

Benefits of Early Crop Residue Decay with Chandler Biocat 1000

Product Summary

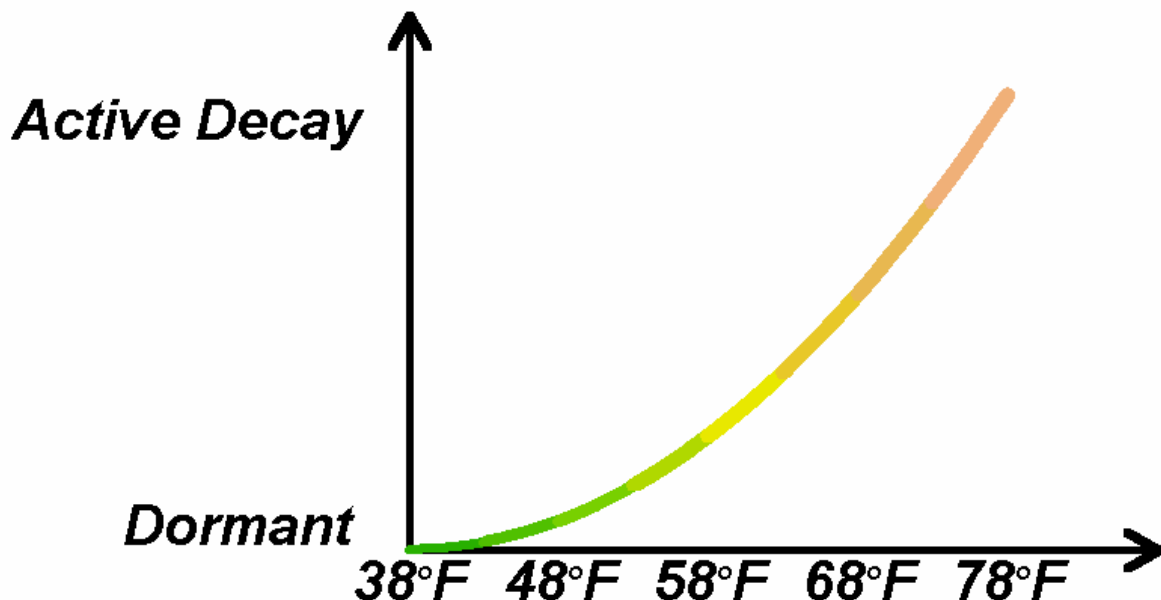
Chandler Biocat 1000 is a liquid enzyme product that accelerates the decomposition of crop residue by stimulating the growth of the naturally occurring organisms that breakdown organic compounds. The product initially works to decay the inside of corn stalks and other plant residue, and the outer shell of the plant residue is left as a soil cover to reduce wind and water erosion. Later, Chandler Biocat 1000 enhances decomposition of the outer shell, and the remaining crop residue is easily handled by planting or tillage equipment.

How to Apply Chandler Biocat 1000

The recommended application rate is 8-16 ounces per acre with enough water to provide good coverage of the residue (20 gallons per acre for most spray equipment). Biocat 1000 is compatible with Chandler Soil as well as most pesticides and liquid fertilizers in a tank mix. Chandler Biocat 1000 is also **non-toxic** and does not require special equipment or handling.

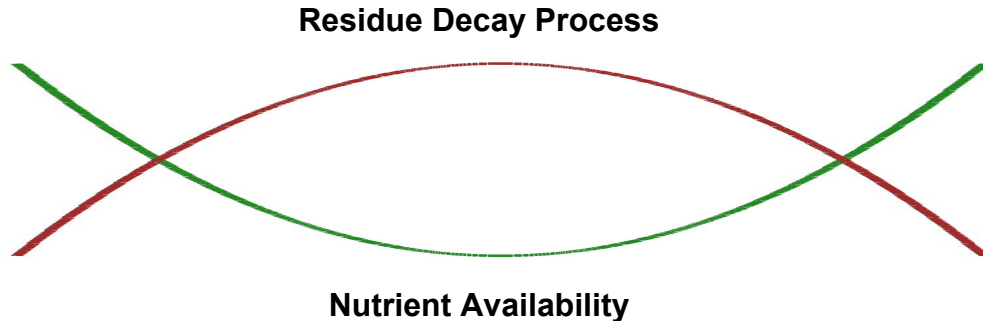
When to Apply Chandler Biocat 1000 to Crop Residue

You should apply Biocat 1000 as soon after harvest as possible in order to start the decay process early. Although the residue decay process is not killed by freezing temperatures and will continue after the weather warms in the spring, the figure below shows that most of the bacteria that decay crop residue go dormant at temperatures below 38 degrees Fahrenheit. Also, the figure shows that the amount of biological activity doubles for every 10 degree increase above 38 degrees. So, you can generate the maximum benefit from the residue decay process by applying Chandler Biocat 1000 while the weather is still warm.



Residue Decay Process and Crop Nutrient Availability

During the residue decay process, soil bacteria and other decay organisms actually tie up soil-based plant nutrients as well as applied nutrients such as fertilizer and manure. As shown in the figure below, the availability of all soil nutrients decreases as the residue decay process begins. Crop nutrient availability is lowest at the peak of the decay process, and then soil nutrient availability increases as the residue decay process concludes. Chandler Biocat 1000 should be applied as soon after harvest as possible in order to complete the decay process early, reduce nutrient tie-up, and make more soil nutrients available for production of the next crop.



What is the Nutrient Content of Crop Residue?

The typical acre of post-harvest crop residue contains the following nutrient levels:

	Tons	N	P2O5	Potash
Corn residue	5	100	37	145
Soybean residue	2	90	20	50
Oat straw and stubble	2	25	15	80
Wheat straw and stubble	2	40	10	70

The stated nutrient content of corn residue is based on a yield of 150 bushels per acre. Today, most corn hybrids can generate much higher yields and up to 8-10 tons of residue per acre, and the actual nutrient content in the residue may be 80-100% higher than the values stated above.

Recent Reports from Chandler Biocat 1000 Users:

- On May 10, 2005, a user in northwest Illinois applied 12 ounces of Biocat 1000 plus two pounds of ammonium sulfate and Roundup (for burn-down) per acre to his corn stalks. When he harvested the soybean crop on October 1, he found that the corn residue was fully decayed and he had no trouble with corn stalks fouling the bean head. The soybean crop yielded 55-60 BPA across the entire field.
- Several new customers started using Biocat 1000 after experiencing problems with corn residue that affected their following soybean crop. This seems to be especially common if the previous crop was Bt corn because the heavy residue can tie up soil nutrients, clog soybean planting and harvesting equipment, and reduce soybean yields by up to 5 BPA.
- Users experience fewer problems with corn stalks and other crop residue hampering other types of tillage or planting equipment. One user in Iowa reports that he knows where he applied the product because he can hear a difference in the crunch of the stalks as he runs his no-till planter through corn residue.
- Chandler Biocat 1000 also helps to reduce other problems associated with undecayed crop residue, including chemical carryover, insect infestations, and volunteer corn.