USING INFRARED PHOTOGRAPHY ON THE GOLF COURSE

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Light is radiant energy traveling in a wavelike motion. White or visible light can be dispersed into a spectrum by means of a glass or crystal prism. The colors in this spectrum range from violet through blue, blue-green, green, yellow, orange, red and deep red. The most common example is found to occur in nature -- it's called a rainbow. These colors have been separated because they represent light at different wave lengths. The wave lengths become longer as the spectrum is transversed from blue to red. The visible spectrum covers wave lengths from about 400 mμ at the blue end to about 700 mμ at the extreme red end. At each end of the visible spectrum there exists an electromagnetic radiation, which is beyond visible violet, and infrared, which is beyond visible red.

By using special film and filters the reflected infrared waves between 700 mμ and 900 mμ maybe photographed. Photographic equipment used consists of a 35 mm camera, a roll of Kodak Ektachrome Infrared film, and a Kodak Wratten Filter No. 12. The filter may be made of glass or gelatin. There are various exposure settings that must be complied with. If the camera used has an automatic exposure meter built into it, the ASA setting may be altered from the recommended setting to compensate for the amount of light entering into the lens.

The best reference book readily available is Applied Infrared Photography, M-28, A Kodak Technical Publication. Cost is $2.00. The gelatin filter costs approximately $2.50 or a glass filter will cost approximately $12.00.

Healthy plant material reflects a high percentage of the infrared radiation; therefore, healthy tissue is exhibited as pink or bright red. Unhealthy tissue is a different hue of red and necrotic tissue is white.

Some uses of infrared photography on the gold course are: observing the effectiveness of fungicides and herbicides, distinguishing wear areas, locating tile and water lines, determining fertilizer distribution patterns, and the general health of live plant materials.