Irrigation Article

**The Cheapest Way to make our Irrigation system work better.**

Many Golf clubs across the UK have irrigation systems that are just not working to their optimal abilities. This doesn’t necessarily mean the irrigation systems are inadequate; in many instances they just need some understanding and TLC .

One of the cheapest methods to make your irrigation system work better, and one that’s almost always overlooked, is to check your sprinkler nozzles. You wouldn’t spray those expensive chemicals onto your turf without making sure your spray boom nozzles were correct, so why do you ignore the nozzles in your irrigation?

Every pop-up sprinkler on the market has a range of nozzles you can install into it. Take the Rainbird Eagle 751 for example. If you buy one it will arrive with a standard #40 orange nozzle, but there are 8 different nozzles to choose from in the standard range, plus a further 3 wind-tolerant nozzles, so the chances that your standard nozzle is correct for your system are low. Did anybody actually figure out what nozzles you needed in the first place? Unless a golf Course Irrigation Consultant worked out your system hydraulics, then probably not.

To find out which sprinkler nozzle you *should* be using, the best way is to start with a nozzle performance chart. You should be able to download one for your sprinkler model off the web. You will notice on the chart that each nozzle will throw the water a different distance depending on how much pressure it is receiving.

Getting back to your irrigation system… are your existing sprinklers “dumping” large droplets out onto the green, and are you having problems with dry-patch (often about 4-6 metres away from a sprinkler incidentally)? Can you see gaps in the “rain curtain”; the water falling to the ground from your sprinkler? If so, it could be that the nozzles in your sprinklers are too big. To help rectify the system and potentially make it more effective, simply look on the chart and choose a nozzle a couple of sizes smaller. This might seem to be counter-intuitive, since a smaller nozzle will supposedly throw the water a shorter distance. This is not always the case.

A smaller nozzle can often make a big difference. When you install the smaller nozzle you will inadvertently reduce the flow rate (when you reduce all 4 or 5 sprinkler nozzles on your green this reduction will be significant); this in turn will often help the irrigation pump deliver a higher pressure, since flow rate and pressure have an inverse relationship for most centrifugal pumps. In other words, reducing the flow rate (smaller nozzles) will increase the pressure that the pump can deliver. This increased pressure will often throw the water further across the green; it will help create smaller droplets and will potentially create the “rain curtain” that each sprinkler should be achieving. This is because the sprinkler requires a good pressure to disperse the water uniformly out of the nozzle.

This is often the cheapest way to make a big difference to the effectiveness of your irrigation system. A new nozzle might cost a few pounds, so replacing a whole golf course will still add up to a few hundred pounds, but compared with the cost of sprinkler replacement or upgrading your pump system, we’re talking peanuts. It might just be something worth thinking about before next season’s hot weather arrives.