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Selected Works

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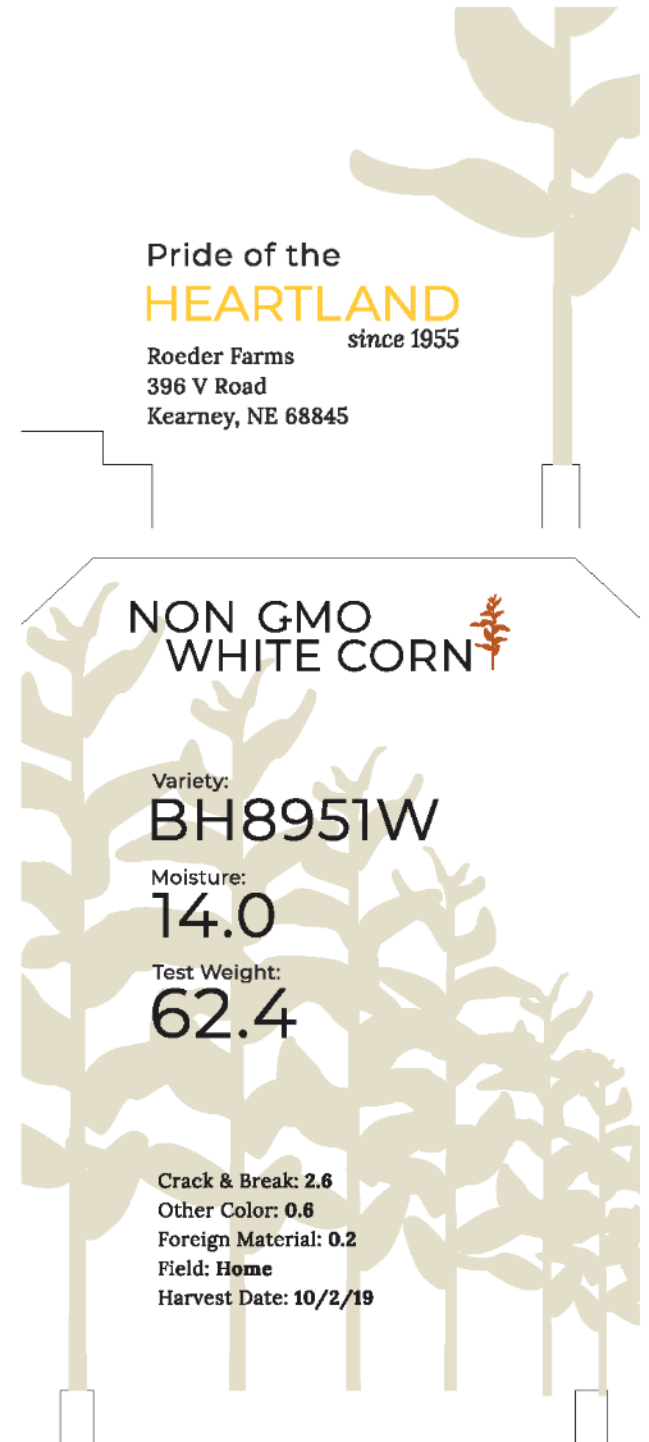


ROEDER FARMS



Seed Sampler

A grain sample package design for Roeder Farms. The packages were designed for small grain samples to be sent to end buyers.





Systems

Effective Waste Management Solutions

Inspired by the complexities of infrastructure and systems, this poster series only scratches the surface of the inner workings of recycling and sustainability.

Systems focuses on the past, present and future of recycling systems. Taking a leap back through time to the earliest known systems and analyzing the effectiveness of what happened and what is happening can inform what will happen. Infrastructure and systems of the past once had to evolve as needs changed, and Systems aims to inform as well as become a catalyst for such change.



LONDON

THEN It was during the 1890s, the Salvation Army and its programs expanded to the United States.

NOW Before 2001, the total percentage of collected and recycled household waste in London was less than 10%. Within five years, the number jumped to 18% and now it sits at 39%, with the national average sitting at 43%.

As for the Salvation Army, the group who first brought the concept of recycling to London, now can be found all over the world and are particularly well known for their thrift stores in Canada and Australia. The Salvation Army Thrift Stores accept donations of slightly used furniture and clothing, then uses the profits from these stores to support those in need, all while keeping unwanted furniture and clothing out of landfills.

JAPAN

NOW Depending on the municipality, there could be up to 12 streams collected on varying days including categories of newspaper, cardboard, milk cartons, books, and magazines, other "mixed" paper, rags, cans, bottles, PET bottles, other plastic, etc.

Japanese package design is known for being a little over the top with its individual wrapping on products that do not particularly need it. To combat this, many stores have recycling bins located in stores next to the cash registers so shoppers can discard the excessive packaging before taking the item home.

NEW YORK CITY

THEN Materials were sorted into various grades of paper, metals, and carpets along with burlap bags, twine, rubber, and even horse hair also being sorted for recycling and reuse.

NOW Of the waste removed, 76% of the non-recyclable waste collected by the Big Apple is sent to landfills in other states such as Virginia, Ohio, and Pennsylvania. Much of Manhattan's waste is sent to New Jersey to be burned in incinerators.

In addition to the Big Apple, there are non-profits that help NYC residents recycle more. GrowNYC is one of the many organizations that offer programs and resources to help create a better environment. GrowNYC's Office of Recycling Outreach and Education has actually designated a Recycling Outreach Coordinator to each borough who help superintendents and apartment dwellers identify challenges with recycling. The group also puts on workshops as well as community events to help educate and overcome barriers to recycling. Special collection programs for textiles, electronics, and organic waste are also offered by the organization.

ATHENS

NOW There are 30 recycling centers in the city that reward individuals for recycling with discount coupons. Recyclers have the option of donating the monetary value of their recyclables to charity.

However, in recent years Greece has been in economic turmoil. Thus Athens' goal of reducing food waste and other biodegradable urban waste by 65% by 2020 has been impeded. Currently Greece as a nation has been sitting at a recycling rate of 16%.

■ *Beaumont, M. (2016, September 23). Recycling Timeline - The Past to The Future. Retrieved from <http://www.beaumont.com/press/press-releases/2016-09-23-beaumont-commissioners-recycling-timeline-the-past-to-the-future>*

WHAT IS RECYCLABLE?

CARDBOARD

RECYCLING TIP: Pizza boxes can be recycled. A little grease is okay, but cheese and food waste is not. Staples and tape are okay.

Accepted materials include Clean and dry corrugated cardboard, paper packaging (e.g., cereal, frozen dinner boxes).

Flattening boxes helps save space. Unaccepted materials include Waxed cardboard, packing material, Styrofoam, plastic of any kind, wet or soiled cardboard.

CARBON AND WATER FOOTPRINT:

CHEMICALS

Store chemical wastes in appropriate containers, plastic bottles and perforated cover glass for storing hazardous waste when compatibility is not an issue. Segregate chemical waste by compatibility, and not alphabetically.

It takes approximately 1 - 3.5 gallons of water to refine one gallon of gasoline.

PAPER

NEWSPAPER

Accepted materials include newspaper and inserts, newspaper packing paper.

Unaccepted materials include plastic bags, product samples, wet or soiled newspapers.

RECYCLING TIP: Do not place newspapers in plastic bags. Best approach is to have the papers loose in the recycling container.

MIXED PAPER

Accepted materials include mail, magazines, catalogs, telephone directories, paperback books, molded paper egg cartons, paper packaging (e.g., cereal, frozen dinner boxes).

Flattening helps save space.

Unaccepted materials include paper plates, coffee cups, paper towels or tissues, soiled or wet paper.

RECYCLING TIP: Shredded paper should be placed in a brown paper bag and sealed. Do not place paper in plastic bags. Do not crush paper into balls because they can fall through sorting screens at processing facilities.

Globally, the contribution of the pulp, paper and printing industries to the global greenhouse gas emissions is around 1%.

METAL

ALUMINUM AND TIN

Accepted materials include aluminum cans, steel (tin) cans, aerosol cans. Empty and clean. Liquids and food residue must be removed. Labels are okay.

Unaccepted materials include aluminum pans and foil, metal objects, hinges, cans containing food or liquid residue.

RECYCLING TIP: Do not place newspapers in plastic bags. Best approach is to have the papers loose in the recycling container.

Emissions associated with transporting and cooling aluminum cans are 7 to 31 percent lower than plastic bottles and 35 to 45 percent lower than glass bottles.

PLASTICS

RECYCLING TIP: The best approach to recycle plastic bags is to take them to local retail collection programs. In addition to plastic grocery sacks, you can recycle vegetable bags, bread bags, dry cleaning bags, food storage bags, and newspaper delivery bags. Lids on plastic bottles and tubs can be recycled but need to be left on the containers after they are empty and clean. Small plastic bottles (smaller than 2 inches, e.g., prescription bottles) should be placed inside a larger plastic container for recycling.

It takes about 1.5 gallons of water to manufacture a single plastic bottle. Plastic actually has a big carbon footprint, but so do many of the alternatives to plastic.

Acceptable materials include rigid plastic bottles where neck is smaller than body (cups and neck rings are okay); food tubs, 5 gallons or smaller; clear plastic clamshells (e.g. fresh berry packaging); empty and clean. Liquids and food residue must be removed. Labels are okay. (#1-7 plastics acceptable for curbside pickup, #1-5 acceptable at public recycling collection sites.)

Unaccepted materials include Styrofoam products, motor oil or chemical containers, plastic plates, cups or eating utensils; plastic film (grocery sacks); metals of any kind; bulky, rigid plastics larger than 5 gallons; flower pots, 8" cups.

ADVERTISING

Landfills are full of cheap, irreparable products that only offer a single use. These products are the result of excessive advertising aimed at creating desires to follow trends as well as result in a personal self-reward systems based on acquisition.

Our need for material possessions leads to the need for more storage to house these products. As people run out of room in their homes to store objects, new storage facilities must be built in order to house extra things. Thousands of acres of land are paved over to make these facilities which uses up more resources and requires more materials to me made.

A possible solution requires advertising to focus more on reusable goods that won't end up in a landfill after a single use.

■ *Adley, B. (2009, April 26). How advertising & consumerism affects society: the economy and the environment. Retrieved from <http://www.environmentalnewscenter.com/news/2009/04/how-advertising-consumerism-affects.html>*

INCENTIVIZE

There are many reasons why people don't recycle. Some don't want to put the extra effort into it, some simply lack enough space. Others would do it for payment and then there are some that believe recycling doesn't actually make a difference, so why bother.

San Francisco, the closest large US city to going zero waste, uses a combination of innovative policies, outreach and education, as well as financial incentives to achieve their success.

Different countries have taken different approaches to this issue. Some countries require hefty fines to be paid for not complying with recycling regulations and others offer tax breaks for recycling correctly.

■ *Reich-Kruman, GMS. (2012, June 23). Innovative Ways Governments are Incentivizing Recycling. Retrieved from <http://www.innovation.com/articles/innovative-ways-governments-are-incentivizing-recycling/>*

■ *Resource Recycling. (2015). Recycling Incentive Part 1 [PDF File]. Retrieved from <http://www.paperrecycling.com/files/recycling-incentive-part-1.pdf>*

WASTE REDUCTION

So much compostable waste is sent to landfills when it could be used for agricultural purposes. Crops need fertilizer in order to produce a greater yield. Compost improves soil properties, provides nutrients, increase plant growth and health, in addition to helping conserve water.

The state of California is a great example of this system. According to the California Compost Coalition, roughly 7.5 million tons of compost were used on irrigated land annually. A fair bit of that compost came from city waste.

■ *California, S. of. (2015, January 07). Compost and Mulch Use in Agriculture. Retrieved from <http://www.calrecycle.ca.gov/Recycling/Foraging/>*

STANDARDIZATION

The lack of standardization in the recycling industry is arguably one of the biggest problems that affects everyone.

When it comes to inconsistency the collection of different materials is not the only problem. The lack of consistent containers and accompanying signage causes confusion of where materials go, which can lead to contamination and loss of recycled materials.

Potential solutions to this problem include restrictive openings, clear color coordination as well as concise labeling and signage options. Repetition among recycling units is key to correctly informing users and improving the quantity and quality of recycled materials.

■ *Vinci, S. (2012, January 27). Overcoming Recycling Challenges. Retrieved from <http://www.bushy.com/resources-center/pdf/overcoming-recycling-challenges>*

RECYCLING

THEN VS NOW

Interestingly enough, the recycling symbol arose from a littering debate rather than a recycling debate. Despite its origins, that symbol would go on to become one of the most recognizable symbols in the world. Recycling has been around for a very long time and has come quite a ways from where it started. Recycling from a technical standpoint is a series of systems, an infrastructure, that connects everything that happens in process of recycling materials. Recycling is about value of materials and the transformation of old materials into potentially useful products. From the first documented paper recycling to the most current recycling systems today, those two properties of value and transformation have been the staples of what drives the recycling systems we've seen throughout history.

JAPAN

THEN Japan recorded the first ever documented reuse of paper in 3031 AD. All documents and paper are recycled and re-pulped into new paper to be sold in local shops across the country.

NOW Waste materials that cannot be recycled are separated between burnable and unburnable piles. Due to Japan having a finite amount of space for landfills, most of Japan's waste is burned.



LONDON

THEN In 1865 the Salvation Army was founded and began collecting, sorting, and recycling unwanted goods within London.

The Household Salvage Brigades, a sector of the Salvation Army, employed the unskilled poor to recover discarded materials.

NOW Currently, London produces 17 million tons of waste each year, of which roughly 2 million tons consist of household waste.

Up until 2001, there was barely any curbside collection of household recyclables in all of England. Once those services were made available all over the country, recycling rates jumped by 25% within the decade.



NEW YORK CITY

THEN In 1897 the Big Apple opened a materials recovery facility where trash is sorted at "picking yards" and separated.

NOW It's estimated that the garbage trucks delivering Manhattan's waste travel roughly 7.8 million miles a year, enough to circle the world 3 times.

With a recycling rate of around 17% the citizens of New York City produce roughly 22,000 tons of waste every day. There are no landfills or incinerators within the city, so that waste must be moved out daily.

ATHENS

THEN Back in 500 BC, Athens organized the very first documented municipal dump program. Laws were enacted to ensure that waste materials were to be disposed of at least one mile away from city walls.

NOW Once recycling took root in Athens, it took off quickly. Currently there are over 4,000 blue recycling bins scattered across the city ranging from plastic bottles, glass bottles, metal containers and paper packaging to special waste materials such as mobile phones and batteries.



WHAT CAN WE DO?

ADVERTISING

Consumerism is fed by the outrageous amount of advertising present in our every day lives. Materialism is just one of the results of consumerism.

The products we buy are made psychologically obsolete long before their physical lifespan is up. Without excessive advertising urging consumers to buy the "latest and greatest" thing, there would be less waste produced.



There is a real problem in our world with too many products being made and too much waste being generated.

The recycling industry has taken a hard hit in recent times with China no longer accepting other countries' recycled materials. With unstable market prices, pressure is being placed on domestic markets with many cities opting to completely shut down their recycling systems.

New ways of approaching recycling and sustainability are being used every day, creating environments and products that meet all of our physiological needs and helping us create a clear system for recycling to lessen the amount of waste created.

INCENTIVIZE

Using the "it's the right thing to do" card isn't cutting it anymore. How do we incentivize recycling without promoting more consumerism?

Some communities use a pay-as-you-throw system where the household pays more to dispose of more trash and vice versa. This provides incentive to recycle and reduce because in the household that recycle and compost, the more money they save.



WASTE REDUCTION

Around 60% of household waste is compostable but a mere 8% actually ends up being composted.

Separating and collecting compostable household waste from other waste would lower the risk of contamination in recycling as well as create fertilizer for agricultural uses.



STANDARDIZATION

Recycling efforts are not nearly as efficient as they could be. With variations of recycling rules between communities, there is little to no consistency for users of the recycling system.

A consistent visual language for product packaging as well as waste disposal units and signage would greatly help people make better informed decisions in their recycling practices.



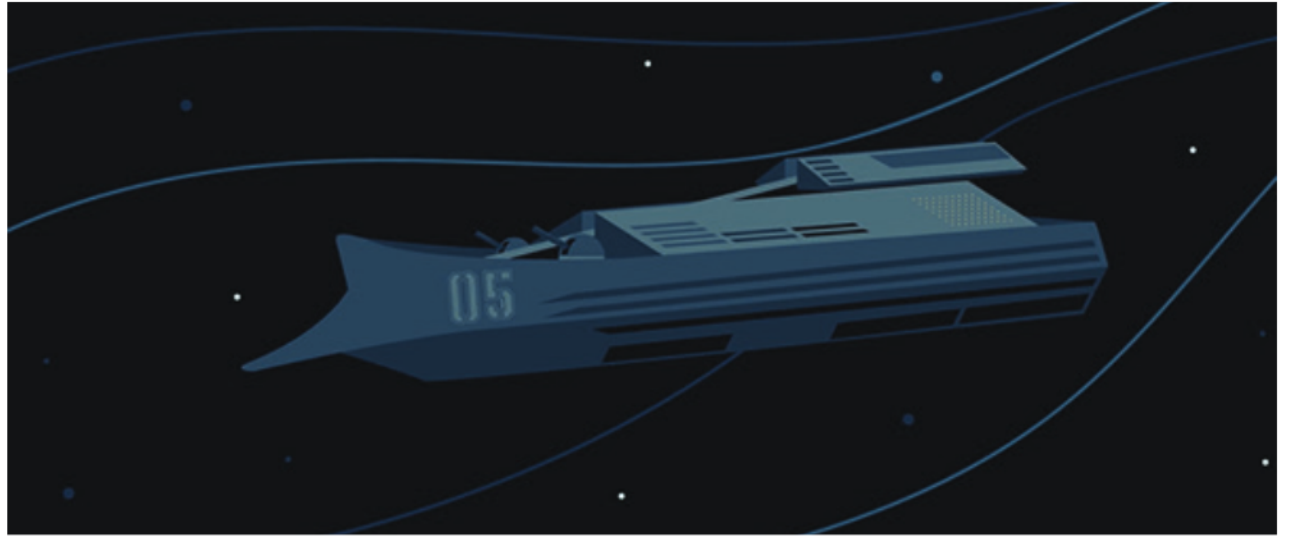


Illustration + Motion Graphics

Attack of the Space Pirates

Follow Captain Amel Locke through the beginning of an assault by space pirates after his cargo.

A Smack of Umbrellas

We randomly drew an object out of a hat, and I drew a “giant cactus umbrella.” The opening and closing motion of an umbrella reminded me of jellyfish movements, which led to a smack of umbrellas flying through the sky.



See attached .mp4 to preview animations