior mix for us than bark, and believe that anyone using bark, and approaching CHC use with the above considerations in mind, will probably see similar results. It is helpful to remember that everyone's' growing conditions are different, and that one mix will not work for everyone. Watch your plants, pay attention to detail, and if in doubt, unpot and check your roots. Your plants will thank you for the extra attention and will reward you with superior growth and flowerings.

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