

AGRI MAN

ADVENTURES

#3

GUEST STARRING
PROFESSOR RATTAN LAL
WORLD FOOD PRIZE 2020

SECRETS OF
THE SOIL



Living Soils
of the Americas



AGRI MAN ADVENTURES

SECRETS OF THE SOIL

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EVERYTHING SLIGHT PEPPER

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WE'VE HAD 13 LIGHTNING STRIKES IN THE LAST 10 MINUTES!

THERE'S FLASH FLOODING!



BUT HERE HAS BEEN SO DRY!

THE GROUND IS CRACKED UP.

WE'RE LOSING ALL OUR CROPS!



AGRIVERSE! WE NEED TO HELP PHOTOSYNTHESISTA FAST!

TAKE THIS BANANA, IT IS RICH IN POTASSIUM. IT WILL GIVE YOU ENERGY AND HELP YOUR MUSCLES TO RECOVER AT RAPID SPEED.

THANK YOU, AGRIVERSE!



LOAD UP THE GEAR.

LOCKED AND LOADED.



HOPE I DIDN'T FORGET THE HOSE ON!



IN THE FOREST

LOOKS LIKE A TREE HAS FALLEN ACROSS THE RIVER PATH AND ITS ACTING LIKE A DAM, CAUSING THE WATER TO BACK UP!

THUD

THIS TREE HAS BEEN HERE FOR OVER A DECADE, BUT WITH THE HEAVY RAINS.

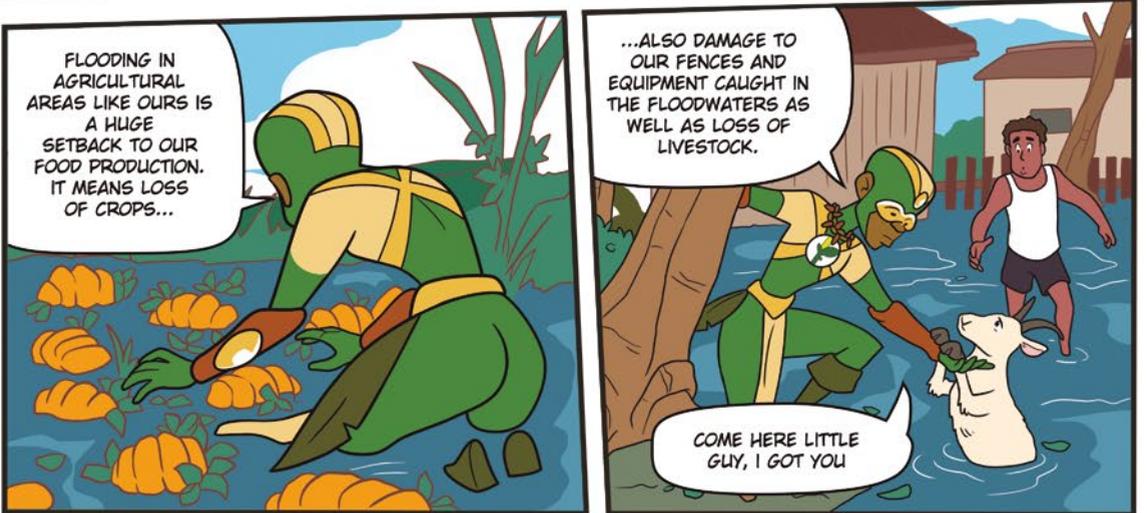
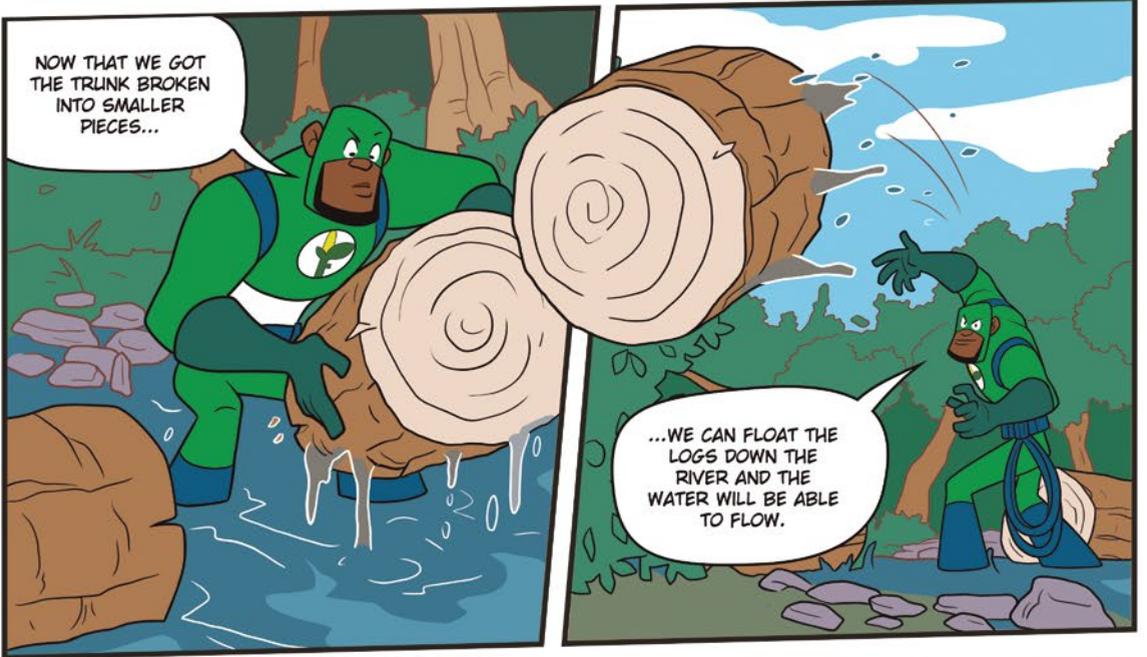
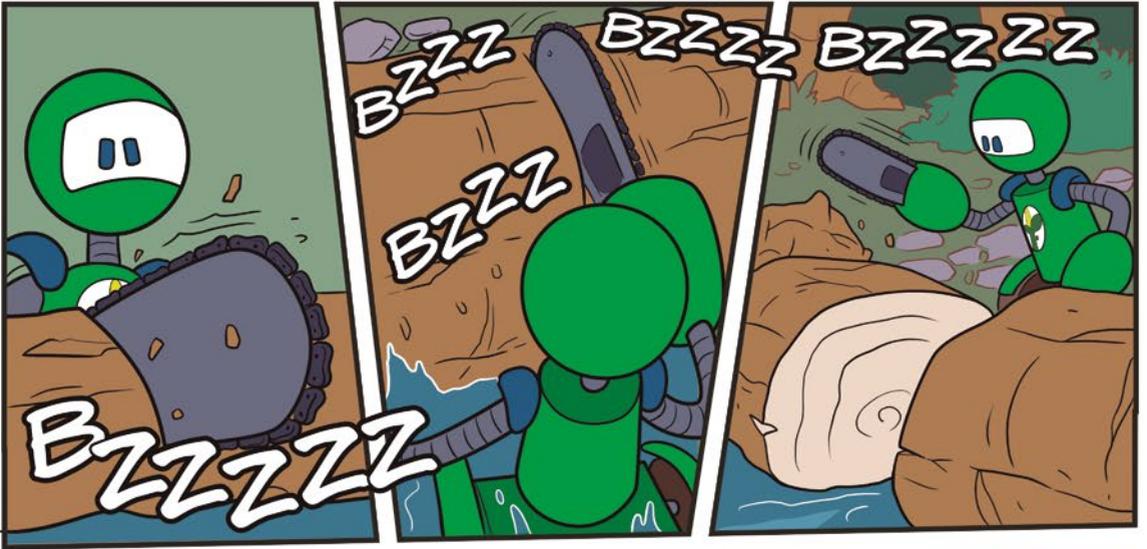
THE SOIL IS GETTING WASHED AWAY SO THE ROOTS HAVE NOTHING TO HOLD ON TO.

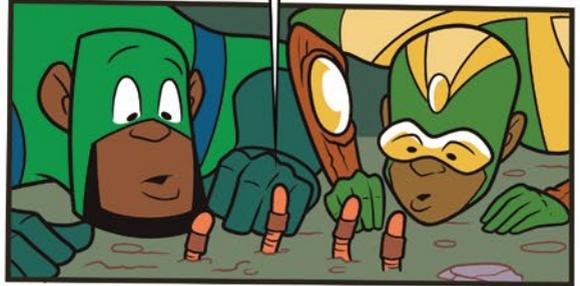
SPLASH

BRUM BRUM BRUM BRUM
BRUM BRUM BRUM BRUM

WE NEED TO CLEAR THIS PATH.







UNDERGROUND

WE LIVE BELOW THE SURFACE, HERE IN THE SOIL. OUR DIGGING AND CRAWLING HELPS THE CROPS.

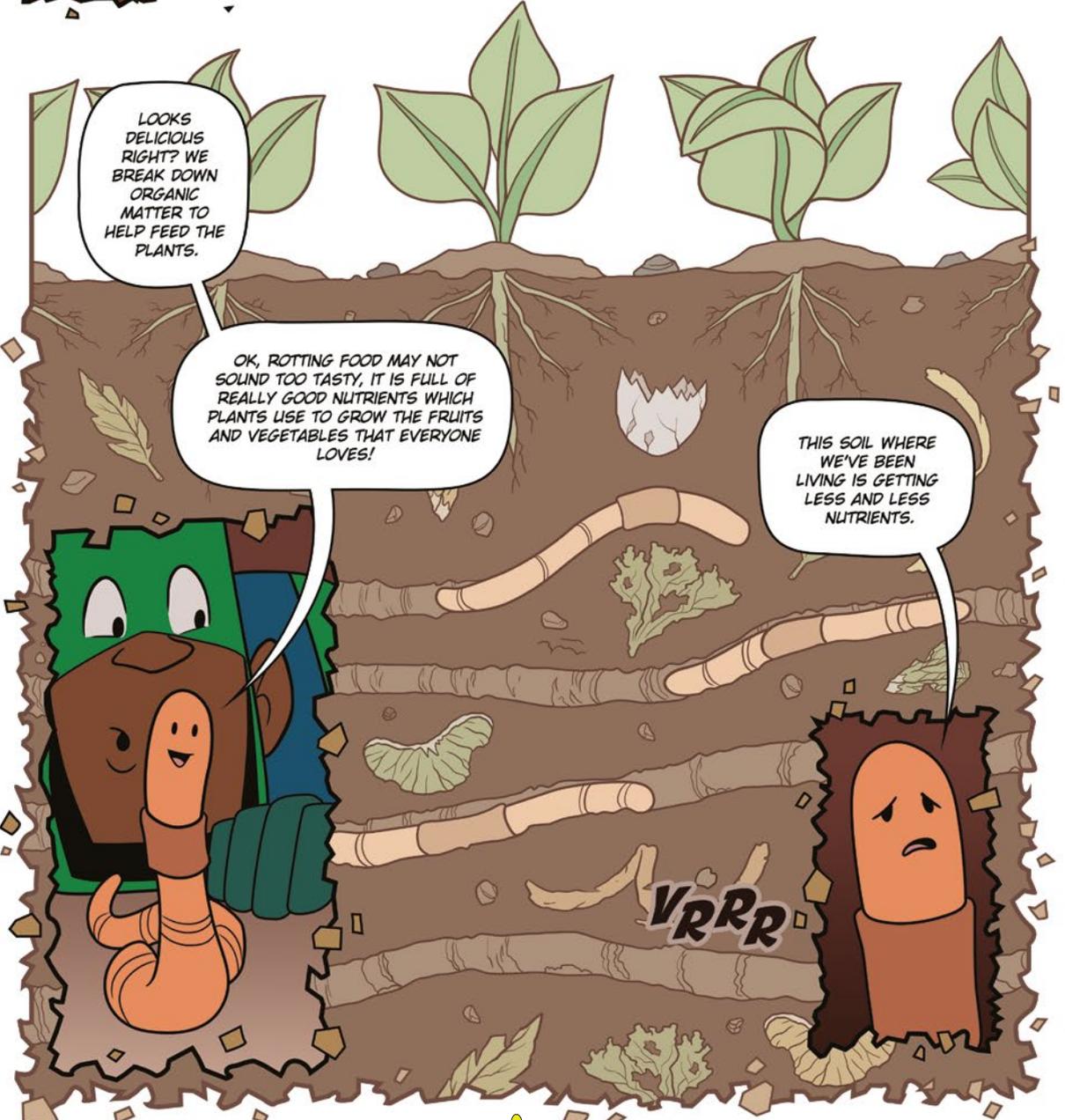
WE HELP TO MIX UP THE SOIL AND CREATE AIR SPACES SO THE PLANT'S ROOTS HAVE ROOM TO GROW AND BREATHE.



LOOKS DELICIOUS RIGHT? WE BREAK DOWN ORGANIC MATTER TO HELP FEED THE PLANTS.

OK, ROTTING FOOD MAY NOT SOUND TOO TASTY, IT IS FULL OF REALLY GOOD NUTRIENTS WHICH PLANTS USE TO GROW THE FRUITS AND VEGETABLES THAT EVERYONE LOVES!

THIS SOIL WHERE WE'VE BEEN LIVING IS GETTING LESS AND LESS NUTRIENTS.





VRRRRMMMM

IT'S A PLOUGH!

EVERYONE
LAY FLAT
NOW!



VRRRRRRRRMMMMMM

WHAT WAS THAT?



PEOPLE ON THE FARMS HAVE BEEN USING THESE MACHINES TO TILL THE SOIL TO PLANT CROPS.



THE HEAVY RAINS OF LATE HAVE WASHED AWAY SO MUCH OF THE TOP SOIL.

IT IS MAKING THE EFFECTS OF THE MACHINES EVEN WORSE.

VRRRRMMMM



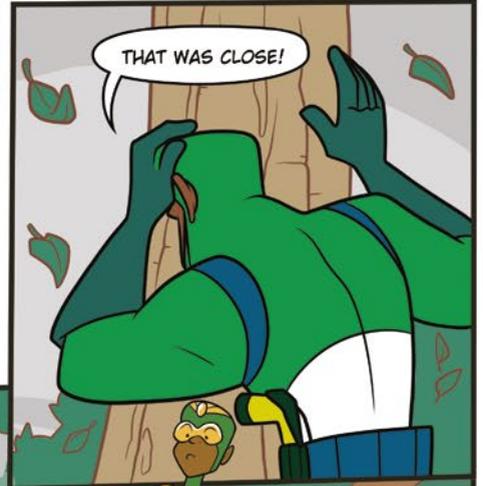
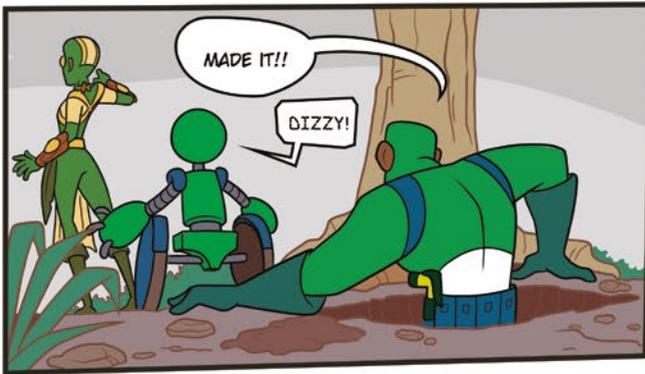
THAT'S WEIRD. THEY USUALLY ONLY PASS ONCE.

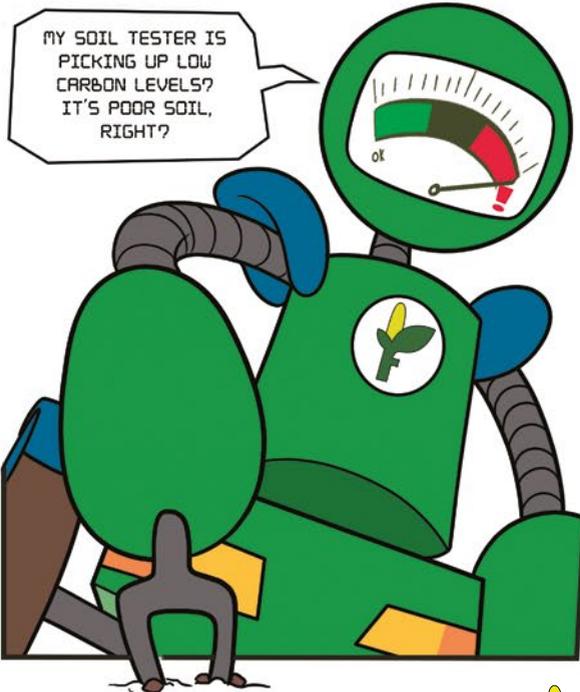
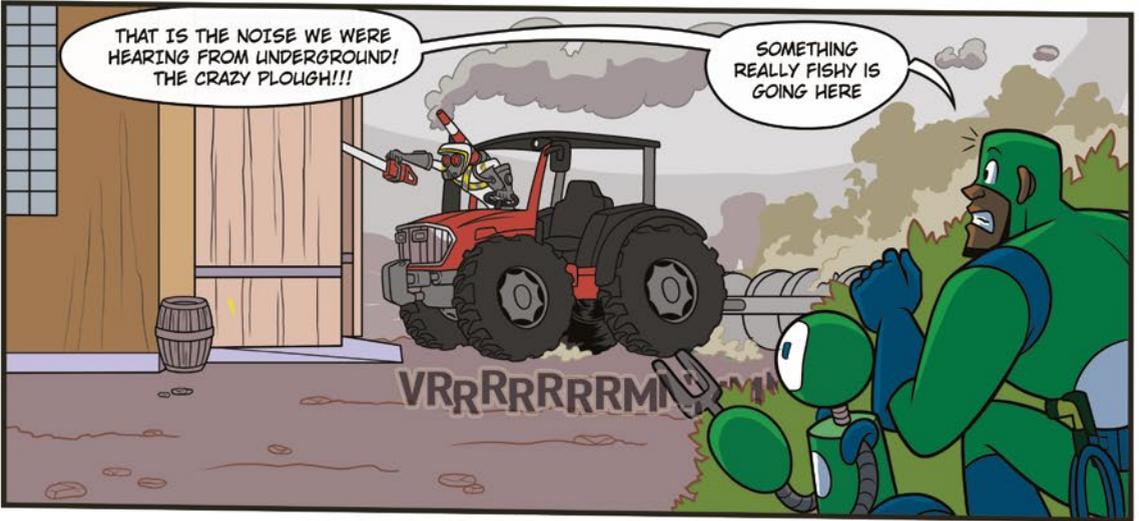
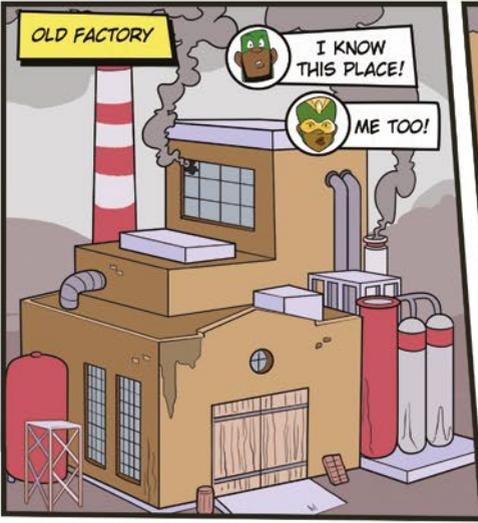
VRRRRRRRRMMMMMM

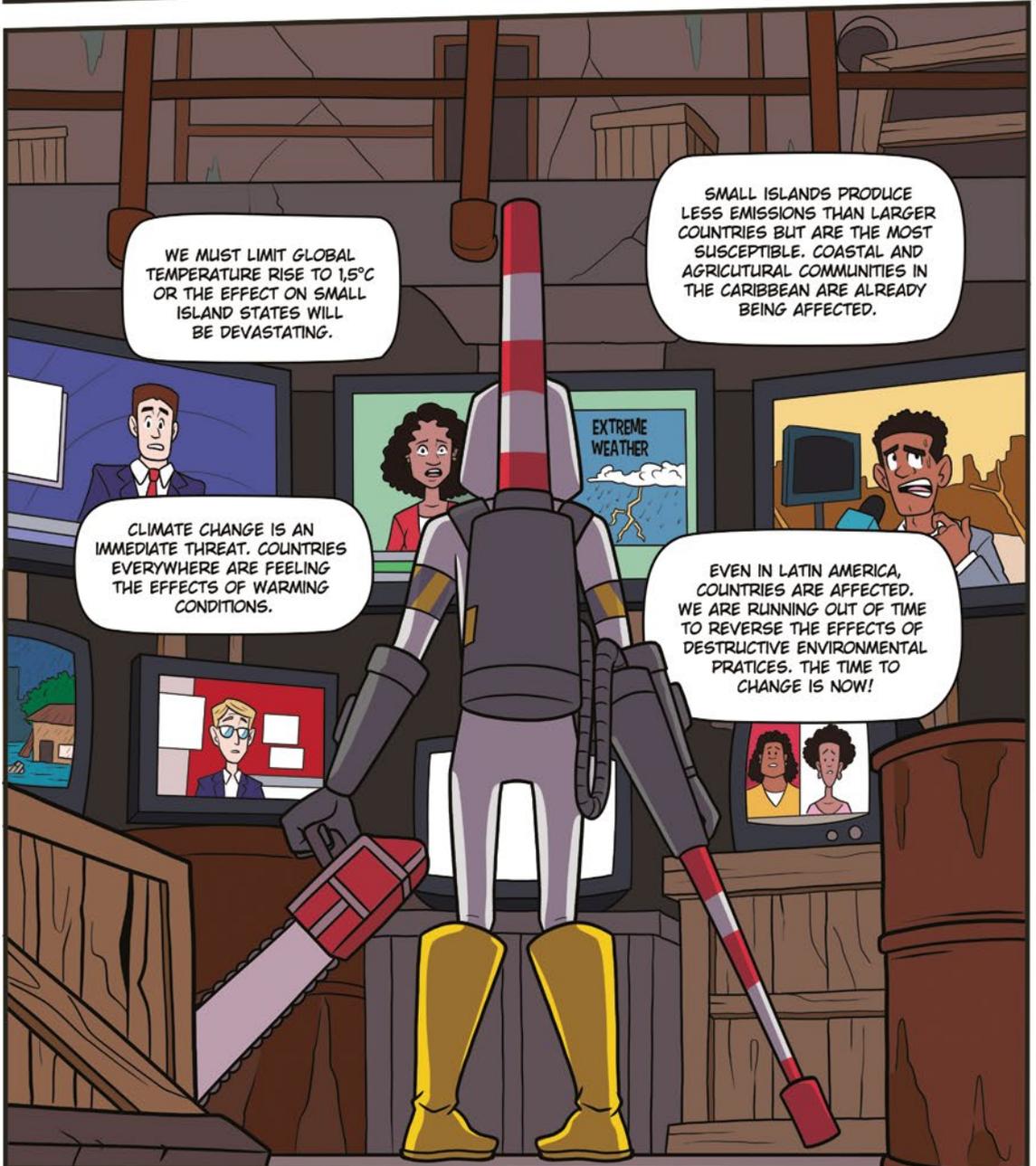
IT'S COMING BACK!

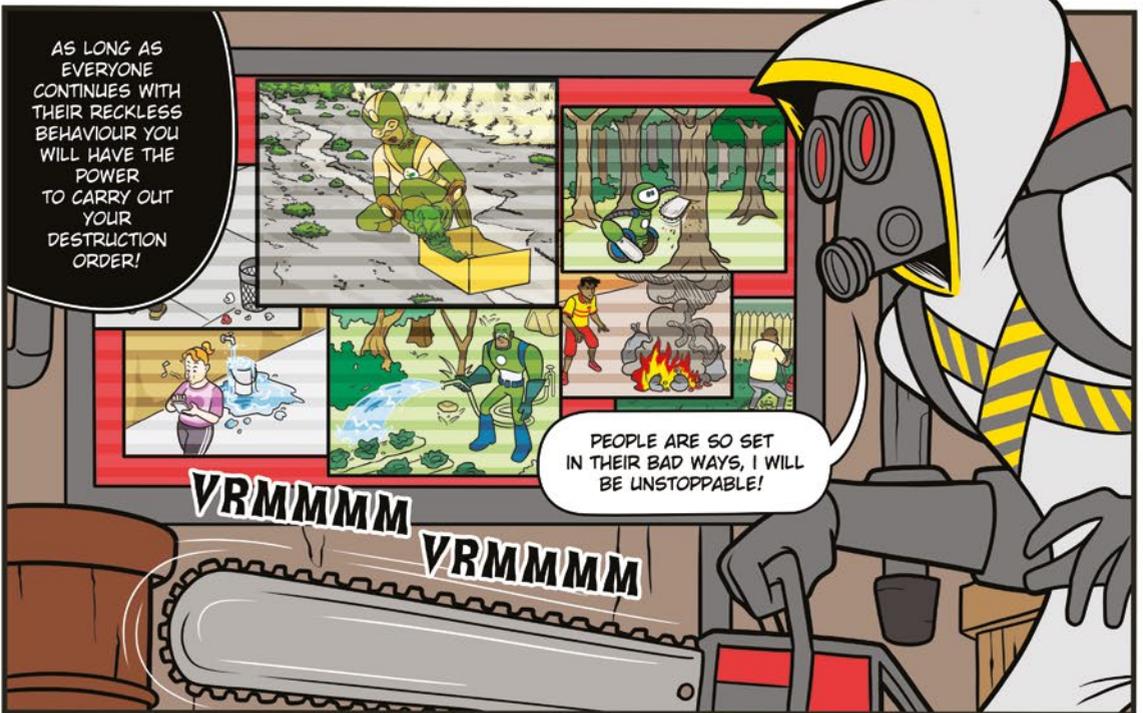
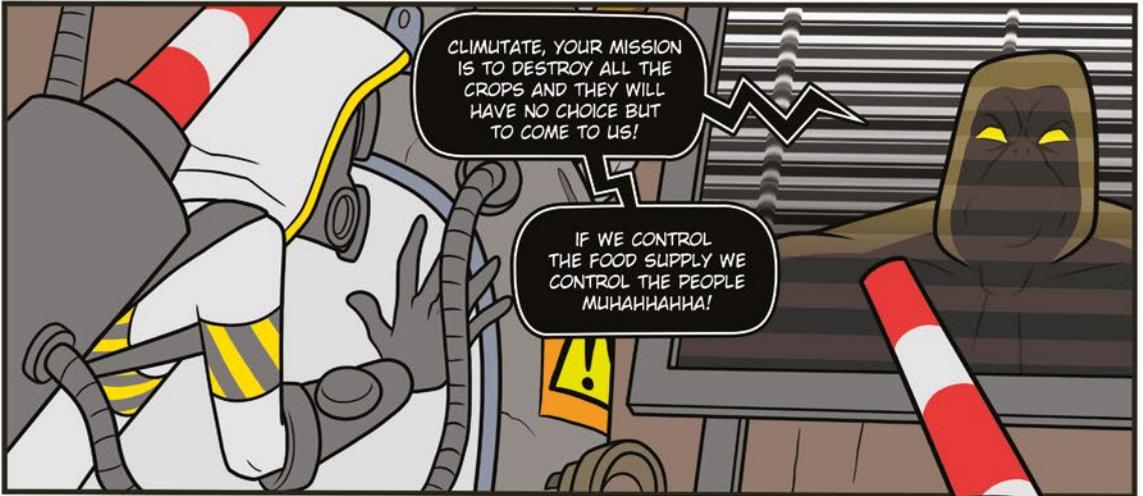
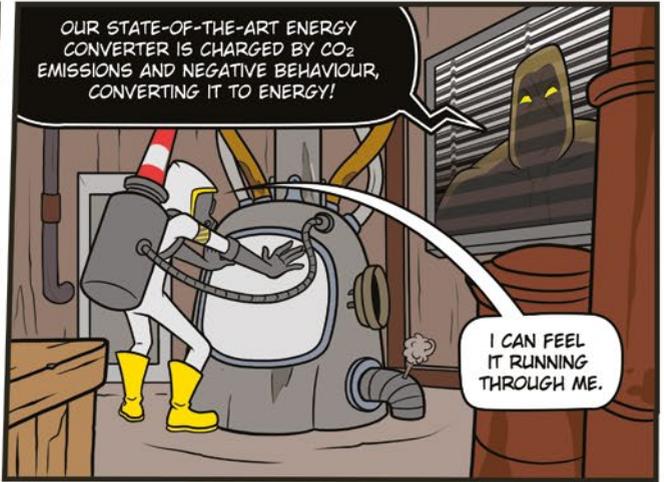
EVERYONE
WIGGLE FOR
YOUR LIFE!













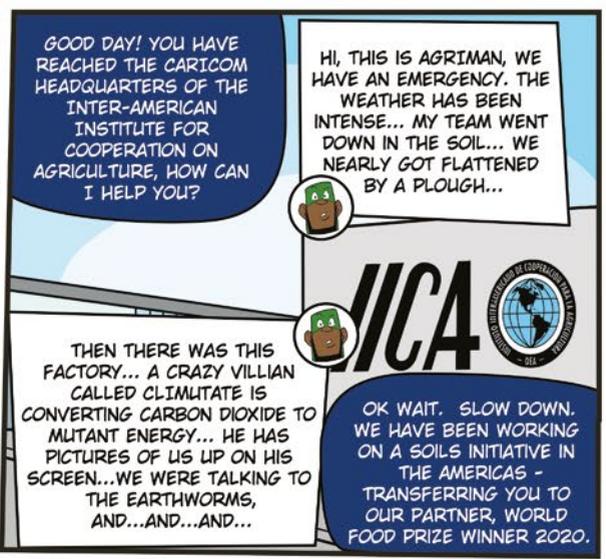
MEANWHILE UNDERGROUND

WAIT A MINUTE, I SAW ME ON THAT SCREEN!



I THINK I SAW MYSELF TOO! ARE WE A PART OF THE PROBLEM?

AGRIBOT, CAN YOU CALL IICA? WE NEED THEIR HELP!



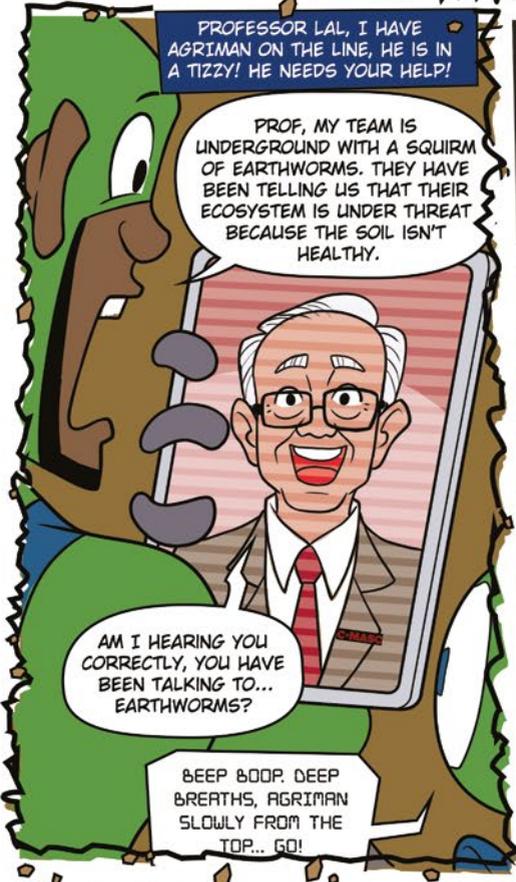
GOOD DAY! YOU HAVE REACHED THE CARICOM HEADQUARTERS OF THE INTER-AMERICAN INSTITUTE FOR COOPERATION ON AGRICULTURE, HOW CAN I HELP YOU?

HI, THIS IS AGRIMAN, WE HAVE AN EMERGENCY. THE WEATHER HAS BEEN INTENSE... MY TEAM WENT DOWN IN THE SOIL... WE NEARLY GOT FLATTENED BY A PLOUGH...



THEN THERE WAS THIS FACTORY... A CRAZY VILLIAN CALLED CLIMUTATE IS CONVERTING CARBON DIOXIDE TO MUTANT ENERGY... HE HAS PICTURES OF US UP ON HIS SCREEN...WE WERE TALKING TO THE EARTHWORMS, AND...AND...AND...

OK WAIT. SLOW DOWN. WE HAVE BEEN WORKING ON A SOILS INITIATIVE IN THE AMERICAS - TRANSFERRING YOU TO OUR PARTNER, WORLD FOOD PRIZE WINNER 2020.

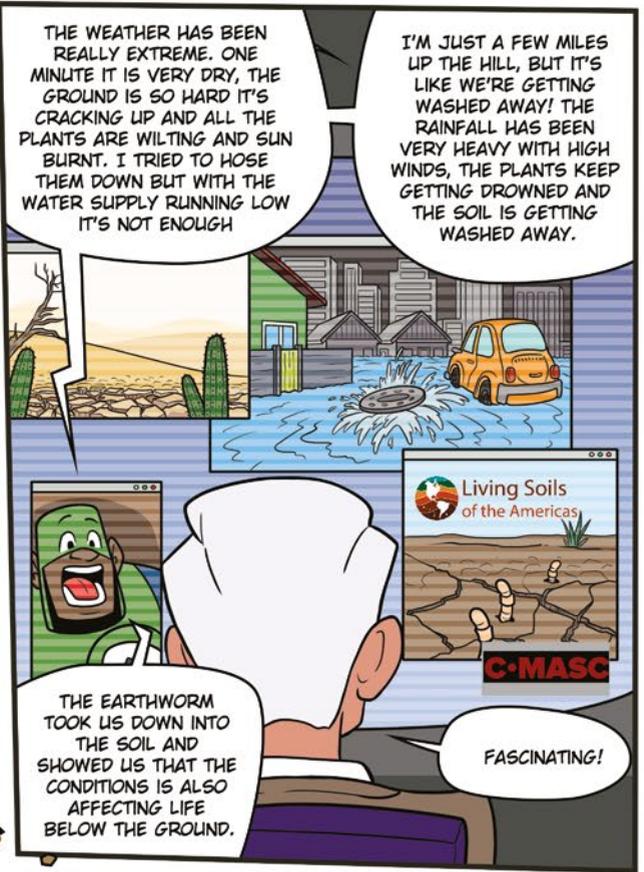


PROFESSOR LAL, I HAVE AGRIMAN ON THE LINE, HE IS IN A TIZZY! HE NEEDS YOUR HELP!

PROF, MY TEAM IS UNDERGROUND WITH A SQUIRM OF EARTHWORMS. THEY HAVE BEEN TELLING US THAT THEIR ECOSYSTEM IS UNDER THREAT BECAUSE THE SOIL ISN'T HEALTHY.

AM I HEARING YOU CORRECTLY, YOU HAVE BEEN TALKING TO... EARTHWORMS?

BEEP BOOP. DEEP BREATHS, AGRIMAN SLOWLY FROM THE TOP... GO!



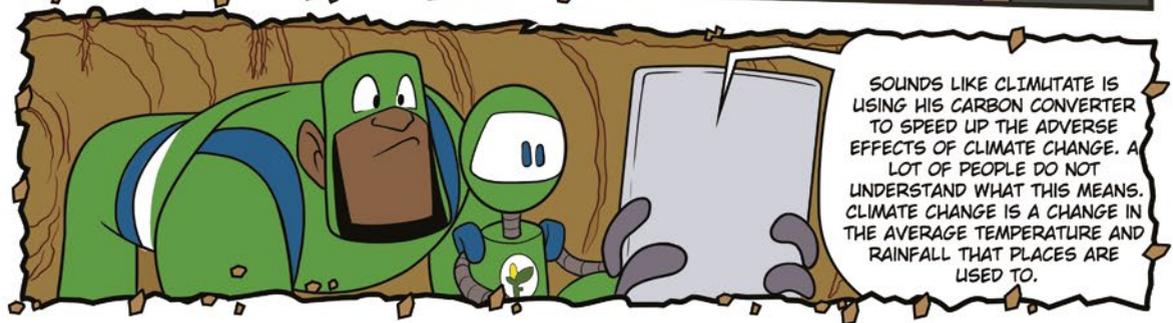
THE WEATHER HAS BEEN REALLY EXTREME. ONE MINUTE IT IS VERY DRY, THE GROUND IS SO HARD IT'S CRACKING UP AND ALL THE PLANTS ARE WILTING AND SUN BURNT. I TRIED TO HOSE THEM DOWN BUT WITH THE WATER SUPPLY RUNNING LOW IT'S NOT ENOUGH

I'M JUST A FEW MILES UP THE HILL, BUT IT'S LIKE WE'RE GETTING WASHED AWAY! THE RAINFALL HAS BEEN VERY HEAVY WITH HIGH WINDS, THE PLANTS KEEP GETTING DROWNED AND THE SOIL IS GETTING WASHED AWAY.



THE EARTHWORM TOOK US DOWN INTO THE SOIL AND SHOWED US THAT THE CONDITIONS IS ALSO AFFECTING LIFE BELOW THE GROUND.

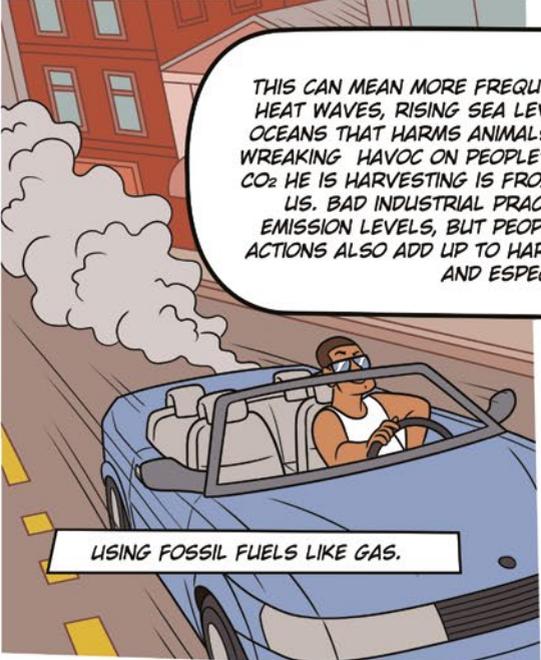
FASCINATING!



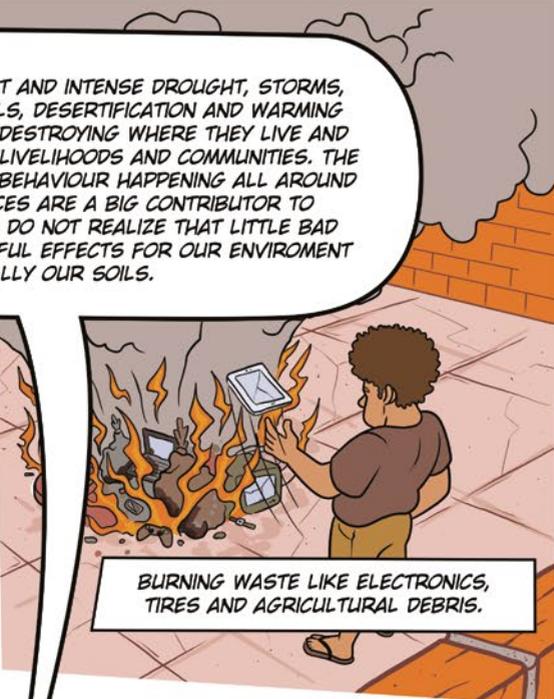
SOUNDS LIKE CLIMUTATE IS USING HIS CARBON CONVERTER TO SPEED UP THE ADVERSE EFFECTS OF CLIMATE CHANGE. A LOT OF PEOPLE DO NOT UNDERSTAND WHAT THIS MEANS. CLIMATE CHANGE IS A CHANGE IN THE AVERAGE TEMPERATURE AND RAINFALL THAT PLACES ARE USED TO.



THIS CAN MEAN MORE FREQUENT AND INTENSE DROUGHT, STORMS, HEAT WAVES, RISING SEA LEVELS, DESERTIFICATION AND WARMING OCEANS THAT HARMS ANIMALS, DESTROYING WHERE THEY LIVE AND WREAKING HAVOC ON PEOPLE'S LIVELIHOODS AND COMMUNITIES. THE CO₂ HE IS HARVESTING IS FROM BEHAVIOUR HAPPENING ALL AROUND US. BAD INDUSTRIAL PRACTICES ARE A BIG CONTRIBUTOR TO EMISSION LEVELS, BUT PEOPLE DO NOT REALIZE THAT LITTLE BAD ACTIONS ALSO ADD UP TO HARMFUL EFFECTS FOR OUR ENVIROMENT AND ESPECIALLY OUR SOILS.



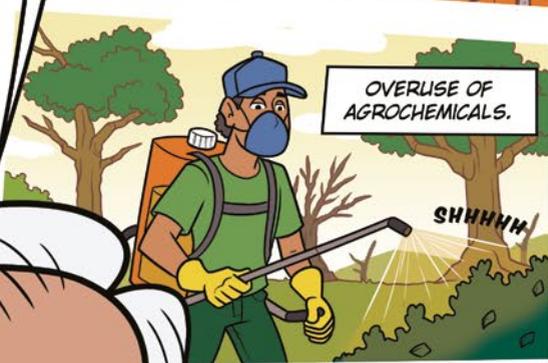
USING FOSSIL FUELS LIKE GAS.



BURNING WASTE LIKE ELECTRONICS, TIRES AND AGRICULTURAL DEBRIS.



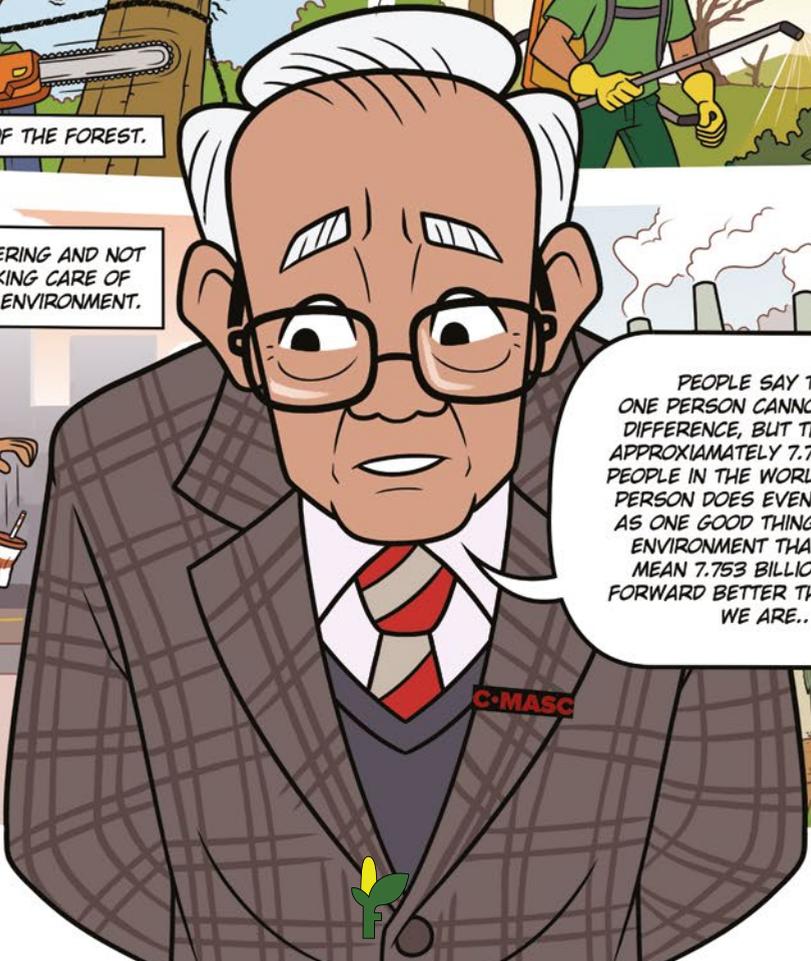
DESTRUCTION OF THE FOREST.



OVERUSE OF AGROCHEMICALS.



LITTERING AND NOT TAKING CARE OF THE ENVIRONMENT.



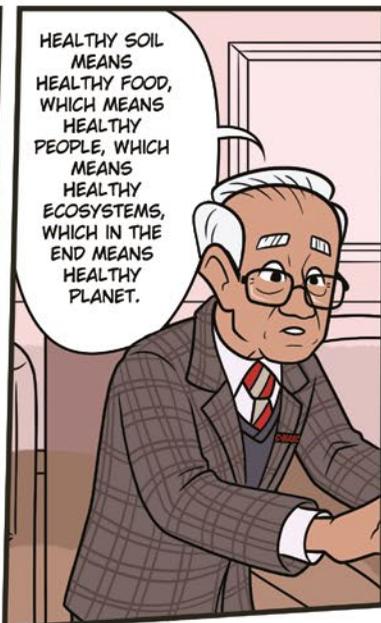
PEOPLE SAY THAT ONE PERSON CANNOT MAKE A DIFFERENCE, BUT THERE ARE APPROXIMATELY 7.753 BILLION PEOPLE IN THE WORLD. IF EACH PERSON DOES EVEN AS LITTLE AS ONE GOOD THING FOR OUR ENVIRONMENT THAT WOULD MEAN 7.753 BILLION STEPS FORWARD BETTER THAN WHERE WE ARE..





WE MUST DO SOMETHING BEFORE IT IS TOO LATE.

HOW CAN WE MAKE AGRICULTURE PART OF THE SOLUTION?



HEALTHY SOIL MEANS HEALTHY FOOD, WHICH MEANS HEALTHY PEOPLE, WHICH MEANS HEALTHY ECOSYSTEMS, WHICH IN THE END MEANS HEALTHY PLANET.



SOIL IS A NATURAL ECOSYSTEM AND THE SOLUTION FOR CLIMATE CHANGE. I AM GOING TO LET YOU IN ON SOME SECRETS THAT YOU CAN SHARE WITH THE COMMUNITY.



I HAVE A SOIL SCRIPTION FOR YOU!

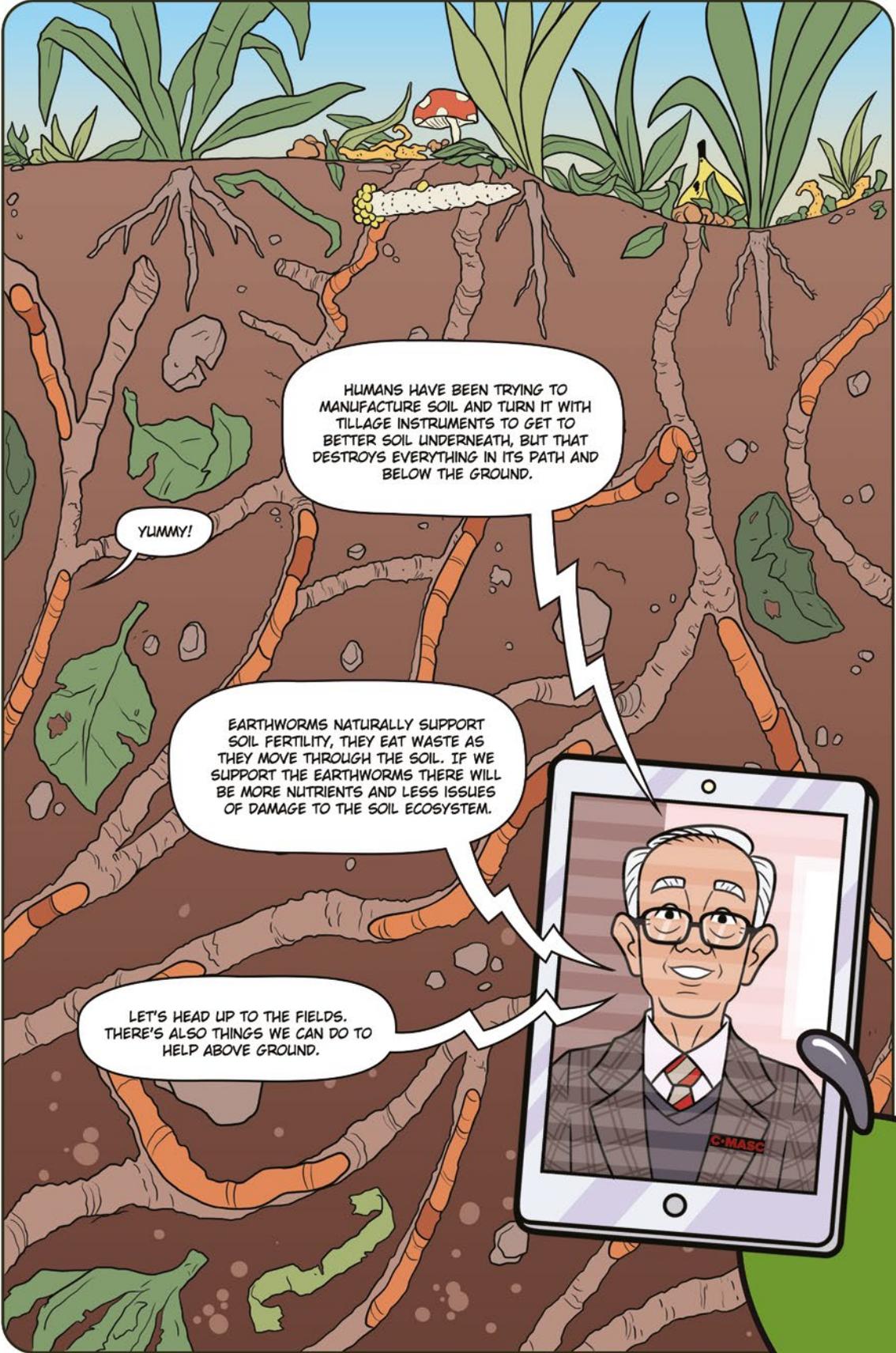
LET'S START WITH COMPOST. IS A NATURAL TYPE OF FERTILIZER THAT IS MADE FROM ROTTING PLANTS AND FOOD SCRAPS LIKE VEGETABLE AND FRUIT SKINS.

ADDING THIS TO SOIL HELPS PREVENT EROSION AND IS RICH IN NUTRIENTS LIKE NITRATES, PHOSPHATES, AND POTASSIUM.



WAIT! I HAVE BEEN THROWING ALL THESE THINGS INTO THE GARBAGE. I COULD HAVE BEEN USING IT TO HELP MY PLANTS HAVE BETTER SOIL AND IT WOULD'VE COST ME NOTHING EXTRA!





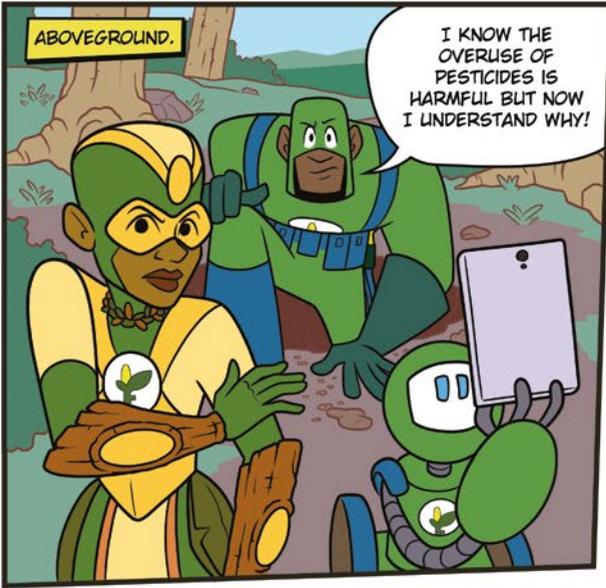
HUMANS HAVE BEEN TRYING TO MANUFACTURE SOIL AND TURN IT WITH TILLAGE INSTRUMENTS TO GET TO BETTER SOIL UNDERNEATH, BUT THAT DESTROYS EVERYTHING IN ITS PATH AND BELOW THE GROUND.

YUMMY!

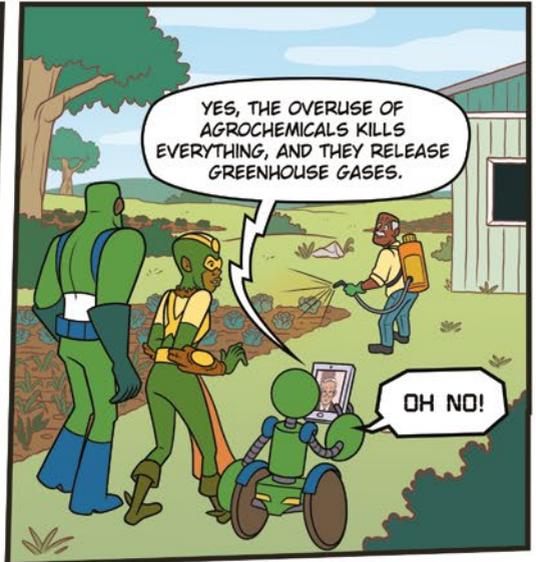
EARTHWORMS NATURALLY SUPPORT SOIL FERTILITY, THEY EAT WASTE AS THEY MOVE THROUGH THE SOIL. IF WE SUPPORT THE EARTHWORMS THERE WILL BE MORE NUTRIENTS AND LESS ISSUES OF DAMAGE TO THE SOIL ECOSYSTEM.

LET'S HEAD UP TO THE FIELDS. THERE'S ALSO THINGS WE CAN DO TO HELP ABOVE GROUND.





I KNOW THE OVERUSE OF PESTICIDES IS HARMFUL BUT NOW I UNDERSTAND WHY!



YES, THE OVERUSE OF AGROCHEMICALS KILLS EVERYTHING, AND THEY RELEASE GREENHOUSE GASES.

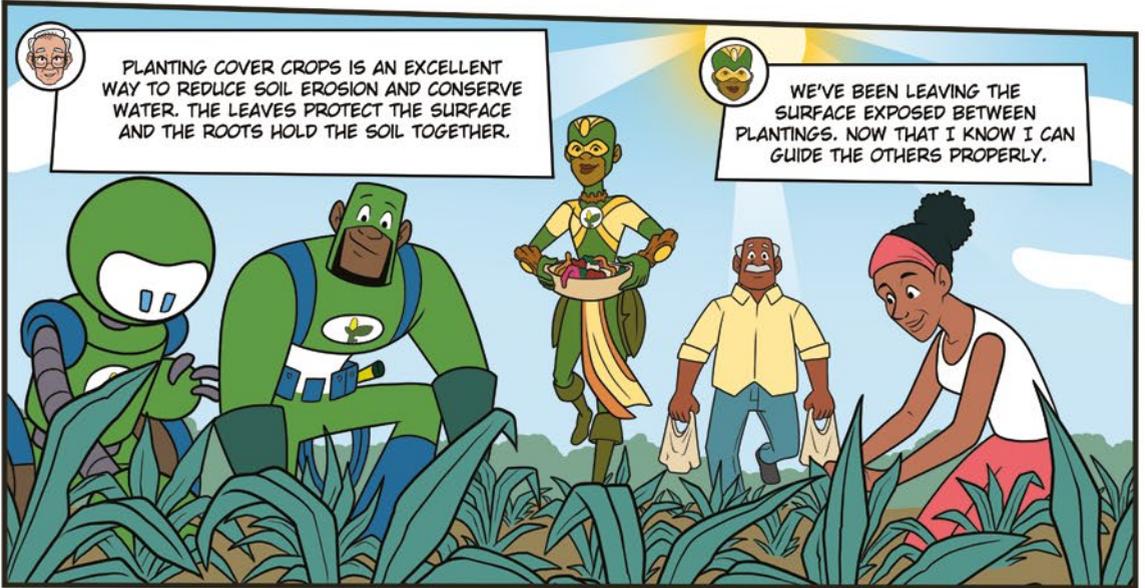
OH NO!



THERE ARE GOOD CREATURES LIVING IN THE SOIL WHO CREATE NUTRIENTS FOR OUR PLANTS TO GROW BIG AND STRONG. IF WE SUPPORT THESE ANIMALS ITS BETTER FOR EVERYONE IN THE LONG RUN!



PROFESSOR, AFTER WE'VE HARVESTED I NOTICED THAT THE BARE SOIL GETS EASILY WASHED AWAY. IS THERE ANYTHING THAT CAN HELP TO FIX THIS PROBLEM?



PLANTING COVER CROPS IS AN EXCELLENT WAY TO REDUCE SOIL EROSION AND CONSERVE WATER. THE LEAVES PROTECT THE SURFACE AND THE ROOTS HOLD THE SOIL TOGETHER.



WE'VE BEEN LEAVING THE SURFACE EXPOSED BETWEEN PLANTINGS. NOW THAT I KNOW I CAN GUIDE THE OTHERS PROPERLY.

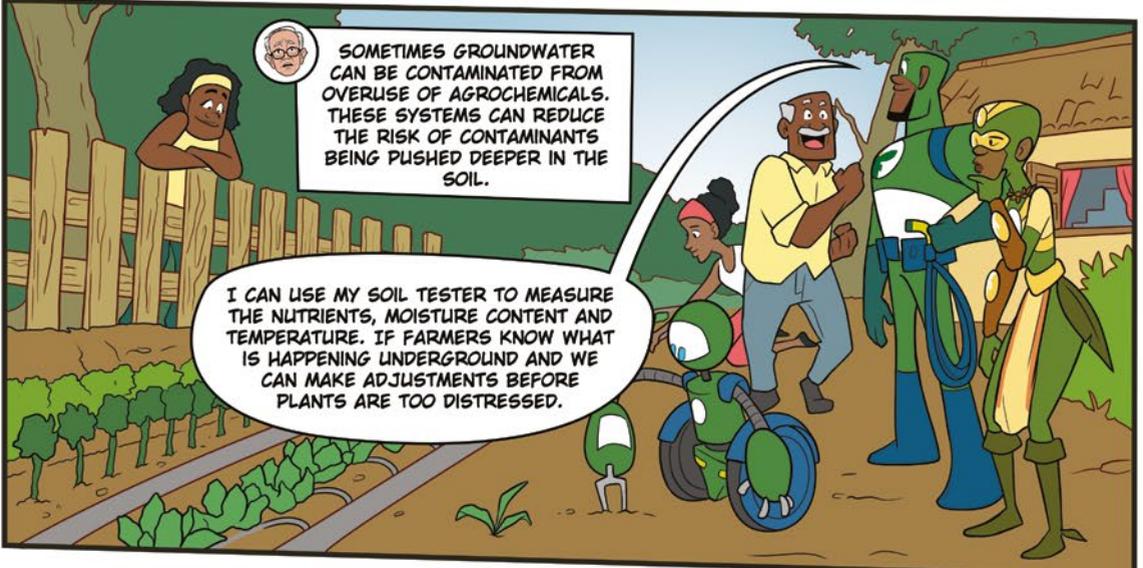
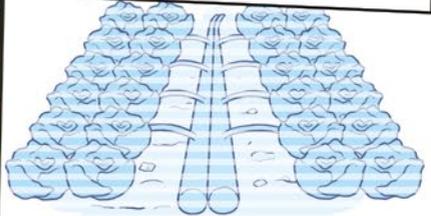




PLANTS NEED WATER TO GROW, PLENTY WATER IS WASTED WHEN USING A HOSE ESPECIALLY WHEN WATER SUPPLY IS LOW.



EFFICIENT IRRIGATION SYSTEMS USES LESS WATER BY APPLYING THE CORRECT AMOUNT OF WATER DIRECTLY TO THE ROOTS, PRODUCING MORE CROPS PER DROP OF WATER.



SOMETIMES GROUNDWATER CAN BE CONTAMINATED FROM OVERUSE OF AGROCHEMICALS. THESE SYSTEMS CAN REDUCE THE RISK OF CONTAMINANTS BEING PUSHED DEEPER IN THE SOIL.

I CAN USE MY SOIL TESTER TO MEASURE THE NUTRIENTS, MOISTURE CONTENT AND TEMPERATURE. IF FARMERS KNOW WHAT IS HAPPENING UNDERGROUND AND WE CAN MAKE ADJUSTMENTS BEFORE PLANTS ARE TOO DISTRESSED.

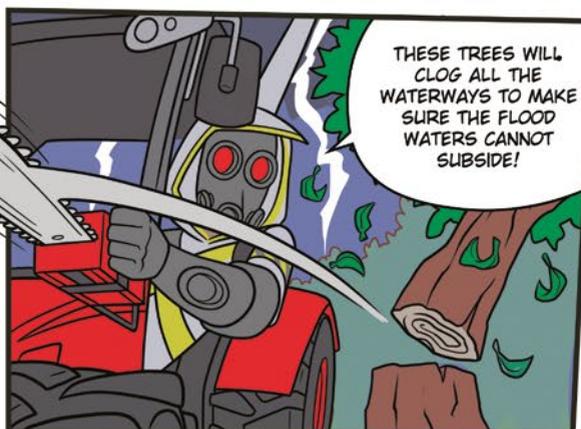
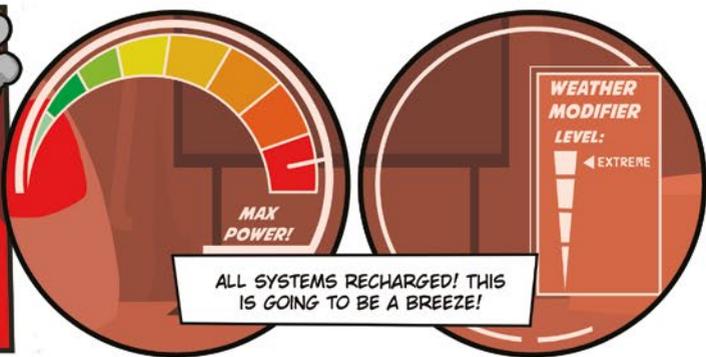


THANK YOU PROFESSOR, THESE ARE GREAT TIPS TO HELP MAKE AGRICULTURE PART OF THE SOLUTION.



WHAT IS THAT!?



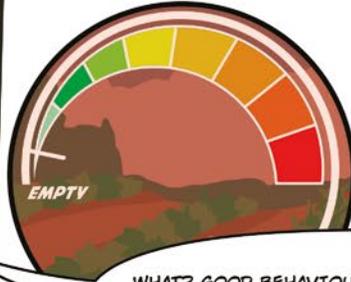




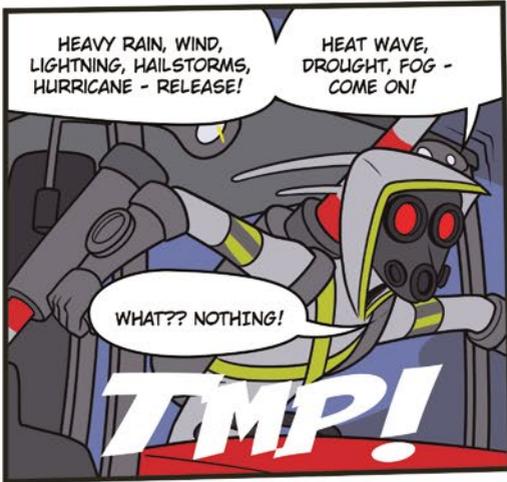
BUT WITH ALL THE BAD BEHAVIOUR MY PLOUGH WAS FULLY CHARGED!



I AM LOOOOOOSING ALL MY POWERS.



WHAT? GOOD BEHAVIOUR?? REDUCED POLLUTION? REDUCED CO2? REDUCED WASTAGE? SOMEONE IS MESSING WITH MY MASTER PLAN!



HEAVY RAIN, WIND, LIGHTNING, HAILSTORMS, HURRICANE - RELEASE!

HEAT WAVE, DROUGHT, FOG - COME ON!

WHAT?? NOTHING!

TMP!



TIME TO BRAINSTORM!

I AM GOING TO HAVE TO MOVE THIS IN MANUAL MODE.



WHERE DID THESE WORMS COME FROM? THE SOIL IS SOFT AND THE WHEELS ARE STUCK!



THIS STINKS!

GET HIM!!





HEY YOU! WHAT DO YOU THINK YOU'RE DOING?

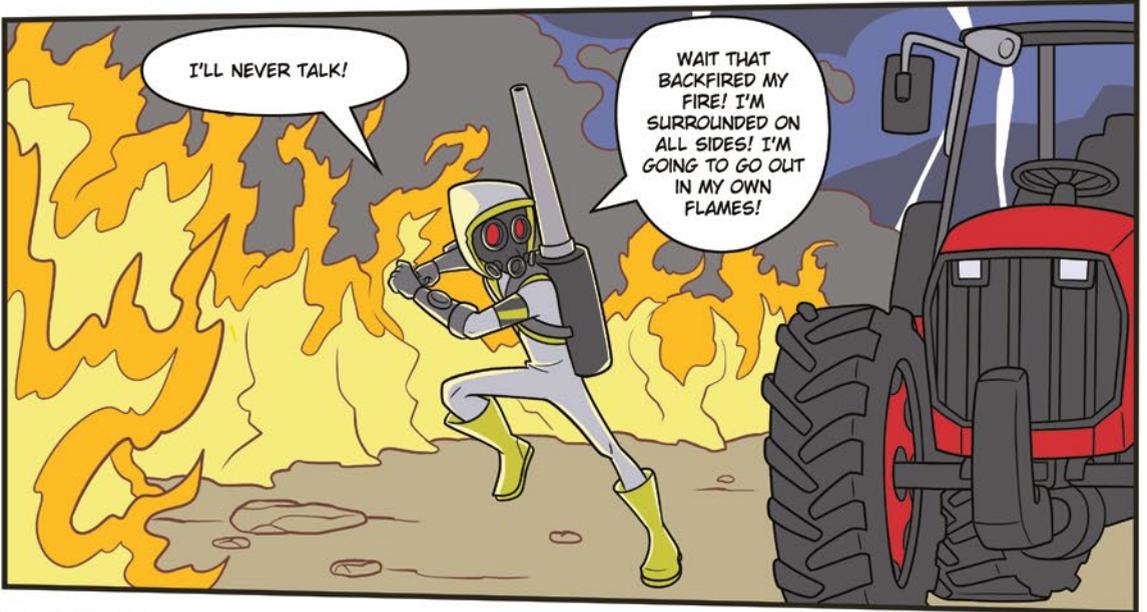
WHY HAVE YOU BEEN DESTROYING ALL OF OUR CROPS?

WE'VE BEEN WATCHING YOU!



I NEED TO GET OUT OF HERE FAST!

IT'S NOT ME THAT YOU'RE AFTER!

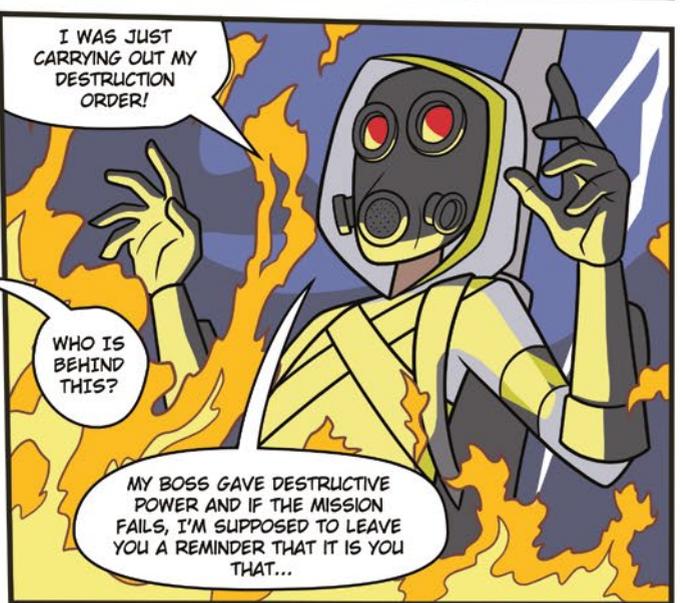


I'LL NEVER TALK!

WAIT THAT BACKFIRED MY FIRE! I'M SURROUNDED ON ALL SIDES! I'M GOING TO GO OUT IN MY OWN FLAMES!



WHO ARE YOU WORKING FOR?!



I WAS JUST CARRYING OUT MY DESTRUCTION ORDER!

WHO IS BEHIND THIS?

MY BOSS GAVE DESTRUCTIVE POWER AND IF THE MISSION FAILS, I'M SUPPOSED TO LEAVE YOU A REMINDER THAT IT IS YOU THAT...





AGRIMAN AGVENTURES



AGRIMAN'S AGVENTURE KICKS OFF WITH DROUGHT AND BLAZING HEAT BY PHOTOSYNTHESISTA THERE ARE OODS MOVING TO A THUNDEROUS BEAT! THE WEATHER HAS BEEN REALLY STRANGE ALL OVER THE WORLD ONE MINUTE IT'S RAINING, THE NEXT IT'S REALLY HOT WHAT IS CAUSING THE TEMPERATURE TO CHANGE NONSTOP?

CROPS ARE GETTING DESTROYED AND LIVESTOCK IS IN DANGER THE TEAM WIGGLES UNDERGROUND WITH EARTHWORMS AS THEY TOIL WHO TEACH THEM AS THEY TUNNEL, IS THE ANSWER IN THE SOIL?

AHA! SOMEONE IS ON THE LOOSE CAUSING DESTRUCTION HIS NAME IS CLIMTATE AND HIS MISSION IS TO STOP FOOD PRODUCTION!

IS THERE A LINK TO RECKLESS HUMAN BEHAVIOUR? OUR FOOD SECURITY SQUAD DISCOVERS A SHOCKING PLOT TWIST THEY NEED THE HELP OF A WORLD-FAMOUS SOIL SCIENTIST! HE TEACHES THEM WHAT TO DO ABOVE AND BELOW THE GROUND CAN IT STOP CLIMTATE WHEN HIS PLOUGH LEAVES THE COMPOUND?



WHYFARM (We Help You-th Farm) is a NGO in Trinidad and Tobago that pioneers Agricultural Educational Entertainment (Agri- Edutainment) with a mission to promote the importance of sustainable agriculture among youth and children, build their capacity in Agricultural Entrepreneurship and empower them to contribute to achieving global food and nutrition security by the year 2050.

The Inter-American Institute for Cooperation on Agriculture supports its 34 Member States to achieve a more competitive, sustainable and inclusive agricultural sector and improve rural well-being. This includes systematically addressing climate risks, tackling water challenges and promoting healthy soils.

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