



SEED STORIES

FIGHTING AGAINST THE PRIVATISATION OF LIFE

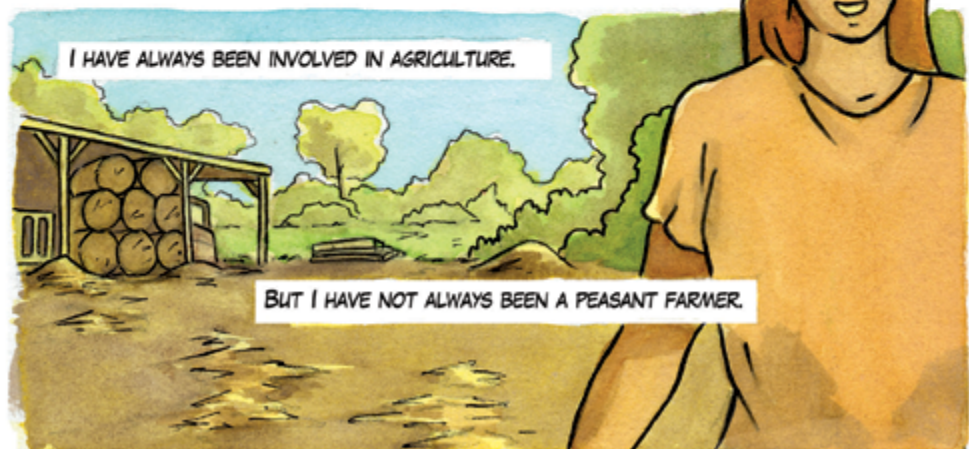


SEED STORIES

FIGHTING AGAINST THE PRIVATISATION OF LIFE

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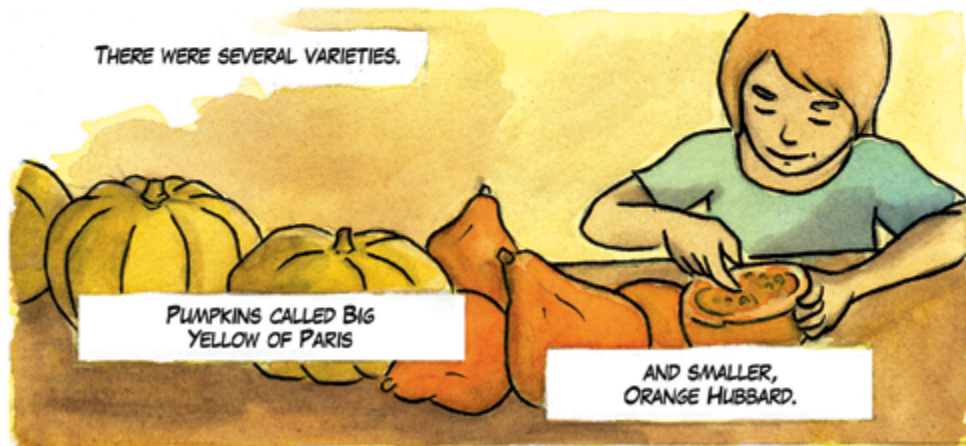
WHEN I WAS LITTLE, I WOULD HELP
MY PARENTS AT MARKETS ACROSS
MAINE-ET-LOIRE.



WE SOLD VEGETABLES FROM
THE FAMILY FARM.

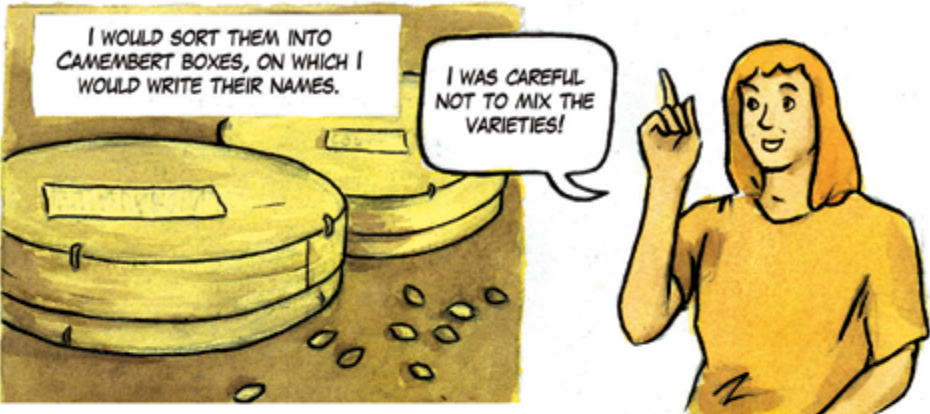
TO EARN A BIT OF POCKET MONEY
AND SELL MY OWN VEGETABLES,
I WOULD COLLECT SQUASH SEEDS.

THERE WERE SEVERAL VARIETIES.



PUMPKINS CALLED BIG
YELLOW OF PARIS

AND SMALLER,
ORANGE HUBBARD.



I WOULD SORT THEM INTO
CAMEMBERT BOXES, ON WHICH I
WOULD WRITE THEIR NAMES.

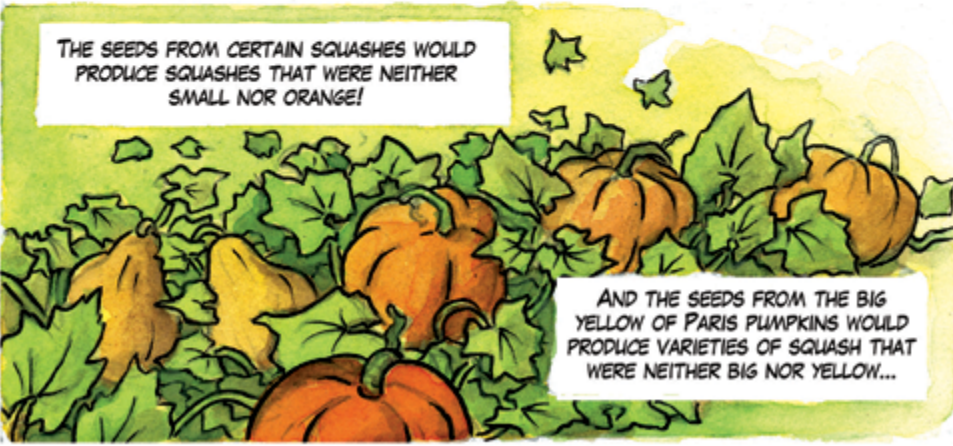
I WAS CAREFUL
NOT TO MIX THE
VARIETIES!



I WOULD REPLANT THE
SEEDS THE FOLLOWING
YEAR



AND SOMETIMES
I HAD SOME FUNNY
SURPRISES!



THE SEEDS FROM CERTAIN SQUASHES WOULD
PRODUCE SQUASHES THAT WERE NEITHER
SMALL NOR ORANGE!

AND THE SEEDS FROM THE BIG
YELLOW OF PARIS PUMPKINS WOULD
PRODUCE VARIETIES OF SQUASH THAT
WERE NEITHER BIG NOR YELLOW...

FROM THE PLANT TO THE SEED

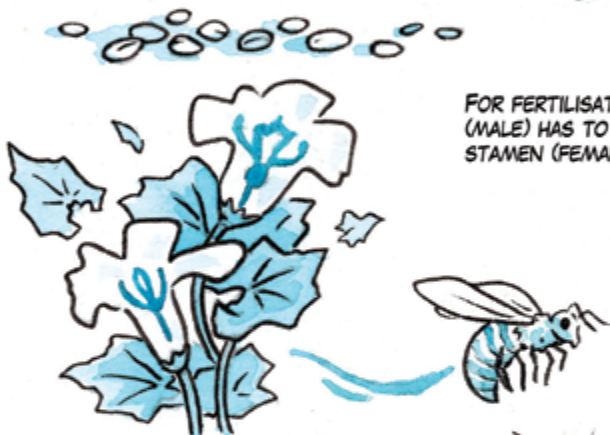
PLANTS REPRODUCE IN DIFFERENT WAYS,

SOME WITH THE HELP OF BULBS, TUBERS OR RHIZOMES, OTHERS THROUGH THE PRODUCTION OF SPORES OR SEEDS, AND MANY USE ALL OF THESE REPRODUCTION METHODS.

FOR MANY PLANTS, IT IS THE SEEDS THAT WILL PRODUCE THE FUTURE GENERATIONS.



FOR FERTILISATION TO TAKE PLACE, THE POLLEN (MALE) HAS TO COME INTO CONTACT WITH THE STAMEN (FEMALE).



INSECTS, THE WIND AND EVEN GRAVITY HELP PLANTS AND TRANSPORT THE POLLEN FROM FLOWER TO FLOWER.

THIS IS POLLINATION.

FOR SOME PLANTS, SUCH AS WHEAT, THE TRANSPORTATION OF THE POLLEN TO THE STAMEN TAKES PLACE WITHIN THE PLANT ITSELF.

THIS IS CALLED SELF-POLLINATION.

FOR OTHER PLANTS, THE POLLINATION IS "CROSSED", MEANING THAT THE PLANT NEEDS THE POLLEN FROM ANOTHER PLANT OF THE SAME SPECIES FOR FERTILISATION.

THIS IS CALLED CROSS-POLLINATION.



SEEDS PRODUCED THROUGH CROSS-POLLINATION WILL PRODUCE PLANTS THAT HAVE SOME OF THE CHARACTERISTICS OF BOTH PARENT PLANTS.



HENCE THE RANDOM COMBINATIONS I WOULD GET AS A CHILD.



FARMERS' SEEDS

10,000 YEARS AGO, THE FIRST AGRICULTURAL SOCIETIES UNDERSTOOD THESE REPRODUCTION PHENOMENA AND USED THEM TO DOMESTICATE THE FIRST CEREALS, FOR EXAMPLE.

THEY WOULD PUT ASIDE THE SEEDS, EARS, VEGETABLES OR FRUITS WHICH SEEMED TO HAVE INTERESTING CHARACTERISTICS, SUCH AS THEIR YIELD, BEAUTY, RESISTANCE OR TASTE.



THIS IS CALLED MASS SELECTION.



BY RESOWING PART OF THE HARVEST EVERY YEAR, PLANTS ADAPT TO THE LAND, TO FARMING PRACTICES AND TO THE LOCAL CLIMATE.

SO I KEEP THE SEEDS OF THE BEST ADAPTED PLANTS, TO RESOW THE FOLLOWING YEAR.

THIS FOUNDATIONAL ACT IN AGRICULTURE ENABLED THE DEVELOPMENT OF ALL CURRENTLY CULTIVATED FOOD PLANTS.

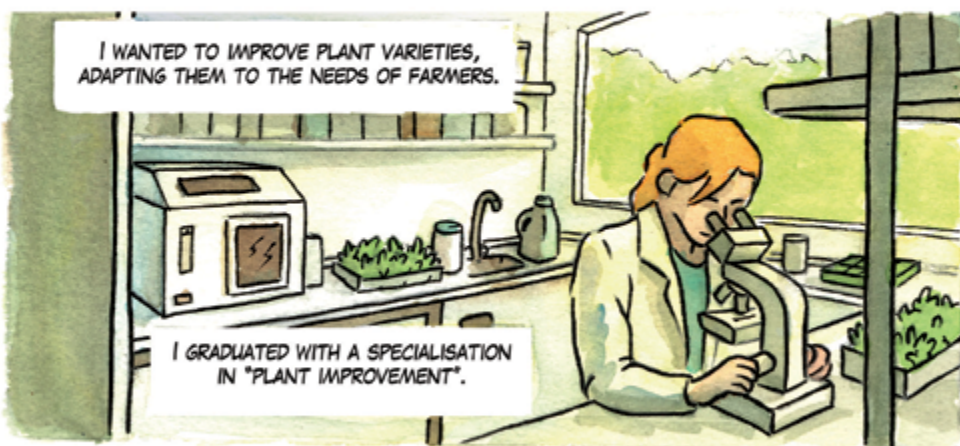
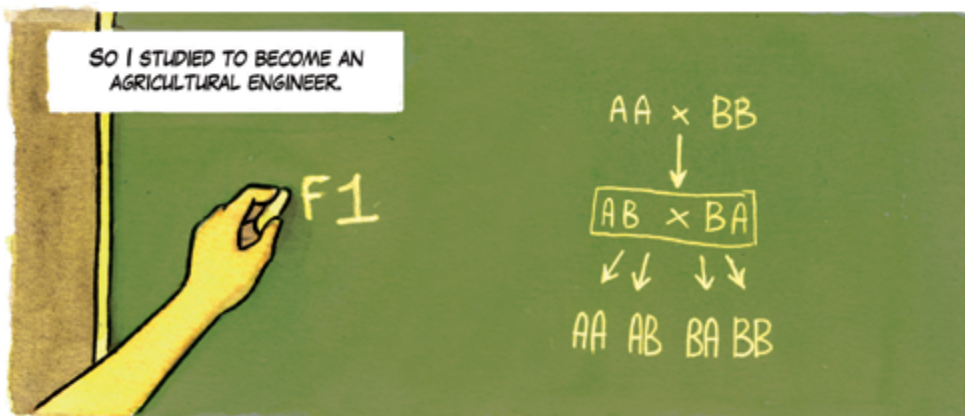
NEARLY 2 MILLION FARMERS' VARIETIES OF 5,000 SPECIES HAVE BEEN IDENTIFIED.



OVER THE COURSE OF MIGRATIONS AND SEED EXCHANGES, FARMING COMMUNITIES ADAPTED CULTIVATED SPECIES AND VARIETIES TO THEIR LOCAL ENVIRONMENTS.

THIS IS CULTIVATED BIODIVERSITY!





THE SEED INDUSTRY

MIDWAY THROUGH THE 19TH CENTURY, THE FIRST SEED FARMERS WHO SPECIALISED IN THE SELECTION OF CULTIVATED PLANTS APPEARED.

AFTER THE SECOND WORLD WAR, PLANT BREEDERS CREATED NEW PLANTS OUTSIDE OF FIELDS IN EXPERIMENTAL STATIONS AND THEN IN LABORATORIES.

THEY BASED THEIR ACTIVITY ON A SIMPLE CRITERIA:

STRIP DOWN THE PLANT POPULATIONS THAT PEASANT FARMERS USE, KEEPING ONLY A FEW SEPERATE PLANTS TO THEN MULTIPLY INDIVIDUALLY

THESE ARE PURE LINES.

THESE PLANTS ARE ALL SIMILAR : THIS HOMOGENEITY MEANS THAT THEY CAN STANDARDISE PRODUCTION CONDITIONS AND PROMOTE THE INCREASED USE OF CHEMICAL FERT AND PEST

AT THE TIME, THESE NEW METHODS WERE PRESENTED AS GENUINE PROGRESS FOR AGRICULTURE ...

FI HYBRIDS

FOLLOWING THE INTRODUCTION OF PURE LINES, THE SEED INDUSTRY VERY QUICKLY BEGAN TO USE FI HYBRIDS.

FI MEANS FIRST GENERATION

THEY CONCERN THE FIRST GENERATION FROM TWO PURE LINES AFTER CROSS-POLLINATION.



VERY
HOMOGENEOUS.

IN ADDITION TO BEING STANDARDISED, HYBRIDS ARE DIFFICULT TO REPRODUCE. IF WE RESOW THEM, THE FOLLOWING HARVEST IS UNPREDICTABLE BECAUSE THE CROSS-POLLINATION HAS NOT BEEN STABILISED.

THEREFORE, A FARMER HAS TO BUY NEW SEEDS EVERY YEAR

AND BECOMES DEPENDENT ON THE PURCHASE OF SEEDS.



THE OFFICIAL SPECIES AND VARIETIES CATALOGUE

IN 1949, THE REGISTRATION OF AGRICULTURAL CROP VARIETIES IN THE OFFICIAL CATALOGUE BECAME COMPULSORY.

ONLY SEEDS FROM VARIETIES REGISTERED IN THE OFFICIAL CATALOGUE ARE AUTHORISED FOR SALE AND EXCHANGE!

THE CATALOGUE ORGANISES THE SEED MARKET BY CREATING A MONOPOLY.

ONLY "ELITE" VARIETIES ARE DEVELOPED.

FARMERS' VARIETIES CANNOT BE REGISTERED IN THE CATALOGUE BECAUSE THEY DO NOT PASS THE ENTRY TEST! THEY ARE NOT STANDARDISED ENOUGH...

THE ARRIVAL OF THE CATALOGUE INTO THE AGRICULTURAL WORLD TOOK AWAY AN IMPORTANT PART OF THE PEASANT FARMER'S ACTIVITY: SELECTING SEEDS.

TO REGISTER A VARIETY IN THE CATALOGUE, IT MUST SATISFY CERTAIN CRITERIA OF THE "DUS" TEST: DISTINCTION, UNIFORMITY, STABILITY.

DISTINCTION:
THE VARIETY MUST BE DISTINCT FROM OTHER EXISTING VARIETIES.

UNIFORMITY:
ALL THE PLANTS FROM THE SAME BATCH MUST POSSESS THE SAME CHARACTERISTICS.

STABILITY:
WITH EACH GENERATION, THE SEED PRODUCER MUST BE ABLE TO CULTIVATE SEEDS THAT GROW INTO IDENTICAL PLANTS.

60% OF REGISTERED VARIETIES IN THE CATALOGUE ARE FI HYBRIDS.

ALL OF THEM ARE CALIBRATED AND STANDARDISED IN ORDER TO ADAPT THEM TO INTENSIVE AGRICULTURE.

ONE OF THE DIRECT CONSEQUENCES IS LOSS OF DIVERSITY.

OVER 50 YEARS, ESTIMATES SUGGEST THAT 75% OF CULTIVATED BIODIVERSITY HAS DISAPPEARED.

FROM
6000€
TO
15000€

MOREOVER, REGISTERING A VARIETY IN THE CATALOGUE COMES AT A PRICE...

THAT PENALISES SMALL-SCALE SEED SELECTORS AS WELL AS SMALL-SCALE FARMERS WHO WANT TO REGISTER THEIR OWN VARIETY.

OFFICIAL
CATALOGUE

PLANT VARIETY RIGHTS

TO MAKE THEIR STRANGLEHOLD OVER SEEDS COMPLETE, PLANT BREEDERS DEVELOPED A PROPERTY RIGHT FOR THEIR VARIETIES:

PLANT VARIETY RIGHTS.



IT GUARANTEES THE PLANT BREEDER, THE ONE WHO BRED THE NEW, PROTECTED VARIETY, A QUASI-MONOPOLY OVER SALE OF THE SEEDS OVER A PERIOD OF 20 TO 30 YEARS

AND LEAVES THE GENETIC RESOURCES FREELY AVAILABLE TO THE OTHER SEED COMPANIES TO CREATE NEW VARIETIES.

HOWEVER, PLANT VARIETY RIGHT DOES NOT ALLOW PEASANT FARMERS TO KEEP PART OF THEIR HARVEST IN ORDER TO RESOW IT.

THEY CAN STILL DO IT FOR SOME SPECIES (SUCH AS WHEAT).

BUT THEY HAVE TO PAY ...

COMPULSORY VOLUNTARY FEE

COMPULSORY AND VOLUNTARY ?!



AN OVERWHELMING MAJORITY OF THE VARIETIES REGISTERED IN THE CATALOGUE ARE NOW UNDER THE PROTECTION OF A NEW VARIETY CERTIFICATE.



FROM THE 70S ONWARDS, LOCAL VARIETIES HAVE BEEN DISAPPEARING IN INDUSTRIALISED COUNTRIES.

LITTLE BY LITTLE, PEASANT FARMERS BECOME DEPENDENT ON THE VARIETIES IN THE CATALOGUE AND LOSE THEIR EXPERTISE IN SEEDS.

AT THE SAME TIME, THE SEED INDUSTRY TRIES TO PREVENT THEM FROM RESOWING COMMERCIAL VARIETIES (F1 HYBRIDS, SEEDS THAT ARE UNDER THE PROTECTION OF A PLANT VARIETY RIGHT) THROUGH EVERY MEANS POSSIBLE.

FOR 8 YEARS, I WORKED FOR A BIG SEED
COMPANY, NEAR ANGERS,

TO DEVELOP VARIETIES OF
RAPESEED.

AND THEN, IN 1996,
THE FIRST GMOS APPEARED
ON THE MARKET.

AT THAT TIME, MY COMPANY WORKED
WITH A BIOTECHNOLOGY FIRM.

WE WERE IN CHARGE
OF INSERTING
GENES THAT THE
FIRM PROVIDED IN
ORDER TO CREATE
NEW VARIETIES.

TRANSGENIC
GMOS.

GMO

(GENETICALLY MODIFIED ORGANISM)

AN ORGANISM, WITH THE EXCEPTION OF HUMAN
BEINGS, WHOSE GENETIC MATERIAL HAS BEEN
MODIFIED IN A WAY THAT DOES NOT OCCUR
NATURALLY THROUGH MULTIPLICATION AND/OR
NATURAL RECOMBINATION.

FOR PLANTS, SOME PREFER TO USE
THE TERM GMP: GENETICALLY
MODIFIED PLANT.

TRANSGENESIS

TRANSGENESIS IS THE TRANSFER OF ONE OR SEVERAL GENES FROM ONE SPECIES TO ANOTHER.

ESSENTIALLY, WE TAKE THE GENETIC INFORMATION WITHIN A CERTAIN ORGANISM

THE GENE OF INTEREST.

FOR EXAMPLE, A GENE THAT PRODUCES INSECTICIDAL PROTEINS.

IT IS EXTRACTED FROM THE GENOME OF AN ORGANISM THAT POSSESSES THIS CHARACTERISTIC.

AFTER A FEW ADDITIONS AND MODIFICATIONS, IT IS SENT INTO THE CELLS OF ANOTHER PLANT.

THE RECEIVING ORGANISM.

GENETIC INFORMATION

CELL

ONCE THE MODIFICATIONS ARE COMPLETE AND THE RESULTS ARE CONCLUSIVE,

THE RESULTING ORGANISM IS REGROWN FROM THE CELL IN VITRO.

GMO

THE GENE CAN THEN BE INCORPORATED THROUGH CROSS-POLLINATION WITH A COMMERCIAL VARIETY.

MORE THAN 99% OF GMOS CURRENTLY CULTIVATED IN THE WORLD, OR GMOS WAITING FOR AUTHORISATION, ARE PESTICIDAL PLANTS.

PLANTS THAT ARE RESISTANT TO HERBICIDES,

PLANTS THAT PRODUCE THEIR OWN INSECTICIDE (BT PLANTS)

WEEDS IN YOUR HARVESTS?

NO PROBLEM, WE SELL CONTAINERS OF HERBICIDE AND THE GMO THAT GOES WITH IT!



TIRED OF DEALING WITH INSECT PESTS? GMOS TAKE CARE OF THEM FOR YOU!



GMOS ARE THE SOLUTION TO YOUR PROBLEMS! THEY ARE THE FUTURE!

THERE ARE EVEN PLANTS THAT POSSESS BOTH PROPERTIES.

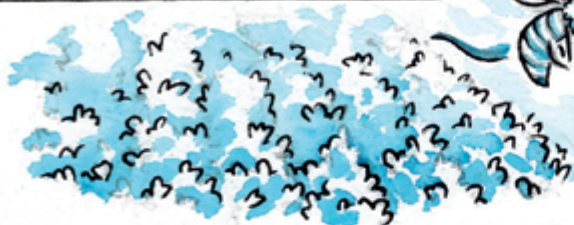
THIS IS HOW CERTAIN FIRMS CLAIM TO SOLVE PROBLEMS LINKED TO INTENSIVE AGRICULTURE...

BY PROMOTING THE USE OF CHEMICAL PRODUCTS THAT THEY THEMSELVES HAVE DEVELOPED.



THE PESTICIDES THAT ARE USED ARE HIGHLY TOXIC AND THEY ACCUMULATE IN THE GROUND, WATER, PLANTS AND ON OUR PLATES!

IT IS IMPOSSIBLE TO PREDICT HOW A GENE
INTRODUCED INTO AN ORGANISM IN A
LABORATORY WILL BEHAVE IN THE
ENVIRONMENT.



IT IS POSSIBLE FOR SOME INSECTS TO END UP
DISAPPEARING BECAUSE THEY HAVE COME INTO
CONTACT WITH PESTICIDAL PLANTS.



THERE IS A SIGNIFICANT RISK OF
CONTAMINATING NON-GMO CROPS
AND WILD PLANTS, WHICH COULD
HAVE SERIOUS CONSEQUENCES.



AS NATURE WOULD HAVE IT, OTHER INSECTS AND
PLANTS MUTATE UNDER THE STRAIN OF THESE
PESTICIDES

AND END UP BECOMING RESISTANT
TO THESE MOLECULES.



AS A RESULT, THE USE OF THESE
PRODUCTS INCREASES, AS DOES LAND
AND ENVIRONMENTAL POLLUTION.

THE GENOME OF THE PLANTS THAT HAVE BEEN
DESTABILISED THROUGH TRANSGENESIS CAN RESTRUCTURE
ITSELF FROM GENERATION TO GENERATION.
NO ONE KNOWS WHAT THIS COULD PRODUCE !

FOR THE TIME BEING, THERE
HAVE BEEN NO "LONG TERM"
STUDIES ON THE HEALTH AND
ENVIRONMENTAL RISKS LINKED
TO CONSUMING GMOs...

EVEN THOUGH THE DAMAGE OF THESE FIRST GMOs
IS INCREASING FOLLOWING TWO DECADES OF
CULTIVATION IN CERTAIN PARTS OF THE WORLD.



THE COMPANY THAT I WORKED
FOR THOUGHT IT COULD SELL
ITS GMO TECHNOLOGIES TO
ALL SEED COMPANIES.



IT WANTED TO SIGN AGREEMENTS
SO THAT SEED COMPANIES COULD
INTEGRATE THE GENES THAT IT HAD
DEVELOPED INTO VARIOUS
VARIETIES.



ALL OF THIS
UNDER THE
PROTECTION OF
PATENTS.



THEREFORE, THANKS TO THE PATENTS,
IT COULD RECEIVE THE ROYALTIES
WITHOUT HAVING TO WORRY ABOUT
PRODUCING THE SEEDS.



FOR THE COMPANY,
THAT WAS
THE ADDED VALUE!



PATENTS

THE PATENT IS AN OWNERSHIP TITLE ON AN INVENTION.

IN THE PLANT SECTOR, IT GIVES THE OWNER A MONOPOLY TO EXPLOIT THE SEEDS AND PLANTS IN QUESTION FOR A PERIOD OF 20 YEARS.

TO FILE A PATENT, THERE HAS TO BE AN INVENTION, RATHER THAN A DISCOVERY, WHICH IS A SIMPLE OBSERVATION OF AN EXISTING PHENOMENON.

IT IS THE GUARANTEE OF A RETURN ON INVESTMENT FOR COMPANIES INVOLVED IN GMOs.



UNLIKE PLANT VARIETY RIGHT, THE PATENT APPLIES TO A PART OF THE PLANT (OR TO GENETIC INFORMATION WITHIN THE PLANT), TO THE BIOTECHNOLOGICAL PROCESSES THEMSELVES (FOR EXAMPLE, TRANSGENESIS), OR BOTH.

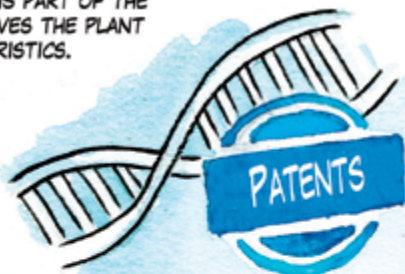
EVEN IF THE GENETIC INFORMATION PATENTED IN THIS WAY ALREADY EXISTED NATURALLY.



BY EXTENSION, THE PATENT ALSO PROTECTS THE PLANT.



IN ITS FINAL STAGE, THIS PATENTED GENETIC INFORMATION IS PART OF THE PLANT'S IDENTITY. IT GIVES THE PLANT THE DESIRED CHARACTERISTICS.



SIMILARLY, A PLANT THAT NATURALLY HAS THESE CHARACTERISTICS, THAT HAS BEEN CONTAMINATED OR THAT HAS OBTAINED SIMILAR CHARACTERISTICS TO THOSE SET OUT IN THE GENETIC INFORMATION THROUGH CROSS-POLLINATION, ALSO FALLS UNDER THE PATENT'S SCOPE.

THE PATENT THEREBY ALLOWS THE BIOTECH INDUSTRY TO CLAIM OWNERSHIP OF PLANTS AND ANIMALS WITH THE SAME CHARACTERISTICS AS THOSE PATENTED

THIS IS AN ENORMOUS THEFT OF NATURAL, PEASANT FARMERS' RESOURCES.

GMO REGULATION

AT EUROPEAN LEVEL, GMOs ARE MONITORED, EVALUATED, GIVEN OR DENIED AUTHORISATION, AND LABELLED.

MEMBER STATES THEN HAVE THE POSSIBILITY TO BAN A GMO ON THEIR TERRITORY.

IN FRANCE, THE CULTIVATION OF TRANSGENIC CORN, THE ONLY GMO AUTHORISED IN EUROPE, IS FORBIDDEN.

HOWEVER, IT CAN BE IMPORTED.

THIS IS THE CASE FOR MOST OF THE FOOD FOR LIVESTOCK (FOR EXAMPLE, SOYA) AND SOME CONSUMER PRODUCTS

WHICH MUST BE LABELLED IF THEY ARE MORE THAN 0.9% GMO

BUT THERE IS NO OBLIGATION TO LABEL FOODS THAT COME FROM ANIMALS THAT HAVE CONSUMED GMOs.



HIDDEN GMOs

MOREOVER, THESE REGULATIONS DO NOT AFFECT CERTAIN GMOs WHICH ARE NOT CREATED THROUGH TRANSGENESIS.

THIS IS THE CASE FOR GMOs CREATED THROUGH MUTAGENESIS OR CELL FUSION.

THEY ARE, BY DEFINITION, GMOs. THEIR GENETIC MATERIAL HAS BEEN MODIFIED IN AN UNNATURAL WAY.

WE EXPOSE AN ORGANISM TO RADIATION OR CHEMICAL PRODUCTS.

UNREGULATED GMO!

WE SELECT THE CELLS THAT HAVE THE MUTATION IN ORDER TO MULTIPLY THEM AND THEN WE DEVELOP THEM TO MAKE A PLANT.

ALL THIS HAS NOTHING TO DO WITH NATURAL MUTATIONS.

CERTAIN RAPESEED, SUNFLOWER AND CABBAGE VARIETIES CURRENTLY CULTIVATED IN FRANCE ARE HIDDEN GMOs!

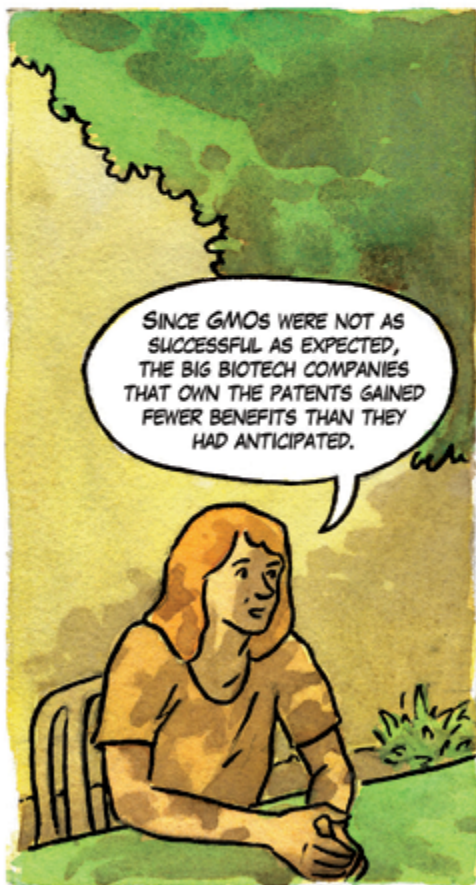


IN FRANCE, AT THE END OF THE 90S, THE GENERAL PUBLIC BECAME AWARE OF THE GMO ISSUE.



IMPORTANT FIGHTS TOOK PLACE, INCLUDING THE DESTRUCTION OF FIELDS, HUNGER STRIKES...

SINCE GMOs WERE NOT AS SUCCESSFUL AS EXPECTED, THE BIG BIOTECH COMPANIES THAT OWN THE PATENTS GAINED FEWER BENEFITS THAN THEY HAD ANTICIPATED.



IN THE CONTEXT OF SUCH WIDESPREAD COMPETITION,

THESE SEED COMPANIES BOUGHT THE SMALL AND MEDIUM-SCALE PLANT BREEDERS.

IN A FEW YEARS, ALMOST THE WHOLE OF THE SEED SECTOR BELONGED TO ONLY A SMALL NUMBER OF FIRMS SPECIALISED IN THE AGROCHEMICAL INDUSTRY.

THE COMPANY I WORKED
FOR WAS BOUGHT
AND I WAS A GMO
RESEARCHER.

AS SOMEONE WHO WANTED TO HELP
PEASANT FARMERS FEED THE
WORLD, WORKING WITH GMOs WAS
NOT THE SOLUTION...

THE WAY IN WHICH PATENTS
TAKE OWNERSHIP OF LIVING
ORGANISMS WAS THE FINAL
STRAW FOR ME.

NO ENTRY
PRIVATE
PROPERTY

I STAYED FOR TWO YEARS AND
THEN I RESIGNED!



I TOOK OVER THE FAMILY FARM AND, LITTLE BY LITTLE, I TURNED TOWARDS ORGANIC FARMING.



TRANSGENIC GMOS ARE REGULATED AND LABELLED...



BUT FOR A FEW YEARS NOW, WE HAVE BEEN TALKING ABOUT NBTs...



NEW BREEDING TECHNIQUES.



THEY ARE ALSO GMOS, NEW GMOS THAT COULD BYPASS SOME REGULATIONS.

NEW GMOS

THE NBTs "NEW BREEDING TECHNIQUES" ARE A GROUP OF NEW BIOTECHNOLOGIES THAT APPEARED IN THE 2000S.



THEY ENABLE THE ACTIVATION OR DEACTIVATION OF A PART OF THE GENOME, THE INSERTION OF DNA FRAGMENTS OR THE IMPOSITION OF A GENETIC CHARACTERISTIC ON EVERY DESCENDANT OF THE MODIFIED ORGANISM.

THERE ARE VARIOUS TECHNIQUES, WITH NICE, SIMPLE NAMES...

ZINC-FINGER
NUCLEASE

SITE-DIRECTED MUTAGENESIS
USING OLIGONUCLEOTIDES

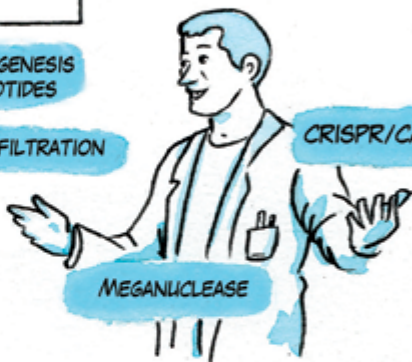
AGROINFILTRATION

CRISPR/CAS 9

SIMILARLY TO
TRANSGENESIS, THESE
ORGANISMS ARE
DEVELOPED TO RESPOND
TO THE NEEDS OF THE
AGRO-INDUSTRY.

GENE MODULATION
THROUGH RDM

MEGANUCLEASE



THESE MANIPULATIONS ARE PRESENTED AS BEING SO PRECISE THAT IT WOULD BE IMPOSSIBLE TO DETECT THE HUMAN INTERVENTION.

CRISPR-CAS 9

ENABLES THE LOCALISATION
AND SELECTION OF A
GENETIC SEQUENCE IN
ORDER TO REMOVE IT OR
MODIFY IT, FOR EXAMPLE.



HOWEVER, THESE ARE MODIFICATIONS
THAT ARE TARGETED, CHOSEN AND
CARRIED OUT IN AN UNNATURAL WAY.

INDEED, THEY ARE GMOS!

AND AS WITH ALL GMOS, THE HUMAN
INTERVENTIONS THAT AFFECT THE GENES
CAUSE NUMEROUS NON-INTENTIONAL
MODIFICATIONS.



WE DO NOT KNOW WHAT AFFECT A PLANT CREATED
IN THIS WAY IN A LABORATORY COULD HAVE ON THE
ENVIRONMENT OR ON OUR HEALTH!

SINCE IT IS NOT AN ISSUE OF "TRADITIONAL GMOS", SUCH AS THOSE PRODUCED THROUGH TRANSGENESIS, THE COMPANIES THAT PRODUCE THEM WOULD LIKE US TO FORGET THAT THEY ARE GMOS.

HOW CAN WE SELL GMOS TO PEOPLE WHO WANT NOTHING TO DO WITH THEM?

WE JUST DON'T TELL THEM THAT THEY'RE GMOS!

SO THEY TALK ABOUT NEW BREEDING TECHNIQUES

AND GO SO FAR AS TO CLAIM THAT THEIR TECHNIQUES DO THE SAME AS NATURE...

THEY DO THE SAME AS NATURE, BUT ON TOP OF THAT THEY'RE TARGETED AND QUICKER!

THEY'RE NEW!

BUT... IF THEY'RE NATURAL, THEY'RE NOT AN INVENTION... THEY CAN'T BE PATENTED!

AND YET TO THIS DAY, THESE NEW GMOS ARE STILL PATENTED

THE BIG AGROCHEMICAL COMPANIES ARE LOOKING FOR WAYS TO PROFIT FROM THE LOOPHOLE THAT HIDDEN GMOS HAVE OPENED UP IN ORDER TO SELL NAMELESS GMOS UNDER THE RADAR WITHOUT HINDRANCE.

WITHOUT TAKING ACCOUNT OF THE POSSIBLE DAMAGE THAT MULTIPLE UNINTENTIONAL GENETIC MODIFICATIONS COULD CAUSE,

THESE NEW GMOS COULD BE GROWN FREELY AND THE PRODUCTS CONTAINING THEM COULD BE PLACED ON THE MARKET WITHOUT ANY PARTICULAR EVALUATION OR LABEL.



THEREFORE, SOME BIG FIRMS ARE GOING TO INCREASE THEIR NUMBER OF PATENTS, CONTINUE TO CONFISCATE PEASANT FARMERS' SEEDS, TAKE OWNERSHIP OF LIVING ORGANISMS, MONITOR PRODUCTION METHODS AND, AS A RESULT, OUR NUTRITION.



A FEW EXAMPLES

THIS DOESN'T JUST HAPPEN IN GRAPHIC NOVELS.

VARIOUS VARIETIES CREATED THROUGH NBTs ARE AWAITING AUTHORISATION TO BE PUT ON THE MARKET.



FOR EXAMPLE...

EACH YEAR, BIG FAST-FOOD CHAINS LOSE A LARGE PART OF THEIR STOCK OF POTATOES BECAUSE THEY CANNOT STORE THEM LONG ENOUGH IN ROOMS

INDEED, THIS STORAGE METHOD FAVOURS THE PRODUCTION OF ACRYLAMIDE, A CARCINOGENIC SUBSTANCE THAT MAKES THE POTATOES TURN BROWN WHEN THEY ARE FRIED.

AS A RESULT, A BIOTECHNOLOGY COMPANY HAS SEIZED THE OPPORTUNITY AND DEVELOPED A TYPE OF POTATO THAT SUPPOSEDLY PRODUCES LESS ACRYLAMIDE WITH THE HELP OF NEW GENETIC MODIFICATION TECHNIQUES.

THIS VARIETY COULD BE ON THE MARKET BY 2019...

THIS IS ONLY ONE EXAMPLE, BUT IT DEMONSTRATES HOW THE GMOs ARE NOT CREATED TO GUARANTEE BETTER NUTRITION.

THEY ARE DESIGNED TO RESPOND TO THE AGRI-FOOD INDUSTRY'S DEMANDS.





WE CAN ALSO LOOK AT VARIOUS CASES WHERE LIVING ORGANISMS HAVE BEEN PATENTED.

FOR EXAMPLE, THERE IS A VARIETY OF WILD PEPPER FROM JAMAICA THAT IS RESISTANT TO WHITEFLIES.

THESE ARE ONE OF THE "HARMFUL" INSECTS RESPONSIBLE FOR THE DAMAGE TO PEPPER CROPS.

A BIG COMPANY INTRODUCED THIS RESISTANT CHARACTERISTIC TO ANOTHER VARIETY THROUGH CONTROLLED CROSS-POLLINATION.

AS A RESULT, THE NEW VARIETY IS ALSO RESISTANT TO WHITEFLIES!



THIS IS WHERE THE PATENT COMES IN!

ONCE FILED FOR THE GENE THAT CREATES THIS CHARACTERISTIC, IT GUARANTEES THAT THE FIRM HAS EXCLUSIVE RIGHTS OVER ALL PEPPERS THAT HAVE THIS RESISTANCE:

THE NEW VARIETY AND ALL THE OTHER PEPPER VARIETIES THAT COULD RESIST THIS "PEST"

EVEN IF THIS CHARACTERISTIC ORIGINALLY CAME FROM A NATURAL, RANDOM MUTATION OR FROM A PEASANT FARMING SELECTION.

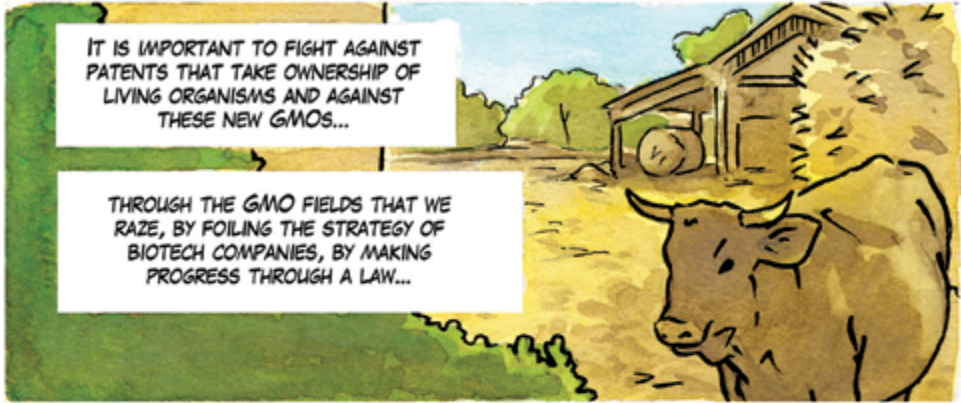


PATENTS

WE ARE WITNESSING THE ABSOLUTE PRIVATISATION OF LIVING ORGANISMS:

A FEW INDUSTRIALISTS CAN MONOPOLISE ALL THE CHARACTERISTICS THAT WILD AND DOMESTIC BIODIVERSITY HAS TO OFFER.

THIS IS BIOPIRACY!



IT IS IMPORTANT TO FIGHT AGAINST PATENTS THAT TAKE OWNERSHIP OF LIVING ORGANISMS AND AGAINST THESE NEW GMOS...

THROUGH THE GMO FIELDS THAT WE RAZE, BY FOILING THE STRATEGY OF BIOTECH COMPANIES, BY MAKING PROGRESS THROUGH A LAW...



BUT ALSO ON A DAILY BASIS ON FARMS!



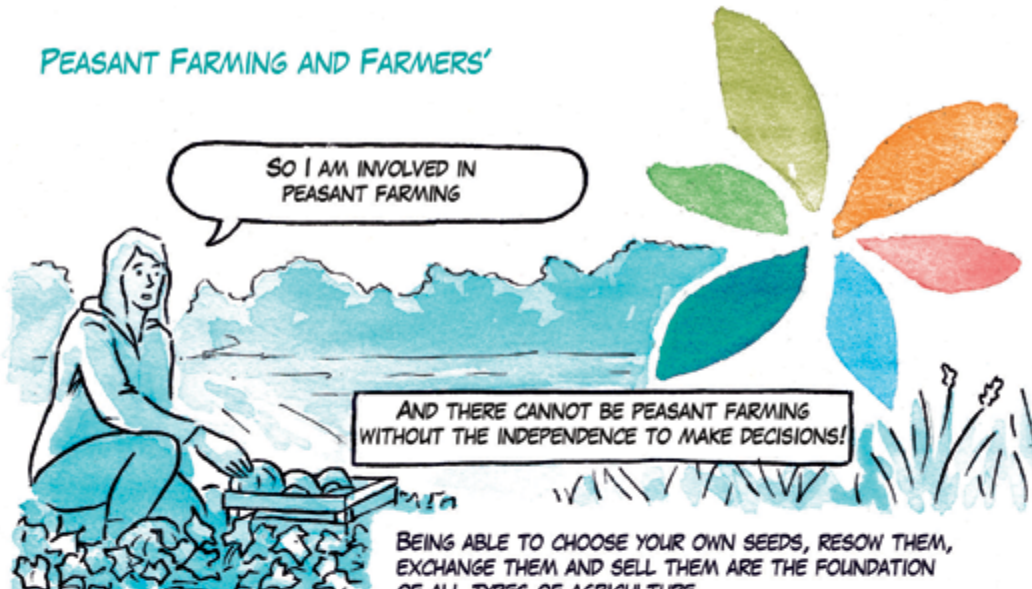
HERE, I CULTIVATE A LARGE NUMBER OF FARMERS' GRAINS.



RECENTLY, I HAVE BEEN WORKING ON ORGANIC MARKET GARDENING. IN ADDITION TO GRAINS AND MILK,

I OFFER HIGH-QUALITY, LOCAL AND SEASONAL PRODUCTS.

PEASANT FARMING AND FARMERS'



SO I AM INVOLVED IN
PEASANT FARMING

AND THERE CANNOT BE PEASANT FARMING
WITHOUT THE INDEPENDENCE TO MAKE DECISIONS!

BEING ABLE TO CHOOSE YOUR OWN SEEDS, RESOW THEM,
EXCHANGE THEM AND SELL THEM ARE THE FOUNDATION
OF ALL TYPES OF AGRICULTURE...

PLANTS THAT COME FROM FARMERS' SEEDS DO NOT MEET THE
INDUSTRY'S CRITERIA. THEY ARE NEITHER UNIFORM NOR STABLE.

IN CONTRAST TO PURE LINES,
F1 HYBRIDS AND GMOS, FARMERS'
SEEDS HAVE NO RIGHTS IMPOSED ON
THEM, WHICH MEANS THAT I CAN
REPRODUCE THEM HOWEVER I LIKE.

IN CASE OF UNFORESEEN EVENTS, I AM
ALWAYS GUARANTEED A HARVEST BECAUSE
MY PLANTS ARE A POPULATION OF
DIFFERENT INDIVIDUALS RATHER THAN
CLONES!

THEY ALSO POSSESS A LOT OF GENETIC
DIVERSITY THANKS TO WHICH THEY CAN
ADAPT TO THEIR ENVIRONMENT, SO THEY
REQUIRE LESS FERTILISER, TREATMENTS
AND EXPENSES.

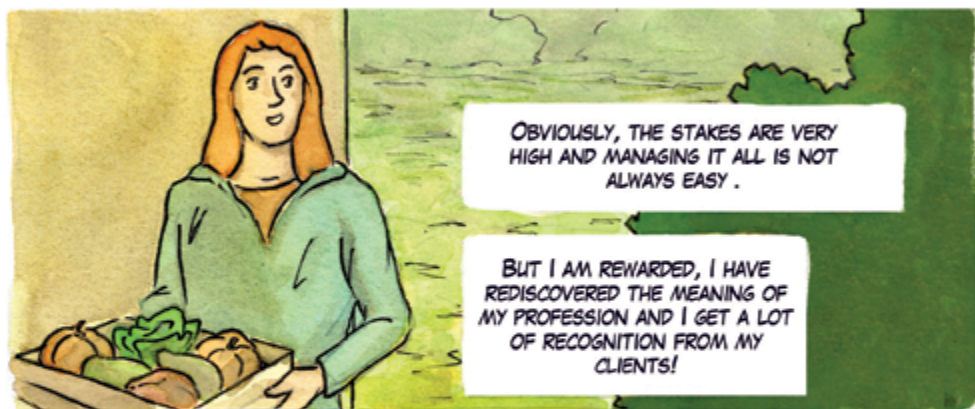
I BECOME MORE
INDEPENDENT!!

HOWEVER, THE MAJORITY OF THEM ARE
NOT REGISTERED IN THE CATALOGUE AND
ARE NOT ON THE MARKET.



THEREFORE, I EXCHANGE THEM WITH OTHER PEASANT
FARMERS AND I REDISCOVER TRADITIONAL EXPERTISE.

TOGETHER WE CAN PRODUCE OUR OWN SEEDS!



OBVIOUSLY, THE STAKES ARE VERY HIGH AND MANAGING IT ALL IS NOT ALWAYS EASY .

BUT I AM REWARDED, I HAVE REDISCOVERED THE MEANING OF MY PROFESSION AND I GET A LOT OF RECOGNITION FROM MY CLIENTS!



FARMERS' SEEDS ARE THE SEEDS OF THE FUTURE!

TO FIND OUT MORE:

Confédération paysanne

Trade union for peasant farming and protecting farm workers

www.confederationpaysanne.fr

- **Booklet on the varieties that have been made tolerant to herbicides and on new GMOs**
http://www.confederationpaysanne.fr/mc_nos_positions.php?mc=26

Réseau Semences Paysannes

Network for biodiversity that is cultivated in farms and gardens

www.semencespaysannes.org

- **10 common misconceptions about farmers' seeds**
http://www.semencespaysannes.org/images/FCK/files/10_ides_web_avril_2017min.pdf

Inf'OGM

Citizen watchdog for information on seeds and GMOs.

www.infogm.org

- **New GMOs**
www.infogm.org/-les-nouveaux-ogm-
- **Labelling and public information**
www.infogm.org/-etiquetage-transparence-information-du-public-sur-les-ogm-
- **GMOs and health**
www.infogm.org/-OGM-et-sante-

Via Campesina

International peasant movement

www.viacampesina.org

- **Our Seeds, Our Future**
<https://viacampesina.org/fr/les-semences-notre-futur/>

European Coordination Via Campesina

The European branch of La Via Campesina.

www.eurovia.org/main-issue/seeds-gmos/

ETC Group

Monitors the impact of emerging technologies and business strategies on biodiversity, agriculture and human rights

www.etcgroup.org

- **"Who Will Feed Us?" report, November 2009**
http://www.semencespaysannes.org/bdf/docs/qui_nous_nourira_etc.pdf

Free Pepper

European coalition against a patent on peppers granted to Syngenta

- **"Free Pepper" campaign**
<https://www.publiceye.ch/fr/themes-et-contexte/agriculture-et-biodiversite/semences/free-pepper/>

SEED STORIES

Françoise PIGEON - Inga WACHSMANN - Julie DENIS - Albine VAUCOULOUX- Pierre BALITEAU - Jean-Luc LARIVE - Jean-Pierre ROHART- Marie-Jo GIROD - Olivier COEN - Lénie MARCUSSE - Laurence DESSIMOULIE - François LEGENDRE - Hervé CALIOT - Elisabeth ROBIN - Arnaud COUTURIER - Claire DE NALE - Annick POSTOLLEC - Marie CORNET - Fanny PIROU - Laurene PAGE - Philippe GREBERT - Catherine GAUSSENS - Lionel CHISSON - MARION SARDAT - Arthur CHAVANEL - Sylvain NOVELLI - Maud VIGAN - Jean-Cyrille DAGORN - Alain NAUDE - Gérard FAYE - David CARLU - Eric COLLINET - Monique BERNOT - Alice IDRAC - Natacha DUBOIS - Simone CHARRIER - Hélène SAHY - Méric HAUGMARD - Ulrike ERDMANN - Samuel GUILLOT - Pierre BALITEAU - Lolita GUYON - Jean-Michel DALLIER - Sylvette AMESTOY - Anne BECKER - Bernard LAFITTE - Bernard HARTMANN - Didier MEUNIER - Anne BERTSON DÉNA - baptiste LARRALDE - Arnaud MONTANT - Henri DELION - Delphine GIRARD - simone LUFU - Gilles COSTE - Juliette GUESPIN - Nathalie ARSON - Patricia MILLOT - Alain FRAPPIN - Noël CLAUDE - Loïc DAUGA - Anne DUBARRY - Charlotte HUG - Aurélie MONTAUT - Claire SIAU - Bruno VIENNOIS - François JACQUET - Isabelle DELAMARE - Christine BERNARD - Marianne NOEL - Lionel MONTI - s. H. - Benoît TARRIN - Pierre CHAPPELLAT - Anny POURSIHOFF - François WARLOP - Annie MERCIER - André ROULLEAU - Daniel BERNARD - Dominique LASSALLE - Frédéric DEVESA - DANIEL EVAIN - Rémy DURBESSON - Amélie POLACHOWSKA - Isabelle PORDOY - Marc BOUCHÉ - Frédéric PRAT - Jerome MOUGNOZ - Dominique PLANCKE - Jacques DANDELLOT - Jean AZAN - Maité MENAGER - Victor LECOMTE - Axel COLIN - Michel GUYON - Renata FORESTO - Jean-Noël DAUNAY - Alain TORRE - Christelle NOIROT - Christine RENAULT - Claudie RAMBAUD - Le Potager du Villard - Cécile FIANDINO - David ROGER - Franck GAUTHIER - Rachel ROUSSELLE - Laurence BARRY - Laure DELACQUIS - Bruno RIT - Marc DUCRET - Isabelle CHAMPART - Anne Marie ANDRIEU - Pierre MASSARDIER - Gérard TABILLON - Serge MULLER - Yvon LE GUEN - Mireille LAMBERTIN - Valérie DELLA FAILLE - Paul MAUGUIN - Frédéric GUERIN - Grégoire ETESSE - Jean-Pierre MEVEL - Elisabeth LECOQ - Régis MATHON - Jean Louis BÉZERT - Christophe HEBINGER - Valentin BEAUVAL - Gandhi ETIENNE - Nicole CREMEL - SCOP PAIN VIRGULE



Realization, illustration and scenario: Lognon

**Translated by Constance Batterbury.
European coordination Via Campesina**



Confédération
paysanne



Les Amis de la
Confédération paysanne