Eco botany: Achoo!

Mesa Middle School

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In our project we are focusing on awareness of allergens and how we can cut down on allergens and their risk.

Executive Summary

The importance of allergen control programs for controlling and preventing allergies is discussed. The increasing awareness of food allergies and their potential severity led to the development of allergen control programs. The development of an allergen control program starts with a risk assessment focusing on some key features of true food allergies. True allergies can cause very serious manifestations. It is pointed that by addressing the issues appropriately, food manufacturers and suppliers should be able to craft a well-focused approach to allergen management. A comprehensive allergen control program consists of components such as purchasing, allergen auditing, and sanitation, validation, and product development.

Final Report

Problem

The problem we are trying to solve is pollen and allergies because they cause other issues in one's health if not treated properly. We know that if you can treat allergies in a better and more efficient way or reduce pollen counts then we should try and sufficiently reduce allergies. If allergies are not treated correctly they can cause chronic sleep issues, poor focus, mood disorders, and infections or inflammation. For some people treating allergies is no problem and its cheap but for others it's too expensive, it costs about $20-$100 per visit, which if immunotherapy is needed weekly it would be about $1,560-$3,900 per year. Doctors and scientists have figured out the reason for these allergies and the detrimental effects on your body, your immune system causes these allergies, if you already knew that then why hasn't anyone taken action on allergies. Your immune system takes these small amounts of allergens as a threat and attacks them. Although your odds of developing an allergy starts with your genes. While specific allergies are not inherited, a tendency toward having allergies is. We have figured out that in our civilization most children, if not introduced to allergen at young age, develop allergies as they get older when they're introduced to it. Although scientists figured out that even if your body is introduced to the allergen many times your body could still see it as an invader. Other things may also be involved. For instance, if you come into contact with an allergen when you're weak, you might be more likely to develop a serious allergy to it. Keep in mind that the amount of exposure can make a difference, there's a tipping-point for people with allergies. As you can tell there are many significant reasons for our research and there are many problems with allergies.

Description

For our project on allergens and pollen we will research the problems and solutions for allergies and high pollen count. During our research we will find studies on how we, as a society, can possibly cut down on allergens in our personal lives from, taking off our shoes before entering our homes to washing

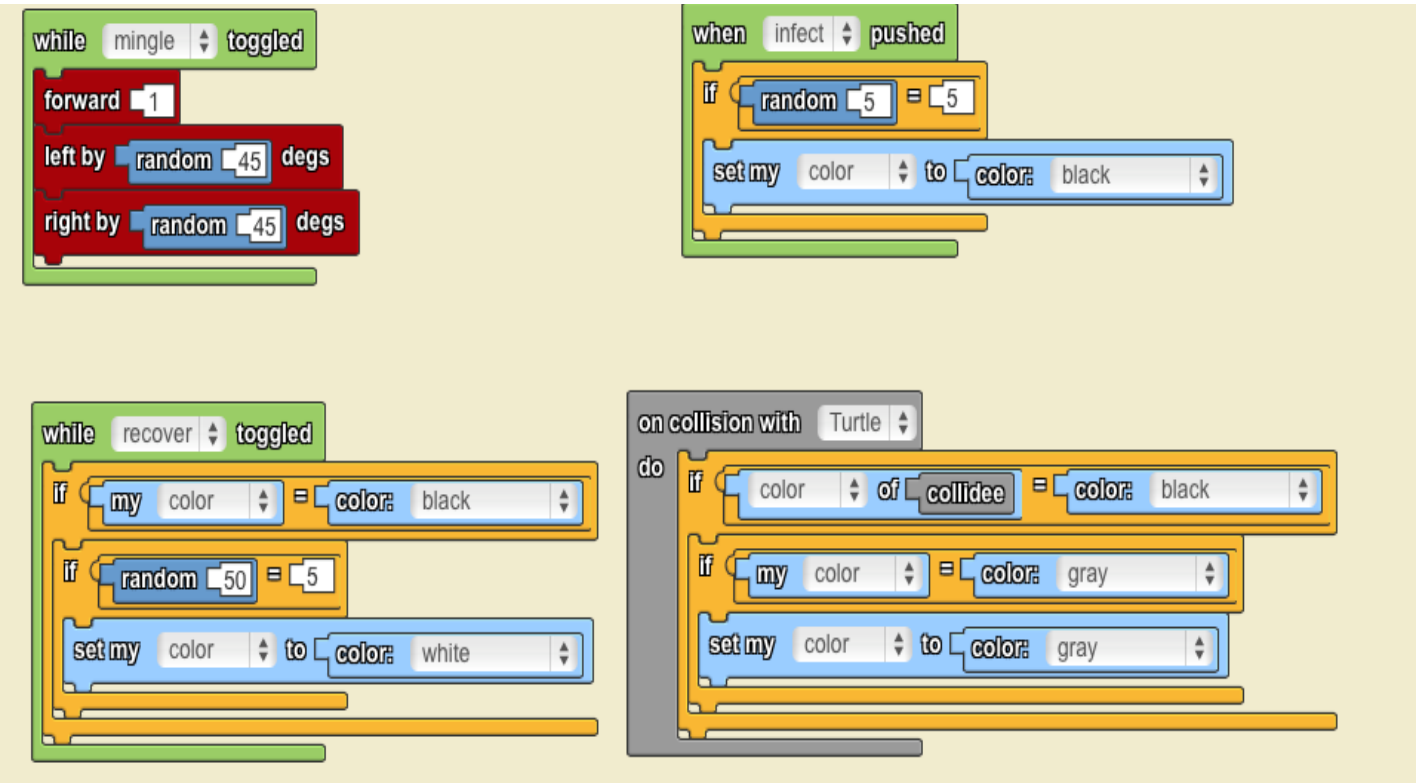
our pets after they've been outside. One study that we found was at child birth the hospitals would give parents the choice of whether they wanted to allergy test their child or not to predict future problems in the babies health as they grow. The other choice they could give the parents is to genetically test them and see what the likely hood of the child developing allergies is and what allergies they are likely to develop. As a group we feel that if we use genetics and testing on children before the age of 12 years old it will help prevent future issues in a child's health. So far we have found some studies that show the effectiveness of these tests and how it helped people solve allergy problems before it became an issue. Studies have also shown that allergy testing adults is not always accurate. One study done by the journal of pediatrics showed that even after diagnosis some adults were able to reintroduce the previous thought to be allergen. About 50%-60% of tests in adults have shown "false positives"(blood tests).

Validating The Model

Our model will represent the accuracy of both allergy tests on children/adults and the accuracy of genetic tests/blood tests. Hopefully this part of our model will prove that testing children genetically is more accurate than blood testing adults. Another part of our model will show the effects of pollen on the lungs with allergies. Complete avoidance of pollen is impractical, although, with the knowledge of the possible allergies their child will have it gives parents the opportunity to properly treat their child before a real issue comes along and it will overall reduce the risk of allergies. The last part of our model will show the effect of allergens on the lungs after treatment. By using our model we're hoping to raise awareness of allergens and their detrimental effects on your body. People in our modern day generation do not understand what happens to your body if allergies go untreated. With this project we hope people realize that allergies wont go away with just one pill or nose spray, allergies are a serious problem. Our model will prove how badly allergies affect you. Our model will show how early knowledge and treatment of allergies can help your future. It will also show how this new method of allergy testing will change the future of allergy problems.

Conclusion

In conclusion, our research will use studies, facts, and genetics to change the allergy world. This project won't just help raise awareness but will also help people with allergies finish their treatment before they're an adult. If our society even if it's one city at a time we'll be able to solve many problems facing the world today. What we've noticed is that even when it's one step at a time we can use statistics and knowledge to solve a problem. This proves our point that with our studies we can create awareness and solve allergy problems in our society today.



Acknowledgements

Ms.Mikesell

Supercomputing Challenge

Pollen.com

Journalofpediatrics.com

Google.scholar.com