



# NON-TOXIC SAN DIEGO

July Newsletter

*In this newsletter:*

How are Recyclables  
Recycled?

Bryce Tim // Alyssa Kuang

Impact of Pesticides

Flora Yuan // Kevin Zhuo

How COVID-19 is affecting  
recycling

Jason Hu // Grace He

9 Things You Didn't Know  
You Can't Recycle

Sunny Xiao // Sherry Tao

Dos and Don't of Recycling

Alyssa Kuang + Josh Tang



## Update on Non-Toxic San Diego

by Lynne Xu

Over the past few months, Non-toxic San Diego has been busy. As expected, all of our efforts have been moved online. In April and early May, we conducted a survey asking those in our community what they believed was the most pressing environmental issue. Most believed that recycling contamination and pesticide use were big issues. Therefore, we designed and virtually distributed a flyer to raise awareness about recycling contamination.

We also continued to push our efforts against the use of chemical pesticides. Following San Diego's glyphosate ban, we met with San Diego Department of Agriculture, Weights and Measures to discuss organic pest control. We brought to their attention the danger of pesticides being used on schools. Following that meeting, we had two separate meetings in May and June with representatives from San Dieguito Union High School District and Poway Unified to discuss organic integrated pest management.



# How are Recyclables Recycled?

## Bryce Tim



To follow the path from used recyclables to processed recycled goods, we will be focusing on the large scale process that is utilized by recycling plants. When recycling was first introduced in the U.S. in the 1970's, citizens were supposed to separate their recyclables into three categories: plastic, paper, and glass. To facilitate the process, single stream recycling was introduced in the 1990's, where we toss all recyclables into one bin. Though this mode of recycling is much easier for consumers, recycling plants are needed to sort through all types of recycling.



Technology has been key to efficiently sorting through metals and especially plastics, where each type has a different manufacturing process. Aluminum cans are the easiest to sort; electrical currents are used to repel the aluminum, pushing the cans into a bin separate from the conveyor belt. These cans are then pressed into bales to be transported.

Elaborating on the plastic sorting, the raw material collected from bins are first sorted by hand to remove non-recyclable items such as plastic bags, toys, and contaminated items. On a moving conveyor belt, an infrared light is used to scan the type of plastic. The conveyor belt ends and air pressure is used to sort the plastics into different bins. Like the aluminum cans, each type of plastic is pressed into bales. These innovative methods have made sorting a fast process, but the material still needs to be processed.





# How are Recyclables Recycled?

## Bryce Tim



Aluminum bales are, once again, easier than plastic to process. The cans are shredded into small pieces, which make it easier to sort out non-metal items. An infrared scanner, similar to the one used to sort plastic, uses the same air pressure technique to blow out glass and plastics. The metal is then melted down into ingots that are bought by manufacturers. On the other hand, plastics come in 7 different types which are repurposed for different items. Types 1 and 2, PET (Polyethylene Terephthalate) and HDPE (High-Density Polyethylene), are the most common plastics. PET is most well known in the form of plastic bottles, which can be processed into fibers used in the clothing and textile industry. HDPE is a durable, safe material used for heavier containers such as milk and laundry detergent. It can be recycled into benches, tables, and liners of cargo trucks. The general recycling process for plastics is shredding into small flakes, washing for removal of contaminants, and forming into small pellets. These pellets are the basis for making new products that are given another chance in the world.



The recycling of our consumables is key to reducing our environmental imprint on this planet. Even though difficult work is required to reuse these items, recycling prevents unnecessary pollution. It may not seem like one person's actions can make a huge impact, however, by working together, we can make a change. So please, take the time to sort your trash from recyclables.





# Impact of Pesticides



By Flora Yuan

As the agricultural state of our country advances, the incessant use of toxic pesticides increases. The term ‘pesticide’ encompasses a broad range of compounds including herbicides, insecticides, fungicides, rodenticides, etc. Pesticides are coined as one of the vital tools farmers use to help grow healthy crops, protecting against disease, insects, and weeds. Despite the wide use of pesticides in our current day and age, the toxic chemicals found within them have severe consequences on our environment and health.



Pesticides are specifically designed to kill pests, acting as a threat to the current delicately balanced ecosystem. According to the Pesticide Action Network UK, the incessant use of pesticides leads to contamination in water, soil, plants, and animals. Pesticides can reach important water sources by trickling outside its intended area, leaching through the soil, carrying off as runoff, etc. Pesticide-contaminated water causes plants to die, leading to diminished oxygen levels; this then catapults to the suffocation of other aquatic life and organisms that rely on aquatic life. The use of pesticides additionally reduces the growth of plants, as pesticides hinder the assimilation of nitrate in plants. Animals also have high chances of being poisoned by toxic residues that remain on plants after spraying, leading to reduced or relocated species. Some notorious examples of these environmental effects are the depletion of honeybee populations nationwide and male frogs becoming female after being exposed to atrazine.



Pesticide exposure additionally leads to many health concerns, both acute and chronic. According to the Californians for Pesticide Reform, infants and young children are much more susceptible than adults to the toxic effect of pesticides due to developing organs and body systems. Children have a higher respiratory rate and inhale airborne chemicals at a faster rate compared to adults, as well as have increased contact with pesticide-exposed items such as lawns and playgrounds. Acute (immediate) health effects include irritation, burning, stinging, and itching of the nose, throat, and skin. People exposed to pesticides often experience nausea, dizziness, and diarrhea, especially with severe pesticides containing pyrethrin and carbamate. Chronic (long-term) health effects include cancers such as childhood leukemia, brain cancer, lymphoma, breast cancer, etc. Other long term effects include neurodevelopmental issues, hormone disruptions, sterility, and birth defects.

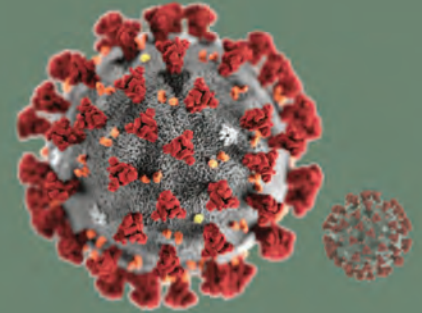
The misunderstanding of pesticides being an imperative aspect of farming has led to the widespread overuse of these chemicals.

Pesticides pose a threat to both the environment and our own health. To protect our farmworkers, our families, our pets, our animals, and our environment, we must avoid the use of harmful pesticides as a whole.



# COVID-19 IMPACT ON RECYCLING

Covid-19 has run rampant across the United States, forcing people into isolation and crashing the economy. People may point to the massive unemployment, and death as the primary consequences of the virus, but recycling has also taken a huge hit. As a result of the sudden influx of single use items, such as face masks and plastic bags, municipal waste has also increased. Citizens are less inclined to use reusable items because they run the risk of becoming infected with constant use.



In addition, now that stores and restaurants have transitioned to takeout or curbside pickup, plastic material is being used at an astronomical rate. This has caused a remarkable strain on our waste management systems, who have to sacrifice their health in order to keep our society running. Not only has Covid-19 affected our waste production, it has also changed how we recycle. With the constant threat of the virus, we have become less inclined to recycle, and would rather just dispose of something into the trash. However, even with what is recycled, the efficiency is not at where it used to be.

Many recycling plants have been forced to shut down due to Covid-19 regulations and concern. Thus, our recycling is not actually being recycled, but just stockpiled up or sent to landfills. In addition, many city governments have lost significant funds and are no longer able to support recycling facilities. All of these factors have led to a significant increase in waste and decrease in recycling.



# 9 Things You Didn't Know You Can't Recycle

## Sunny Xiao

Americans have been recycling more and more every year. From kindergarten, we're taught what belongs in the recycling bin, or rather, the blue can with a deformed white triangle. But outside of the general categories -- plastic, paper, cardboard, cans, glass -- were we really given the full picture? Because in reality, some of these can't be recycled.

### 1. Electronics and Batteries:

If you don't know already, please do not throw any electronics into the recycling bin, especially batteries. You need to dispose of these separately at an e-waste collection site or Best Buy.



### 2. Dirty Containers

Wash any containers you recycle. This includes your everyday items, like yogurt cups, salad dressing bottles, takeout containers, and milk cartons. Remember, rinse before tossing!

### 3. Pizza Boxes:

The bottoms of most pizza boxes are lathered in grease, which makes it almost impossible to separate the oil from the paper fibers at the recycling facility.



### 4. Paper Scraps

While recycling physical strips of paper is perfectly fine, shreds of different types of paper are indistinguishable from one another, making recycling pointless.

### 5. Clothes

Clothes are not recyclable! Fabrics like cotton are very tough, making it difficult to reuse in a new piece of clothing. Take your old clothing to a Goodwill, your neighbor, or extended family.





## 6. Foam

For most recycling facilities, styrofoam is a recycling contaminant, ranging from foam egg cartons to packing peanuts. Although it can technically be recycled, the recycling process is very cost ineffective. Look for local drop-off sites by calling recycling programs or checking with grocery stores like Publix.



## 7. Frozen Food Boxes

Although they're made of cardboard, they are actually not recyclable. Prior to sale, a thin layer of plastic coating is applied in order to protect the cardboard from freezer burn. However, bags and pouches can be recycled, contrary to their box counterparts.

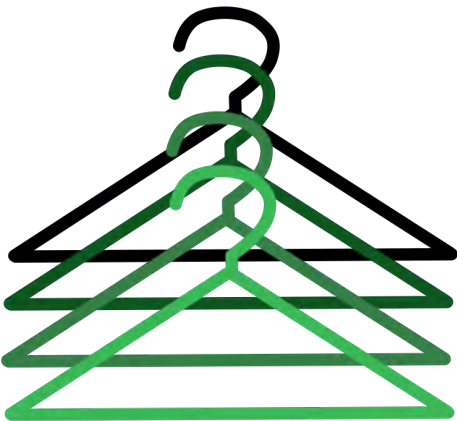
## 8. Lids and Caps

The caps and lids of bottles like soda and water bottles can not be recycled. These are commonly made of polypropylene, a cost-effective and sturdy polymer also known as plastic #5. In addition, when caps are left on, in the crushing process, they frequently fly off, leaving the bottle uncrushed, which means fewer bottles are transported to recycling facilities.



## 9. Hangers

Metal hangers, frequently bent at awkward angles, are easy to get tangled within the other components in the bin. Plastic hangers are made of multiple components, only one of them being plastic, which renders them unrecyclable. Wood hangers consist of treated wood, which is finished with chemicals that are water contaminants. Instead, call your local thrift store or dry cleaner to ask if they will accept donations. Otherwise, trash the hanger or repurpose it.



# Recycling



## Dos and Don't of Recycling

Learn the ins and outs of recycling properly

### Dos



#### **CHECK FOR LOCAL REQUIREMENTS**

Different recycling plants may be set up to handle different items, so always check with the local recycling provider to see what materials they accept.



#### **EMPTY FOOD AND BEVERAGE CONTAINERS FOR RECYCLING**

Plastic, metal, and glass must be emptied before recycling. Do not recycle materials with food or drink contamination. Contaminated materials will end up in landfills.



#### **Break down all cardboard containers**

It's best practice to break your cardboard down to optimize the space in your container(s) and reduce the amount of pickups your business requires.

### Don'ts



#### **RECYCLE YARD WASTE OR ORGANICS**

Yard waste or organics will contaminate your recyclables. Instead of recycling organics, composting is a better recovery method for your organic waste.



#### **RECYCLE PLASTIC SHOPPING BAGS WITH OTHER RECYCLABLES**

Plastic bags require special recycling capabilities that many recycling facilities are not set up for. Most grocery or retail stores will collect and properly recycle your plastic bags for you.



#### **RECYCLE GREASY PIZZA BOXES**

Cardboard and paper with grease, oil or wet surfaces cannot be recycled because the oils cannot be separated from the fibers.

# WRITING TEAM

*July Newsletter*



## **EDITOR IN CHIEF: LYNNE XU**

Hi, my name is Lynne Xu and I am currently a rising senior at Torrey Pines High School in San Diego. I play golf, flute, and am interested in science. Especially since I am a golfer, I believe that keeping our outdoor areas safe, healthy, and organic is very important, which is why I strive to create a non-toxic San Diego.



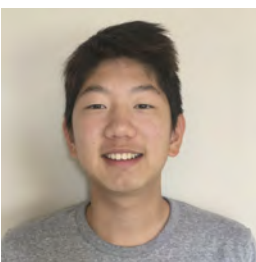
## **BRYCE TIM**

Hello, I am Bryce Tim, a sophomore at La Jolla High School. I enjoy swimming for my high school team and I am certified in keelboat sailing. I have always been an advocate for environmental protection since I was a little kid. Being a Non-Toxic member allows me to work with others who share my passion.



## **FLORA YUAN**

Hi! My name is Flora Yuan and I am a rising junior attending Del Norte High School. I enjoy singing, writing, running, and traveling. I also care a lot about the environment, including the harmful effects of pesticides on our communities. I hope to provide awareness on the detrimental effects of pesticides, as well as encourage many local communities to go pesticide-free.



## **JASON HU**

Hello! My name is Jason Hu and I am a rising junior at Westview High School. I enjoy watching sports, playing tennis, and playing the clarinet. Although I was born in Chicago, I have developed a love for Southern California's natural landscape and environment. Through Non-Toxic San Diego I hope to raise awareness on the consequences of using pesticides and strive to keep our community clean.



## **SUNNY XIAO**

Hi, my name is Sunny Xiao and I'm a rising senior at Canyon Crest Academy. I enjoy playing piano and reading, and am involved with numerous clubs encouraging educational equality. I joined Non-Toxic San Diego because I believe an organic environment with pesticide-free grasses safe for children to play on is important for a clean future.

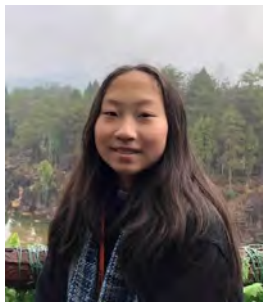
# LAYOUT TEAM

*July Newsletter*



## **ALYSSA KUANG**

Hello, my name is Alyssa Kuang and I'm currently attending the Bishops School. I love music, learning new things, and playing sports. I've always wanted to be an active member to contribute for environment initiatives. We work hard to try to make a positive change in our neighborhood, even a small one. I hope that we can make our parks toxic free.



## **GRACE HE**

Hi, my name is Grace He and I currently attend Westview High School in San Diego. I love to travel and learn about the cultures of different places and peoples. I have also always been passionate about protecting the environment and I want to be able to make a difference in the place I live by making the community at least a little better.



## **KEVIN ZHUO**

My name is Kevin Zhuo and I am currently attending Torrey Pines High School at San Diego. I enjoy swimming, writing, and I also love nature. Joining non-toxic San Diego has empowered me to do research and spread awareness of the effects pesticides bring to water, especially in places where many people go to swim. I hope to continue our mission to make the community a healthier place for everyone.



## **SHERRY TAO**

Hi, my name is Sherry Tao. My main goal for the non-toxic movement is to spread awareness to people about the dangers of chemical pesticides. Outside of Non-Toxic, I am involved with robotics, Amateur Radio, and Society of Women Engineers. I have also volunteered in Nepal and Hunan China.



## **JOSHUA TANG**

Hello, my name is Joshua Tang and I am a freshman at Scripps Ranch High School. Some of my favorite hobbies include drawing and badminton. My love for drawing and design has followed me since my early childhood. I lie to use badminton as a child, but picked it back up recently and it has developed into an enjoyable hobby. As a member of NTSD, I hope to raise awareness and hopefully make San Diego's parks a little less toxic.