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## GRAIN ON THE BRAIN

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**G**olf announcers will sometimes comment that a player is putting into the grain or has a slippery putt down grain. What exactly is grain on a putting green and how does it affect ball roll?

Grain is the tendency of turf leaves and stems to grow horizontally in one or more directions rather than vertically (Beard, 1973). It is associated with grasses that have a strong lateral growth habit such as bentgrass, bermudagrass and seashore paspalum. Visually, putting greens with a strong grain pattern have a two-toned appearance – some areas will have a shiny, silvery cast while other areas look dark green. The light-colored areas indicate you are putting with the grain and the dark areas indicate you are putting against the grain. When the same green is viewed from the opposite direction, the colors – i.e., the direction of the grain relative to your perspective – will be reversed.

When present, grain can affect ball roll on putting greens. Putts will be slower when rolling against the grain and faster when putting with the grain, even on a level surface. The amount of break on a sidehill putt can also be accentuated by grain.

There are many misconceptions about grain and how it develops on putting greens. Grain does not grow west toward the setting sun, nor does it always grow toward a lake or the ocean. The fact is, nobody knows for sure what conditions cause grain to develop in certain directions on putting greens. Grain can even be growing in several different directions all on the same putting green.

It's important to note that not all putting greens exhibit grain. Greens composed of *Poa annua*, colonial bentgrass and many species of fine fescue have a predominantly vertical growth habit and a general absence of grain. The breeding and development of new and improved bentgrasses and bermudagrasses in recent years has resulted in grasses with finer leaf blades, higher density and a more upright growth habit with less grain.

Grain tended to be more of a problem several decades ago when putting green mowing equipment was not capable of mowing below 0.25 inch. Today, mowers can be adjusted to 0.10 inch and even lower, which physically removes much of the lateral growth that was so prominent in years past. Other management programs employed by superintendents to control grain include rotating the mowing direction each day, brushing, grooming, making light applications of sand topdressing and vertical mowing to help stand up the turf and provide a better quality of cut.

Ultimately, grain may still be present on the greens you play, but the slope of the putting surface has the biggest effect on putts rolling toward the hole.

## **Reference**

Beard, James B. *Turfgrass: Science and Culture*. Prentice Hall, 1973, p. 10.