Clearfield sunflowers are hybrid sunflowers bred to be resistant to a specific herbicide in the imidazolinone family. Imidazolinone herbicides inhibit the ALS enzyme and include such products as Pursuit, Scepter, Raptor and Lightning. The herbicide labeled for use on Clearfield sunflowers is Beyond (imazamox) which has the same active ingredient as Raptor. Beyond is formulated as a 1 AS and is packaged in 1 gallon containers. The label indicates that 1 application of Beyond at 4 oz/A can be applied to sunflowers in the V2 through V8 stage of growth. Applications should be made before broadleaf weeds exceed 3 inches and grass weeds exceed 4-5 inches. Beyond controls a number of weeds common to Indiana including chickweed, cocklebur, lambsquarter, nightshade species, smartweeds, volunteer sunflower, velvetleaf, barnyardgrass, crabgrass, wooly cupgrass, foxtails, fall panicum, shattercane and a few others. More information on Beyond/Raptor can be obtained at the crop data management systems website (www.cdms.net) or greenbook on line websites (www.greenbook.net).

The Clearfield trait for sunflowers was discovered in 1997 by Weed Scientists at Kansas State University who identified a population of wild sunflower resistant to ALS inhibitors. Sunflower geneticists crossed the resistant wild sunflower with cultivated sunflowers and were able to maintain the tolerance through backcrosses. Since this naturally occurring gene is incorporated into cultivated germplasm via traditional plant breeding procedures, it is not considered a genetically modified organism (GMO). Oilseed type Clearfield sunflower hybrids will be available for use during the 2003 season, and confection type sunflower hybrids may be available in 2004.