El Mezcal
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LATEST DEVELOPMENTS
on the Mezcal Apellation of Origin
How do we do it?

CRM (according to its initials in Spanish) is a non-profit Civil Association which comprises all of the producers of Maguey, Mezcal, bottlers and marketers who want to join in order to receive training services in all of the different stages of the productive process. It is controlled by community, regional, state and national assemblies.

CRM has the authority as delegated by the Federal Government to be the Mezcal Certifying Organization which oversees NOM-070-SCFI-2016.

CRM receives $1.50 for each bottle of Mezcal that is certified and does not receive any kind of subsidy from the Federal, State or Municipal Governments.

www.crm.org.mx
DIRECTORY

President
Hipocrates Nolasco Cancino
presidencia@crm.org.mx

Secretary
Juan Jesús Lozoya Austin
presidencia@crm.org.mx

Treasurer
Jaime Muñoz Castillo
presidencia@crm.org.mx

General Director
Abelino Cohetero Villegas
direccion@crm.org.mx

Quality Control Manager
Uriel Terán Sangerman
calidad@crm.org.mx

Manager of Certification Organism
Eusebio Barrios Sánchez
certificacion@crm.org.mx

Manager of Attention to Associates
Rita Sánchez Esquivel
info@crm.org.mx

Director of Strategic Projects
Marco Antonio Cervantes Ruiz
proyectos@crm.org.mx

Director of Mezcal.com
Raúl Fuentes Chávez
mezcal.com@crm.org.mx

Director of Technological Unit
José Luis Martínez García
tecnologias@crm.org.mx

Director of Verification Unit
Guadalupe Andrea Caballero Calvo
verificacion@crm.org.mx

Substitute Directors of Verification Unit:
Lucio Joel Sernas Luis
Elioenai Gaytan Ventura
verificacion@crm.org.mx

Coordinator of Maguey Unit
Efraín Paredes Hernández
maguey@crm.org.mx

Chief of Administrative Department
Candy Lizbeth Hernández López
administracion@crm.org.mx

Institutional Relations
Lilia Guadalupe Leyva González
relaciones.institucionales@crm.org.mx

Translation from Spanish to English
Robert Fredericks

Editorial Design
Jocelyn Martell Angel

Editorial
Hipocrates Nolasco Cancino
Raúl Fuentes
The year 2018 has finished, and it has left us many lessons, and above all, dignity. This year has been one of the hardest for those of us who have the responsibility of directing, protecting and strengthening CRM. Voracious interests tried to systematically disrupt our work so that they could enlarge the Denomination of Origin according to their own designs.

We have managed to consolidate CRM as the representative of the sector, and today the families of Mezcal producers have an association that is watching out for their interests while it trains them and organizes them. This year they tried to take away that which those in power were never able to construct, while in just six years, we have taught them how to do it. They ran into a great surprise with us: the true base of CRM is its producers, its identity and the confidence it has built up.

Maguey producers and Mezcal producers are no longer the humble, silent farmers of yesteryear who can be deceived and left out of the decision-making processes. Mezcal has changed their paradigm, and with that, the ways of thinking and acting have changed in the Mezcal-producing communities. Nowadays they participate and demand what is theirs and for their children.

We went through a change of government, and with that, we all breathed new breezes of justice so that we can hope for true support for our cultural products such as Mezcal. We expect that 2019 will be a year of intense organizational work. Maguey producers and Mezcal producers must be ready to forge a truly representative organization to protect their interests and to establish a better dialogue with the federal government in terms of policies, planning and support. There must never again be a productive system which is imposed according to whim or fashion.

Just as happened in 2018, when Mezcal kept consolidating itself as the Liquid Culture of Mexico, gaining prestige and value while forging both dignity and unity in the Mezcal-producing communities that are now organized, dignified and willing to defend their own interests, as they demonstrated when the federal government, through Ildefonso Guajardo, tried to favor business and political interests and enlarge the Denomination of Origin without a valid justification.

Thanks to legal, political, social and mass-media actions, CRM managed to contain the attack. The new challenge is that once the enlargement of the Denomination of Origin has been contained (but not resolved), we need to continue with the labors of consciousness-raising on the political and mass-media fronts so that the Law of Industrial Property can be modified, since that is what made it possible for the former officials to simply and arbitrarily enlarge it without proving the culture and tradition of the Mezcal-producing communities. It is for this reason that it’s time to propose a Law for the Protection and Promotion of the Denominations of Origin and Mexican Geographic Indications.

France, Spain and Italy each have over 700 Denominations of Origin; Mexico, only 16: Tequila, Mezcal, Bacanora, Sotol, Charanda, Olinalá, Ambar de Chiapas, Café de Veracruz, Café de Chiapas, Ataulfo Mangos from Soconusco, Rice from Morelos, Talavera from Puebla, Vanilla from Papaná, Cacao Grijalva, Chile de Yahualica and Chile Habanero from the Yucatán Peninsula.

Of all those that have been recognized (protected), only two are operating as indicated by our own laws and international treaties: Tequila, which has already been consolidated, and Mezcal, where we consider ourselves on the way to consolidation thanks to the strategies promoted for the past six years to generate value by organizing and promoting our Liquid Culture of Mexico. The rest of the Mexican Denomination of Origin are not supported properly so that they can develop and produce results as Mezcal is beginning to do. We’re proposing that each Mexican Cultural Product should get its own Denomination of Origin or Geographic Indication so that can be the key to trigger its value and the regional development that is so longed for in the communities of Mexico.

Calvillo Guavas, Silver from Taxco, Guitars from Paracho, Black Pottery from Oaxaca, Water from Tehuacán, Water from Tacote, Raicilla, Chile Guajillo, Pulque from Hidalgo, Bananas from Tabasco, Silver from Zacatecas, Flowers from Morelos, Chicle from Quintana Roo, Añil from Nitepec, Chile Poblano, Handicrafts from Quiróga, Ixtabentum, Guayaberas from Merida, Sweaters from Chiconcuac, Coffee from Hidalgo, Cajeta from Celaya, Strawberries from Irapuato, Pears from the Sea of Cortés, Cotija Cheese, Christmas Balls from Puebla, Alebrijes from Oaxaca, Meat from Sonora, Shoes from Guanajuato, Coffee from Oaxaca, among other crafts, agricultural products and textiles of Mexico can all trigger their growth if we deal with them as Denominations of Origin or Geographic Indications that recognize and protect their value.

Dr. Hipócrates Nolasco Cancino
President of the Council for the Regulation of Mezcal
It is a distilled Mexican alcoholic drink, 100% from Maguey (Agaves), obtained from the distillation of fermented juices using spontaneous or cultivated micro-organisms. The juices are extracted from mature cooked Maguey heads that have been harvested in the territory included in the Denomination of Origin.

It is a liquid whose aroma and flavor are determined by the species of Maguey used, as well as by the specific fabrication processes. Its qualities are further diversified by soils, topography, climate, water, authorized producers, Master Mezcal-makers, alcoholic gradation and microorganisms, among other factors that determine the finer points of the character and range of sensory impressions produced by each Mezcal.

Mezcal can have added sweeteners, coloring agents, fragrances and/or flavorings permitted by the special Agreement with the Secretariat of Health.

To speak of Mezcal is to speak of the recovery of an ancestral drink that has patiently been waiting its turn for generations, waiting its opportunity to represent Mexico and conquer the most demanding palates, people who not only seek flavors and sensations in a beverage, but also tradition, sustainability and quality condensed into a single sensorial experience.

Speaking of Mezcal means speaking of land, not only in Oaxaca, but in a territory that embraces nine states: Oaxaca, Zacatecas, Durango, Guanajuato, Guerrero, San Luis Potosí, Tamaulipas, Michoacán, and Puebla. As a matter of fact, comprising over 500,000 hectares, it is the largest Denomination of Origin on the planet!

Mexico has a great opportunity with Mezcal. It is a product with potential and with demonstrated growth. The statistics are very promising, and Mezcal can now be found in over 60 countries where it would have been unthinkable only a few years ago. It continues its ascent in gourmet markets, thus becoming a motor for economic development, especially in many rural communities around Mexico.

There have been three fundamental factors to take Mezcal from being a simple popular drink to a gourmet product: the Denomination of Origin Mezcal, Official Mexican Norm 070, and the Council for the Regulation of Mezcal.
The word “Mezcal” has its origins in the Nahuatl language. It comes from the term “mexcalli,” a compound word composed of the roots “metl,” which means Maguey an “ixcalli,” which means cooked. This refers to the cooked Maguey that the inhabitants of Mesoamerica used as a food.

\[ \text{metl} = \text{Maguey} \]
\[ \text{ixcalli} = \text{Cooked} \]

Thanks to several studies, it has been proven that Maguey has been used for over nine thousand years. Among the many uses for the plant, there are: food, fibers for clothing, shoes, and woven fiber products for everyday domestic use. It has also been used to make adobe for the construction of homes. Its thorns have been used as nails and needles in construction, textiles and rituals. Maguey has also been used in traditional medicine as an analgesic, a healing poultice for wounds and an anti-inflammatory agent. For all of those reasons, it was venerated by the ancient peoples of Mesoamerica, to the point that there was a deity assigned to it: Mayahuel.

In Mesoamerica, the codices and other sources from the Colonial period describe a great variety of fermented beverages that were produced prior to contact with Europeans, especially those drinks whose main raw material was Maguey. These beverages were an integral part of important religious rituals to which only the priests and nobles of the period had access.

The origin of distilled drinks in Mesoamerica remains a controversial topic. There are at least three theories that indicate the possible beginnings of distillation. The first of these theories goes back to the conquest in the 16th century and says that the Spaniards introduced the still with a copper coil, something which they had inherited from the Arabs, who had used it to obtain essences, while in Europe, it was adopted for the production of distilled beverages. During their incursions in Mesoamerica, the conquerors ran into Maguey and the fermented drinks made with it, so they decided to distill them to get a higher alcohol content.

Another theory postulates that distillation was brought to the American continent by Filipinos in the 16th century. They came on the galleons from Manila that docked in the ports of Colima and Jalisco. The sailors used stills to make aguardiente from coconut. The Filipino technology used local materials such as clay and wood. Thanks to its flexibility, it was easily adapted to small-scale distillation, which made it easy to spread the process among the native population, going from the coast to the interior of the country and using fermented maguey products instead of fermented coconut.

More recent studies based on the interpretation of archeological remains have produced indications that an autochthonous still as developed in Mesoamerica sometime between the 15th and the 10th century B.C. The investigators suggest that the Mesoamerican still was developed in various cultures in western Mexico. According to this theory, the existing cultu-
res produced distillates of Maguey using very simple instruments that were quite different than the stills of either the Arabian or the Filipino styles.

Whatever its origins might be, the practice and the hardware to produce this distillate expanded rapidly during the 17th century. Each community used whatever its region and its culture offered for its elaboration: regional varieties of Maguey, wood from its forests or shrubs, clay to make vats for fermentation or distillation, hollows in stones, animal skins, wooden barrels or hollowed-out tree trunks as containers for fermentation, reeds or even the flowering stalks of the Maguey itself to make tubes to transfer liquids, and eventually, metal to make sheets and stills. In this way, each region went along constructing its own equipment, tools and methods for the production of its own distillate, thus generating identity, diversity and reputation according to the regional processes used.

In the 18th century the production of Mezcal was already an established industry in some regions. Mining played a triggering role in its production and consumption, ranging from Oaxaca to Sonora and the central plateau of Potosí and Zacatecas, as well as Tamaulipas.

During the New Spain period, the Crown prohibited Mezcal, characterizing it as, “a pernicious abuse against both public health and royal interests,” naturally, with the purpose of forcing people to continue importing alcoholic beverages from Europe. In spite of that, Mezcal found its refuge in haciendas and agricultural communities, where each one of the small producers kept alive the teachings that they had received from their ancestors. Naturally, what they produced was mostly for local consumption.

In the stage of independent Mexico, towards the end of the 19th century and in support of capitalist development, some visionaries in Jalisco introduced modern distillation techniques. Mezcal produced in the community of Tequila adopted the modernization of its distillation process in order to increase production and started the exportation and internationalization of its Mezcal wine now known as Tequila.

As the 20th century advanced, Tequila earned world prestige and entered a stage of industrial mass production. In the decade of the 40’s, the Mexican Government made a distinction between Mezcal and Tequila for the first time, establishing separate regulations to govern their production and quality: Official Quality Norm for Tequila, D.G.N. R-9 1949 and Official Quality Norm for Mezcal, D.G.N. R-10 1949. Ever since that time, these two beverages linked by their common ancestry have had their own separate routes.

In 1994, the Mexican Government protected the Denomination of Origin Mezcal (DOM), which in the beginning covered five complete states. The DOM has been modified 5 times, and today 9 states of the Mexican Republic are included in the protection.

On August 17, 1994, NOM-070-SCFI-1994 was published in the Official Diary of the Federation to establish the specifications for the production, bottling and commercialization of Mezcal. This norm has been updated to NOM-070-SCFI-2016 with the idea of highlighting the artisanal and cultural values of Mezcal.

In 1997, in order to guarantee and protect the DOM and the quality norms, the COUNCIL FOR THE REGULATION OF MEZCAL (CRM) was constituted, and its operations were initiated in 2003. Ever since that time, it has been promoting the development of Mezcal as the Liquid Culture of Mexico, converting it into a category of worldwide prestige.
PROCESSES AND PRODUCTION EQUIPMENT

A COOKING: Agave/Maguey heads are cooked in stone pits

B GRINDING: with mauls, tahona, Egyptian or Chilean mills.

C FERMENTATION: in hollowed-out stone, soil or tree trunks, stone basins, animal skins or containers made of wood or clay. The process may include the bagazo or fibers of Agave/Maguey.

D DISTILLATION: with direct flame in a clay pot and with coils made of clay or wood. The process may include bagazo or Agave/Maguey fiber.
PROCESSES AND PRODUCTION EQUIPMENT

A COOKING: cooking of the Maguey heads or Agave excavated cooking pits or elevated stone basins.

B GRINDING: with mauls, tahona, Chilean or Egyptian mills, millstone or shredder.

C FERMENTATION: cavities in stone, soil or tree trunks, stone basins, animal skins or containers made of wood or clay, and the process may include the bagazo or Maguey/Agave fibers.

D DISTILLATION: With direct flame in tank stills made of copper or clay and with coils made of clay, copper, wood or stainless steel. The process may include the bagazo or Agave/Maguey fiber.
PROCESSES AND PRODUCTION EQUIPMENT

A COOKING: the cooking of the Maguey heads of juices can be done in underground ovens, stone basins or an autoclave.

B GRINDING: tahona (hollowed out log: Tr.), Chilean or Egyptian mill, millstone, shredder, continuous serial mill, diffuser.

C FERMENTATION: containers may be wood, stone tanks or tanks made of stainless steel.

D DISTILLATION: stills, continuous distillation or coils made of copper or stainless steel.
CLASSES OF MEZCAL

WHITE OR YOUNG
Colorless, translucent Mezcal that is not subjected to any further processing.

REPOSED
Mezcal that must remain in wooden containers (with no restriction as to the size of the container) for 2 to 12 months in a space with minimal variations in luminosity, temperature and humidity.

MATURED IN GLASS
Mezcal stabilized in glass containers for more than 12 months underground or in a space with minimal variations in luminosity, temperature and humidity.

AGED
Mezcal that must remain in wooden containers of a capacity of less than 1,000 liters that guarantee its harmlessness in a space with minimal variations in luminosity, temperature and humidity.
FLAVORED WITH
Mezcal with ingredients that have been added directly to confer special flavors such as: maguey worm, damiana, lemon, honey, orange, mango, etc...as long as they have been authorized by the corresponding Agreement from the Health Secretariat, as well as NOM-142-SSA1/SCFI-2014.

DISTILLED WITH
Mezcal that has been distilled with other ingredients to incorporate flavors such as: chicken or turkey breast, rabbit, mole, prunes, etc.
The great struggle that Maguey Producers and Mezcal Producers have initiated in order to prevent that the Denomination of Origin Mezcal (DOM) be enlarged in an indiscriminate way to satisfy political and economic interests is now beginning to yield results.

After a fruitless meeting with Ildefonso Guajardo, we set ourselves the task of carrying out Regional Assemblies of Maguey Producers and Mezcal Producers in the whole country at the same time that we sought the active intervention of the Governors, Secretaries of the Economy and Secretaries for Rural Development in the various state included in the DOM, as well as each Local Congress.

We have likewise had several informative meetings with the Federal Deputies and Senators of the Republic in order to make them aware of the difficulty and to be able to count upon the support in the various legislative chambers. We are also programming working sessions to have dialogues with them.

We give our recognition and thanks to the Governors, Secretaries, Senators and Local and Federal Deputies for the resounding support that they have given to our movement.

Furthermore, we give special appreciation to the Federal Deputies for the State of Oaxaca who organized the FORUM FOR THE AGENDA OF MEZCAL in the Congress of the Union,
thanks to which they have taken up once again the Defense of the DOM and a thorough revision of its fiscal scheme as principal concerns.

As all of the Associates know, we have finished a round of Regional Assemblies for Maguey Producers and Mezcal Producers. These have been recognized by the Mezcal Commission of the CONAGO (National Governors’ Conference: Tr.). You have been participants in them and have demonstrated your profound disagreement with Ildefonso Guajardo because, instead of listening to our demands and arguments, he attacked the Mezcal Producers and their main organization, the Council for the Regulation of Mezcal (CRM).

In an attempt to generate dialogue, on Wednesday, October 31 of this year, CRM and the IMPI (Mexican Institute of Industrial Property: Tr.) managed to agree to a working session with the presence of representatives of the Maguey-Mezcal Product System, the Regional Committees of the Maguey Producers and Mezcal Producers and the National Council of Maguey Producers and Mezcal Producers for the purpose of achieving those agreements that are favorable for our movement.

We emphasize that this result would not have been possible without the support and follow up by the National Coordinator of the Mezcal Commission and the Constitutional Governor of the State of Oaxaca, Alejandro Murat Hinojosa, M.A., for which reason we wish to manifest our sincere recognition and profound appreciation.

Due to the foregoing, the agreement of the Assemblies regarding the National Activity in Defense of Mezcal is hereby postponed at the same time that we insist that it has not been discarded.

We recognize that we have important agreements;
however, I exhort all of our Regional Assemblies not to let their guard down. We have to keep our arms uplifted, keeping ourselves ready and organized, in order to fulfill the demands of the Assemblies at any moment to defend Mezcal with a single voice. Even though the enlargements of the DOM have been properly channeled without political or business interests without either political or business interests, we must keep alert until we get the complete fulfillment of each and every agreement. Likewise, we must never forget that the source of all these difficulties is the weak provisions of the legislation of the Denominations of Origin in the Law of Industrial Property. For that reason, we cannot rest until a comprehensive Law of Denominations of Origin and Geographic Indications has been created, since, otherwise, the story of abuse will be repeated.

Given the antecedent of Ildefonso Guajardo, who has announced his intention to create a “Businessmen’s Chamber” for decision making that pertains only to the legitimate producers of Maguey and Mezcal, and then to create other regulating councils with an eye towards repressing the Council for the Regulation of Mezcal, we must be attentive to the reaction for the Secretariat of the Economy and the General Office of Norms, who have attempted to impede the agreements achieved with the IMPI. For all these reasons, I insist that we must keep united and watchful.

We have achieved our first victory in this great fight! Only you know the value of what we are defending. Nothing would have been possible without the participation of each one of you. Some have been with us body and soul, others from their own trenches in their local fronts, and some with economic and moral support, but all together we have created a united front with one aim: to defend Mezcal from rapacious hands!

This fight is for the legacy we have received from our ancestors and for the future of our children… the true patrimony of Mezcal Producers: the Liquid Culture of Mexico.

Meeting with Senator Nestora Salgado: Guerrero
State Assembly of Maguey Producers and Mezcal Producers of Michoacán.
Meeting with the Maguey Producers and Mezcal Producers and the Secretary of the Economy of Guerrero.
Meeting with the Governor of Oaxaca, Alejandro Murat.
Table of Agreements with the IMPI
I. In regard to the enlargement of the DOM for the state of Aguascalientes, the IMPI manifests that it will respect the suspension awarded by a Federal Judge and with thereby cease to award authorizations for the use of the DOM to any applicants from that state, nor will it carry out any procedure to modify the international registry of the DOM as long as the case has not received a definitive solution in the competent tribunals.

II. As for the enlargements for the State of Mexico and for Morelos, the IMPI is attentive and will give precise punctual responses to the resources that have been interposed against it so that only those municipalities that can demonstrate the product and human factors will be reaffirmed, taking into account the arguments of CRM regarding cultural persistence (active producers) and the demonstration of culture and tradition in the elaboration of Mezcal.

III. The IMPI recognizes that there are diverse instances in the country that, because of their broad experience and training, must be consulted in the determination and analysis of any enlargement of the DOM, since they already have rigorous scientific, technical and academic elements and wide recognition within the industry. Among those expert entities, in the form of an announcement, CRM, INAH, INEGI and CONABIO can be pointed out to those who might wish to participate.

IV. The IMPI declares that there are three more requests for an enlargement of the DOM, corresponding to municipalities in the states of Querétaro, Guanajuato and Sinaloa. For the moment, they do not satisfy the applicable legal requirements. They will be required to demonstrate fulfillment, and in that case, careful studies will be carried out to assure that they comply with the natural and human factors and with the existence of the product. The respective information will be made transparent for its due diffusion among Mezcal producers.

V. The IMPI declares that at the moment there are no further requests for the enlargement of the DOM.

VI. The parties make a formal commitment to avoid making any decisions that do not enjoy a consensus within the guild of Mezcal producers, so that each entity can offer its effort and experience for the growth, strengthening and diffusion of the Liquid Culture of Mexico and its Denomination of Origin in Mexico and abroad.
In recent days comments have been received from Associates that they have been visited in order to invite them to create a “National Chamber of Mezcal”. In the past, there have been different attempts to make up the aforementioned Chamber, which must include at least 25% of the Mezcal Producers (which is to say, at least 325, according to the current figures in CRM), and that, furthermore, in order to have a national character, it must have Associates from each state with the Denomination of Origin, with enough Associates to represent at least 7.5% of the state membership. CRM does not oppose the creation of said Chamber, per se, but what does powerfully draw our attention is the rush to incorporate it. We cannot but suspect that it represents an attempt to consolidate the threats of Ildefonso Guajardo to legitimize the enlargements of the Denomination of Origin Mezcal that in all justice have already been duly rejected. Those who invite you to form the Chamber argue that it is already a reality and that they have been entrusted by Ildefonso Guajardo to request that they sign as soon as possible and return the papers so that they can be considered “founding members”, and that if they do not do it, they will lose their rights to voice and vote. This form of pressuring is directed towards getting the needed percentage of membership, without giving the Associates an opportunity to reflect upon their participation.

CRM has convoked those who in principle are the promoters of the “National Chamber of Mezcal”. They have externalized their concern about the controversy generated by their proposal, which they describe as sound and without any ill will, and they further affirm that it was never their intention to provoke an instrument for the enlargements of the DOM nor to utilize it for any political ends, and for those reasons, they signed the following agreements with CRM:

**AGREEMENTS**

1. The undersigned recognize that there is no RUSH for the integration of the National Chamber of Mezcal.
2. It is not convenient for any Chamber to be promoted by any Government, since Chambers and their confederations are public-interest, autonomous institutions that represent, promote and defend the activities of the industry nationally and internationally, constituted precisely to defend the private interests of the affiliated businesses in it.
3. The latest developments regarding the enlargement of the Denomination of Origin Mezcal, and the threats of the outgoing Federal Government towards the Regulating Council and the organization of Maguey Producers and Mezcal Producers that it represents has generated a climate that does not favor the unity of the diverse actors involved with Mezcal, since there is a well-founded fear that the Chamber will be used for political purposes.
4. Due to the current effervescence of the Mezcal-producing sector, there are not sufficient conditions of unity to create a group to promote the National Chamber of Mezcal.
5. It is in our collective interest to first promote unity among the different actors of the industry, to resolve the topics related to the enlargement of the Denomination of Origin Mezcal according to the relevant law, and to give certainty to CRM that their attributions will not be violated, nor have their legitimate representation of the sector called into doubt, points upon which we must all work together once the new Federal Government has been installed.
6. Only then will it be possible for us to work together to promote the formation of a National Chamber of Mezcal.
Without getting into evaluations of the actions that the Council for the Regulation of Mezcal has taken against the enlargements decreed by the IMPI for the States of Mexico, Aguascalientes and Morelos—matters which strictly pertain to the internal policies of a Denomination of Origin—without a doubt, it has not gone unnoticed that as never before in the history of Mexico, the demonstration of the Maguey Producers and Mezcal Producers from all over Mexico at the doors of the IMPI was an unprecedented event, a claim, a cry to the high heavens, a collective shout of Enough! It is a landmark in the history of the Denominations of Origin in Mexico. I believe that every crisis has its own advantages, and this is a great moment to speak of Denominations of Origin, to establish clear public policies that are direct and far removed from what seem to be decisions imbued with private political interests. Without a doubt, clothed in the legislative birth of the Geographic Indications, we now have a great opportunity for the evolution, growth and strengthening of them, which will represent support for the progress of Mexico and our national honor.

It’s a fact that the Denominations of Origin have suffered frontal attacks from the authorities in recent years as, for example, when in the project for reforms to the law of Industrial Property, they tried to ignore the value of a Regulating Council by establishing what they called “Procedural Organisms”, but with an energetic posture taken by the National Association of Denominations of Origin (ANDO), it could be stopped. Likewise, the General Office of Norms (DGN) created an Organism for the Evaluation of Conformity (OEC) separate from the Regulating Councils, a measure which certainly weakened those Councils that already exist as well as those that have not yet been able to consolidate themselves, basically due to the high cost of getting accreditation from the Mexican Accreditation Entity (EMA). Finally, to drive another nail home, they began to speak about the creation of different Regulating Councils that have nothing to do with the Denominations of Origin and that could just as easily certify a screw or the production process of Bacanora while knowing absolutely nothing about the production of distilled beverages and apparently without understanding the historic importance that they have had in the Denominations of Origin in those countries that contemplate having them.

There is no question, if we really think about it, that the developments that were brought about as a consequence of the historic demonstration before the doors of the IMPI, headed by the Governor of Oaxaca, are an invitation for us to work on the public policies of the consolidation of the Denominations of Origin, the Geographic Indications and the Regulating Councils in order to legislate on them, to fortify the ANDO, to create a Mexican Entity of Specialized Accreditation for the Denominations of Origin with its own exclusive personnel who have nothing to do with the IMPI and working in coordination with the Secretariat of Agriculture and Rural Development (SADER). These measures will open the door to true development in each of the areas, strengthen existing institutions and programs. Taken as a whole, this package will represent true Mexican pride as known in its communities.
This past month of October in the Community of San Luis del Río, Oaxaca, there was a historic meeting of Maguey Producers and Mezcal Producers with their Governor.

From a very early hour the Mezcal Producers of the State of Oaxaca gathered to receive the leader, who had agreed to attend the meeting and listen to the demands of the Regional Committees of Maguey Producers and Mezcal Producers.

Upon his arrival a little before noon, the Governor and his working team were received by Dr. Hipócrates Nolasco Cancino, along with the Authorities and the Producers of the community, who led them on a guided tour so that they could have a firsthand look as the installations and the equipment used by the producers of Artisanal Mezcal to make their product. After visiting several palenques (facilities for the production of Mezcal), the group made their way to the central square of the community, where hundreds of producers awaited them.

The regional office of the Council for the Regulation of Mezcal in San Luis del Río was inaugurated by Alejandro Murat and Dr. Hipócrates. The governor of Oaxaca spoke of the importance of continuing the fight to protect Mezcal, a product which has become a major source of income for thousands of Oaxaca families. At the same time, he took advantage of the opportunity to extend congratulations to the producers of the community, since many of the brands produced in the community are exported to different countries of the world.

Once they were in the area, Alejandro Murat and his team of collaborators listened to the Maguey Producers and Mezcal Producers, who exhorted him to continue working for the defense of Mezcal. They also had the opportunity to ask for support in order to be able to continue growing by means of their work. Many of them pointed out to the Governor that with Mezcal he has a great opportunity. They told him that thanks to the work that has been carried out during the past few years, the rate
of emigration has diminished, and in a few communities, it has even vanished: “The young people of San Luis del Río now don’t think of crossing the border in search of opportunities,” said David Cruz, a 23-year-old Mezcal Producer.

After listening to the Maguey Producers and Mezcal Producers, Alejandro Murat declared that his government will maintain its firm position against the enlargement of the Denomination of Origin Mezcal which has recently been requested by states such as Sinaloa, Querétaro, Guanajuato, Morelos and the State of Mexico, since this is a distinction that is awarded to a product for historic, natural and human reasons.

“Being here with you is an action that has to do with the defense of our culture and with the patrimony, not only of Oaxacans, but also, of all Mexicans. We cannot do less than emphasize the importance of this problem, where other states now come forward to capitalize upon something that has been constructed with so much effort, generation after generation. That is why I am here with you now and why I came out to march with you in Mexico City,” he declared.

“To do what is done here in San Luis del Río and in each one of the Oaxacan Mezcal-producing communities is not something that can be improvised or suddenly “invented” in other places. Having a Palenque with each part of the equipment needed to make this artisanal product is an inheritance from our forefathers,” he continued. In this sense, he added that his government will take whatever legal steps are possible to defend the prestige of this millenary beverage.

The governor also committed himself to strengthening this important sector by means of follow up through the Oaxacan Institute of Entrepreneurs and Competitiveness to help commercialize Mezcal via digital platforms while also carrying out a short-, mid- and long-term project to maintain the level of production of Mezcal while also avoiding any scarcity of Maguey.

The President of the Council for the Regulation of Mezcal, Hipócrates Nolasco, recognized the commitment of the governor, Alejandro Murat Hinojosa, who also, as the President of the Mezcal Commission in the National Conference of Governors, has taken a strong stance in defense of Mezcal and its Denomination of Origin.

“It is an honor to count upon the support, not just of a governor, but of a true leader who embraces us and our cause, who represents and defends us in the highest sense with real gallantry, and not only that, but is also willing to march next to us, feeling not only the sun and the abrasive environment, but even the negative political criticism to which he has been subjected”, he stated.

In the last few months, due to the events that have taken place, Mezcal has been a topic of conversation in terms of its Denomination of Origin. It must be remembered that Mezcal is a motive for national pride, something that has been inherited from generation to generation, and that in Defense of their Liquid Culture, the Mezcal Producers of all of Mexico have come together with one united voice to demand respect for their work, their culture and their way of life.
“Cultural Treasures of Mezcal” is the Title that the Council for the Regulation of Mezcal awards to those producers who are guardians of the Mezcal-making tradition and who have produced Mezcal for more than 50 years, resisting any modification of their ancestral artisanal practices. It is awarded in order to recognize their tireless efforts to maintain the prestige and authenticity of Mezcal and their stubborn insistence on passing their traditions and cultural heritage on to their children. These bastions are praiseworthy points of reference in their communities and enjoy the empathy of the Mezcal Producers.

In this edition, we will speak of Don José Emilio Vieyra Rangel (1951-2018), Cultural Treasure of Mezcal from Michoacán.

José Emilio was born on June 26, 1951 in the community of “El Agua Dulce” which belongs to the City of Morelia, capital of the beautiful State of Michoacán, the fifth generation of a Mezcal-producing family and who learned the difficult but rewarding work involved from a very young age from his father and his uncles.

In an interview for Mezcal.com in 2017, Don Emilio offered us some of the first impressions that he has of his steps in the world of Mezcal in the 50’s and 60’s when he was a child. In those days there were alcohol inspectors who would arrive at the vinatas, seize the Mezcal and destroy the equipment and tools that they used to make it. “My father and my uncles had to build their facilities in ravines, where the inspectors couldn’t find them so easily, they managed to keep a few.”

When he was 9 years old, the got his first job as a “Sabanero”—the person who helps a muleteer with the transport animals—and the animals were loaded with Maguey to take to the palenque. “After that I was a muleteer, and I made two trips to the vinata with Maguey every day.”

By the time he was 15, he was already working in the vinata of his family. He helped during distillation and all of the other processes to make Mezcal. He remembers that in those days the tools were quite different. He told us that the mounts for their stills were hollow trunks and that the Maguey was crus-
hed with wooden mallets.

In the decade of the 70’s—once the period of prohibition was over—Don Emilio remembers that the Mezcal was sold to wholesalers in the City of Morelia. To transport it, they used their own farm animals, and the Mezcal was in “castanuelas”—barrels of black or white oak—or else in large glass jugs that were wrapped in layers of straw so that they could be transported safely. He also remembers that for the same purpose, they also used what they called “botas” made of goatskin.

During his youth, Don Emilio lived through the hard experience of being a migrant in the United States and working as a laborer, but his vision and determination brought him back to his native Michocán, “All of my life I was a Mezcal Producer; that’s what I was raised to be”.

Whoever had the chance to meet Don Emilio knows that one of his favorite pastimes was to be in his vinata, Pino Bonito (Beautiful Pine). During the interview, he remembered that when he was working with his father and his uncles, they would get together to drink Mezcal. “In those days we drank pure Mezcal” he affirms and remembers that along the pathways in the mountains they buried glass bottles with Mezcal that they could drink on their days of work, “when we went by that spot, we drank a bit of Mezcal and then buried the bottle again, and then we went along until we got to another place where we also had a bottle” Emilio tells us with a smile on his face, adding, “Sometimes we saw where others had hid their bottles, and we took them”.

In his vinata, Don Emilio received people from many nationalities, especially from the United States, Germany and Japan, and he was always delighted to share his experiences as a Mezcal Producer. His own favorite Mezcal was that made with the Maguey Chino (Agave Cupreata) and that in the Pechuga style, the latter a special recipe by his wife, Delia Vargas.

Unfortunately, on September 18, 2018, Don José Emilio Vieyra Rangel died, leaving a legacy that will remain in the Mezcal-Producing world. Always attentive and always smiling, Don Emilio is a Cultural Treasure of the Mezcal from Michoacán. Today, his wife and son, Emilio Vieyra (sixth generation), continue with the tradition, having the responsibility but also the joy of working at what Don Emilio loved so much: making Mezcal, perfecting in their own way that spirit that has emanated from the hills of Michoacán for six generations of their family.

Scan this QR Code with your mobile device to see the video
The Exportation of Mezcal

We use 20% of the customhouses that the country has. Mezcal is thus exported through:
Nuevo Laredo (Tamps), Tijuana (BC), Veracruz (Ver), Manzanillo (Col), Altamira (Tamps), Colombia (NL), Cancún (QR), Ciudad Hidalgo (Chis), Salina Cruz (Oax), Guadalajara (Jal) and the International Airport of the City of Mexico. (CDMX)

Thanks to the joint efforts of the Producers, Marketers, Promoters and this same Council for the Regulation of Mezcal, there are today more than 230 brands that are exported to 60 countries, the export market represents more than 55% of all the Mezcal that is bottled, and that is placing Mezcal in the categories of High-End, Premium and Superior among the spirit beverages in the United States of America.
Thanks to the joint efforts of the Producers, Marketers, Promoters and this same Council for the Regulation of Mezcal, there are today more than 230 brands that are exported to 60 countries, the export market represents more than 55% of all the Mezcal that is bottled, and that is placing Mezcal in the categories of High-End, Premium and Superior among the spirit beverages in the United States of America.
Ever since 2016, the Council for the Regulation of Mezcal has been going through the registry procedures so that the Exportation Certificates will be emitted electronically to the VUCEM (Unique Window for Exterior Commerce of Mexico) of Mexican Customs.

This is how it will work!

1. You will go through the procedure for your Exportation Certificate on CRM en línea via Internet

2. The electronic export certificate is sent to your portal CRM en línea

3. The System of CRM and the System of Customs are permanently linked. Your Certificate arrives at VUCEM immediately!

4. Your Certificate arrives at VUCEM immediately! It now won’t be necessary to request it personally or wait to receive the original or to present it when you go through Customs. ¡Your certificate will be in the customs of the port that you requested!
The State Government has committed itself to continue strengthening this important sector by means of the accompaniment of the Oaxacan Institute of the Entrepreneur and Competitiveness in order to market Mezcal via digital platforms and carry out a short-, medium, and long-range project to maintain the level of production and avoid any scarcity of Maguey.

Likewise, as part of the support to this industry, Governor Alejandro Murat has reaffirmed his defense of Oaxacan Mezcal, emphasizing that “Mezcal is the Liquid Culture of Mexico and a synonym of Oaxaca”, so that his government will continue to be against the enlargement of the Apellation of Origin that several states have recently requested without being able to demonstrate having mezcal-making culture and traditions, since this distinction is awarded to a product for historic, natural and human reasons.
There is no room for doubt that once you get into the world of Mezcal, you will find an endless series of stories that are worth telling. A few weeks ago, we had a chance to interview Juana Escobar Bautista, a Master Mezcal Maker and recognized as the Mezcal Woman. Doña Juana showed all of us that with effort, dedication and discipline, you can achieve any goal, no matter how high you set it.

Born into a family of Mezcal Makers in Santiago Matatlán, the “World Capital of Mezcal”, Oaxaca on May 8th, 1950, she was involved in the world of Mezcal from her infancy. Her father had Maguey plantations, and her uncles produced Mezcal.

Unfortunately, Juana was left an orphan at a very young age and had to go live with her aunt and uncle and to work in a Mezcal shop with her family. There—she tells us—she washed bottles and filled them with Mezcal. She also familiarized herself with each one of the processes that her family followed in order to produce it.

When she was old enough, Juana married Serafin Hernández Blas, also a Master Mezcal Maker from Santiago Matatlán. Together they began a family business that today has positioned their Mezcal at a high level in Mexico and outside the country, going to The United States, Canada, France, Spain, Germany and Belgium, but the path was not easy for them. In her interview with mezcal.com, Doña Juana commented how a few years ago, Mezcal was considered a very ordinary drink for low-income people. Now, however, it fills her with pride when people from many parts of the world visit her factory to see where the history of her product began, and what she has been able to construct with her family.
Master Mezcal Maker Juana tells us that when she was young, many people gave up working with Maguey and Mezcal because it wasn’t the good business that they hoped for, but she knows that it is now the support for her own family and for thousands of other families. For Doña Juana, one of the main reasons that led to the success of Mezcal is that the producers always maintained the quality of their product, from the planting of the Maguey right through the distillation of the final product, elements that have been passed down from generation to generation. Today Doña Juana can look on with pride when she sees how her children carry on with this work, not an easy task at all, but one that demands effort, sacrifice and passion.

Doña Juana, Master Mezcal Maker, homemaker, mother of 9 children and a wife did everything possible to attend to each and every one of her responsibilities. For her, the hardest part of this work is what is done in the fields, but she gives thanks to God because she knows that they have a good product and clients to buy it. She remembers that it was hard in the beginning, and many times they didn’t have workers. Her husband had to go out to the fields, and she had to stay home and take care of production in the factory while also taking care of her children and somehow making time for everything else “as women we have many responsibilities: being a mother, taking care of the factory, attending to people”.

One of the most difficult moments in her life was losing her husband, Don Serafín. With tears in her eyes, Juana Escobar remembers how difficult it was for them in the beginning, but how, with their joint efforts, they managed to get ahead. When Don Serafín died, Juana made one of the most important decisions in her life: to continue with the legacy that they had begun to construct together, “fortunately, my children already knew the work, and with them I could get ahead. Doña Juana is an excellent chef, and for that reason, many people advised her to leave Mezcal and open up a restaurant. Nonetheless, faithful to her dreams, she continued with the work of Mezcal, even though there were times when it still didn’t yield much in terms of profits, there was always enough to cover the necessities of her family.

And thus it was that the Hernández Escobar Family went along opening up a way in the midst of all their adversities including the lack of support, the scarcity of Maguey, and the low value that was formerly given to the product among other obstacles that they had to divide up among themselves to get to the point of honoring their legacy and even exporting to more than 7 countries. None of this would have been possible if Doña Juana and her family had not pursued their dreams with so much hard work.

Due to all the foregoing, when it’s possible to speak with some Woman of Mezcal such as Doña Juana, you can appreciate the great cultural wealth that is hidden in the heart of each bottle of these spirits. For some people, it is difficult to imagine that today we have women who helped open a road into a sector that was unthinkable just a few decades ago. Nevertheless, Juana Escobar Bautista is an example for men and women of all Mexico who can recognize in each sip of Mezcal the work of a woman who has been indispensable in the history of the Liquid Culture of Mexico.
In the last Assembly 2018, the Associates agreed to award a scholarship to those producers of Mezcal who want to obtain their INITIAL CERTIFICATION before the CRM. In order to implement the agreement of the Assembly, it was first necessary to integrate the regional Committees of Maguey and Mezcal Producers and to define the rules under which the scholarships programs will be awarded.

RULES FOR AWARDING SCHOLARSHIPS FOR THE INITIAL CERTIFICATION

OBJECTIVE
To promote formality among the producers of Artisanal Mezcal and Ancestral Mezcal who make up to one thousand liters per month, thus making certification accessible to those who previously didn’t have access because of a lack of funds. The scholarships, backed up by the constant training provided by CRM, offers the recipients the tools that will let them improve their conditions as direct actors and thus put an end to “coyotaje” (using intermediaries who supposedly “exercise influence” to facilitate the processing of legitimate procedures: Tr.) The idea is to increase the chain of value in Mezcal.

BENEFITS OF THE SCHOLARSHIP

1. CONDONATION OF PAYMENTS for services provided by the CRM

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>COST</th>
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<tr>
<td>Payment exemption of registration to CRM</td>
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<tr>
<td>Payment exemption of the management of the DOM and the issue of the certificate of Mezcal-producer by CRM</td>
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<td><strong>Total</strong></td>
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The scholarships are awarded by the Mezcal Regulatory Council WITHOUT COST. No kind of support is received from the Federal, State of Municipal Governments, nor from organizations, political parties, etc. Thus, it is only CRM that can make any kind
of promotion of the scholarships. LIKEWISE ALL KINDS OF MANAGERS OR PROMOTERS OF ANY KIND ARE STRICTLY PROHIBITED.

Notes:
The Beneficiary must pay on his/her own account the payment for the authorization of the use of the Denomination of Origin Mezcal (DOM) before the IMPI ($950.00 or whatever the current price is).

• CENCON and NISA NABANI Laboratories have joined us to support this initiative:
  - CENCON will award a scholarship to up to 3 applicants per month on the analysis of just one parameter of the Norm.
  - NISA NABANI will offer a scholarship for the first complete physicochemical analysis to all those Beneficiaries who request it.

  (In case the applicants want their analysis to be carried out by CRT, they must cover the corresponding costs.)

  The aforementioned conditions apply for the rest of 2018 and until further notice.

2. TRAINING with no cost for the Associate

In the Field
2.1 The development of seedbeds and nurseries
2.2 Control and management of pests and infections
2.3 The development of attributes in the plantations

For production
2.4 How do I certify my Mezcal?
2.5 Official Mexican Norm NOM-070-SCFI-2016
2.6 The management of logbooks
2.7 Control and Efficiency in Production
2.8 CRM en línea, the management of CRM software
  Fiscal material
2.9 Course on the fiscal material for the Mezcal industry

3. DELIVERY OF THE PRODUCTION LOGBOOK AT NO COST

3.1 The logbook has a cost of $750.00 that will be condoned by CRM

4. ACCESS TO PUBLISH THEIR CERTIFIED PRODUCT ON THE CRM WEB-PAGE so that interested Associates can contact them directly in search of commercialization.

More information can be obtained in the offices of Attention to Associates or on the page: www.crm.org.mx
If you want to see a community that’s 100% a Mezcal-Producing Village, you have to visit San Luis del Río in the municipality of Tlacolula in the State of Oaxaca. This village, with fewer than 500 inhabitants has a great, deeply-rooted tradition of producing Mezcal in its totality. The families depend on the work of the Mezcal Producers and of the business people who made it the community with the highest production of Mezcal in all of Mexico in the year 2017.

11% of the national production and 12% of the exportations of Mezcal come right from this village about two and a half hours from the City of Oaxaca.

With an altitude that oscillates between 900 and 1,000 meters above sea level, surrounded by mountains and cleaved by a river, the climate generates ideal conditions for the cultivation of Maguey and the production of Mezcal.

San Luis del Río is a clear example of the development that Mezcal is helping to achieve in the isolated communities of the country. Years ago, young people had no other choice but to emigrate to the United States because of the lack of local alternatives. That is what the longest-lived Mezcal Producers of the community told us. Mezcal sold for only 10 pesos per liter, and they had to take it to nearby communities on pack animals in order to sell it. Today, the children of those Mezcal Producers have returned from the United States to reconnect with the legacy of their ancestors and managing to export their product to North America and different countries of Europe.

When you visit San Luis del Río, you can see, smell, taste and feel the essence of Mezcal. The immense mountains covered by Maguey offer eloquent proof of the great work that the producers are carrying...
out to maintain their production of Artisanal Mezcal. In the community there are more than 30 palenques and 50 Mezcal Producers who have been able to guarantee progress for their families little by little and with great effort. Nowadays there is so much work that they have to employ young people from nearby communities in order to fulfill their commercial commitments. The daily wage has improved substantially, and being in their own community, living their lives according to their traditions while surrounded by their loved ones, all mean that none of the young people today think about emigrating again.

But the most surprising thing about the community is the unity of the “palenqueros” (Palenque Workers), it’s a magical adventure to visit the village and chat with each one of them. When you visit San Luis, just leave your car at the entrance to the community and walk along the main street towards the riverbank. That’s where you’ll find the majority of the palenques. Visit each one in turn, cross the river, rest in the shade of some fruit trees, and taste the different kinds of Mezcal that the producers offer you. It’s a real Mezcal-Lover’s Adventure that you’ll never regret.

As you leave the community, your vision of Mezcal will change. You’ll appreciate the work and effort of the Master Mezcal Makers so that you can enjoy each sip of Artisanal Mezcal. Without a doubt, you will return to your home with impressions that will live in your memory forever.
In order to protect consumers and assure both the quality and the authenticity of Mezcal, there are physicochemical parameters that must be regulated. These parameters are established by the Secretariat of Health and upon recommendation from the Federal Commission for Protection against Sanitary Risks (COFEPRIS). They were added to the Official Mexican Norm NOM-070-SCFI-2016 Mezcal-Especificaciones.

Below, you will find some suggestions to control these parameters and make sure that your Mezcal doesn’t have any problems in its laboratory analyses.

**Methanol**

Methanol is a toxic alcohol that is a natural component of distilled drinks. It is formed from the pectin that all plants contain: the more pectin there is in the plant, the more Methanol will be formed.

There is a great quantity of pectin in the skin of Maguey plants, and the wild varieties of Maguey tend to have thicker skins. On the other hand, cultivated Magueys such as Espadín tend to have thinner skins. Immature Magueys also have higher levels of pectin. In order to remove as much pectin as possible from the Maguey, it is necessary to trim the leaves as close as possible to the heart of Maguey plant, especially in the case of the wild varieties.

Methanol also comes from any stress to the plant: rolling, hitting or leaving the hearts out in the sun makes more of the pectin change into Methanol.

We recommend:
- Only use mature Magueys
- If you are going to roll and strike the hearts, you must leave the leaves a little bit longer and then trim them the rest once they are safely in the palenque.
- If there’s going to be a delay before cooking the hearts, we have to trim them a little bit more just prior to cooking them.
- If the Maguey is wild, we have to trim it flush to the heart.

In the distillation of Mezcal we can control the Methanol—observe and analyze the figure. The “Puntas” (“Head” the first liters to come out of the still) and the “Cuerpo” (the main “Body” of the distillate batch) usually have hundreds of units of Methanol, while the “Colas” (“Tails”, or the final liters of any given batch) might have thousands of units of Methanol. For that reason, it is important for the Tails to be separated in time. That’s usually when the alcoholic strength of the distillate diminishes and oscillates between 40% and 20%. That’s when the thousands of units of Methanol start to come through. If you suspect that your ferment has a high concentration of Methanol (stressed Maguey, immature heads or wild varieties), cut the tails as soon as possible (closer to 40%). If it’s a mature, cultivated Maguey that hasn’t been subjected to stress, then you can cut the tails lower (closer to 20%).

It’s also important to take care of the force of the flame and the time that is given to each portion. Distillation must be carried out with a slow flame, and the outflow of the distillate...
must be thin and continuous.

Check your most recent laboratory analyses. The Methanol must be 30-300 units. If it’s close to 300, you can start to cut your tails a little higher than you have been accustomed to. If it’s below 150 units, you can cut your distillate a little lower and thus take advantage of a greater quantity of alcoholic strength.

Higher Alcohols
Higher Alcohols (Propanol, Isobutanol, Isoamyl Alcohol) are naturally formed during fermentation. The yeasts construct proteins from amino acids and sugars, liberating Ethanol, Carbon Dioxide and Organic Acids. It is those Organic Acids that can produce the Higher Alcohols.

Due to the foregoing, the origin of the Higher Alcohols is due to the composition of the Maguey juice and the type of yeasts used. It has been demonstrated that different factors such as the amount of Nitrogen available for the yeast, the milling, the aeration of the must, the type of yeast, the temperature of the fermentation and the pH are among the many factors that influence the types and levels of Higher Alcohols in Mezcal.

Distillation is the final crucial process where the Higher Alcohols can be controlled. The Puntas of the distillate usually have hundreds of units of Higher Alcohols while the Body and Tails of the distillation barely have tens of units of Higher Alcohols. For this reason, it is important for the Puntas to be separated in time. We usually set aside one to five liters of Punta. In order to decide how many liters of Punta you have to remove, check your latest laboratory results: if they have a lot of Higher Alcohols, take away more liters of Punta (up to 5). If they show very few Higher Alcohols, you can take away less (down to 1 liter). Remember that the values must be between 100 and 500 and that if you take away too many liters of Punta, you are losing a lot of Alcohol that can be converted into Mezcal.

Aldehydes
Within the group of Aldehydes, the most representative one in distilled beverages is Acetaldehyde. This Aldehyde is present in all fermentations since it is an intermediary compound in the production of Ethanol by the Yeasts.

The Puntas of the distillation process usually have tens of units of Acetaldehyde, while the Body and Tails just have a few units. For that reason, it’s important to separate the Puntas in time, and once again, we usually separate one to five liters of Punta. To decide how many liters to remove, check your previous experiences and your most recent laboratory tests: if they have a high Aldehyde content, separate more liters of Punta (up to 5), while lower Aldehyde content means you can remove less (down to 1 liter). Remember that your values should be be-
between 0 and 40, and if you take away too many liters of Punta, you’re losing a lot of Alcohol that can be converted into Mezcal. Taking away only what is necessary is a learning process that will lead you to becoming a Master Mezcal Maker!

**Furfural**

Furfural comes from the dehydration, caramelization and carbonization of the sugars during the cooking of the Maguey. The more it is cooked (grayish, black), the higher the quantity of Furfural that will be generated.

We recommend:
- Don’t overcook the Maguey.
- Remove the burned parts of the Maguey before the final milling.

You can reduce the quantity of firewood the next time, if it came out overcooked this time. It’s also common within an oven that the Maguey located in the direction opposite the wind flow will get burned more easily. You have to identify that area of your oven and put a protective cushion of fibers the next time.

During distillation you can also control the passage of Furfural to the Mezcal. You have to pay attention to the divisions of Punta, Cuerpo and Cola (observe and analyze the figure). Punta and Cuerpo of the distillate have just a few units of Furfural, while the Cola can contain tens of units. That’s why it’s important to separate the Cola in time, generally when the alcoholic strength of the distillate reduces and oscillates between 40% and 20%, which is when the tens of units of Furfural start to be produced. If you suspect that your ferment has a lot of Furfural (overcooked Maguey or even burned), cut the colas as high as possible (near 40%). If your batch has Maguey that has not been overcooked or burned, you can cut off lower (near 20%). Remember that the values have to be between 0 and 5. Check your latest laboratory analyses to discover if you have to make corrections or if you can cut still lower!

The phytosanitary question among the Mezcal-Making Magueys has become very important in recent years due to the effects of climate change and the irregularity of rains in the zone in terms of quantity and distribution now that the effects of climate change have a strong impact on the development of populations of phytopathogens. Likewise, the tendency in recent years of just one species for the production of a certain kind of Mezcal has generated conditions of monoculture in some zones of the state, with the increasing possibility of phytosanitary vulnerability.

The diagnosis carried out by personnel from the Maguey Unit of the Regulating Council has found some pests and infections such as those seen in figure (1), where the Maguey Borer (Scyphophorus acupunctatus gyllenhaal) stands out, producing a kind of strangulation of the plant, due mostly to nutritional deficiencies and/or hydric stress, among others.

Some of the most common pests and infections are described below:

**PESTS AND INFECTIONS of the Magueys for Making Mezcal**

![Figure 1](image_url) Percentages of pests and infections identified in fields of Mezcal-making Maguey. Study carried out in 2017.

- **Borers**
- **Flour flea**
- **Ahorcamiento (hanging)**
- **Mancha negra (black spot)**
- **Marchitez del agave (agave wilt)**
- **Puntas secas (dry tips)**
- **Escamas (scale)**
Agave borer
*(Scyphophorus acupunctatus gyllenhaal)*
A pest with great economic importance, the main pest in the cultivation of Maguey. The borer is present all during the year, and its larva attacks the plant in the bud, the leaves or the head. They form tunnels or galleries that are surrounded by rotting or dead tissue, while the adults reproduce rapidly by laying eggs in the central head of the Maguey. This pest can be controlled by some insecticides that are shown in *table 2*. Nevertheless, the key to phytosanitary management is with traps that capture the adults, and thus the population gradually reduces. To detect them and control them in an opportune way, it is recommended to place one to three traps per hectare. The traps have pheromones that attract the adult borers and also with pieces of Maguey heads impregnated with insecticide. The traps have to be checked at least one every two weeks.

**Torito – Rhinocerus Beetle**
*(Strategus aloeus)*
This is a beetle with nocturnal activity. Its presence starts at the beginning of the rainy season. The adults feed on the head and the root of the Maguey. They can damage plants from the nursery and also in established plantations, causing a total loss. The smaller the plant when the attack occurs, the greater the damage, since they are less resistant, and just one beetle can kill it. The “torito” enters through the base of the plant, leaving holes in the soil. That is the initial sign that the pest is present.

**Escama (Scale)**
*(Acutaspis agavis)*
They are very small, yellowish insects that can cover part or all of the Maguey leaves, causing damage to the plant since they suck out the sap, while their secretions allow the fumagina fungus to develop. All of this weakens the plant, causing the wilting and drying of the affected leaves, which can lead to the death of the affected plants, all because the photosynthetic capacity of the plant is compromised.

**Piojo harinoso o Algodoncillo**
*(Pseudococcus sp)*
This pest forms cottony lumps that can appear on the bud or on the internal side of the leaves. The insect causes damage by sucking the sap of the plant. It mostly attacks the plants in the nursery or in their first 2 or 3 years in plantations. It can also bring indirect damage since its sweet secretions let the fumagina fungus develop that affects the photosynthetic activity of the Maguey.

**INFECTIONS CAUSED BY FUNGI AND BACTERIA**
Infections are an imbalance in the plants that are mostly caused by fungi and bacteria, and also in the “wounds” caused by some pests such as the picudo, torito and others. They can occur because of unfavorable environmental conditions such as irregular rains, excessive heat and poor soils. Some of the fungi that cause the infections have been recognized with regional names such as ahorcamiento, mancha negra, marchitez or puntas secas. These names can vary from one place to another, but they have been identified as:

- *Lasiodiplodia spp.*
- *Fusarium sp.*
- *Altenaria sp.*
- *Pectobacterium colletotrichum sp.*

These infections are usually located in the leaves. Some start as spots with irregular shapes that are reddish brown and progress to black. They grow rapidly towards the base of the leaf, producing partial or total death of the leaf as they advance, which then acquires a hard, dry consistency that is dark brown or black.
It’s also possible to see concentric spots that are characteristic of Alternaria. Some fungi cause severe rotting in the heart of the Maguey, giving it a soft consistency with necrosis.

These infections can be controlled or prevented with good nutrition and with the use of bactericides or fungicides such as those indicated in Table 1.

### Table 1

<table>
<thead>
<tr>
<th>Common name</th>
<th>Active Ingredient</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>REGENT 4 SC</td>
<td>Fipronil</td>
<td>0.5 mL/L</td>
</tr>
<tr>
<td>Borer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MUSTANG MAX EW</td>
<td>Zeta-cypermethrin</td>
<td>1 mL/L</td>
</tr>
<tr>
<td>Torito</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CITROL</td>
<td>Paraffinic Oil</td>
<td>0.5-1 mL/L</td>
</tr>
<tr>
<td>Escama - Piojo Harinosa</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2

<table>
<thead>
<tr>
<th>Common name</th>
<th>Active Ingredient</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGRY GENT PLUS</td>
<td>Gentamicin sulphate and Oxytetracycline chlorhydate</td>
<td>0.5-1 gr/L</td>
</tr>
<tr>
<td>FINAL BACTER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BUKMA (BUSAN 30)</td>
<td>BUSAN 30 - TCMB</td>
<td>0.1-0.4 mL/L</td>
</tr>
<tr>
<td>CAPTAN ULTRA</td>
<td>Captan: cis(N-((trichloromethyl)thio)4-cyclohexene-1,2 dicarboximide</td>
<td>0.5-1 gr/L</td>
</tr>
<tr>
<td>MASTERCOP</td>
<td>Copper sulphate pentahydrate</td>
<td>0.5-2 mL/L</td>
</tr>
<tr>
<td>PROZICAR</td>
<td>Carbendazim</td>
<td>0.5-2 gr/L</td>
</tr>
<tr>
<td>CERCObIN</td>
<td>Thiophanate-methyl</td>
<td>0.5-1 gr/L</td>
</tr>
</tbody>
</table>

### INSECTICIDES

**Table 2**

<table>
<thead>
<tr>
<th>Common name</th>
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<td>Escama - Piojo Harinosa</td>
<td></td>
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</table>

### FUNGICIDES-BACTERICIDES

*Table 1*
Concerned about the wellbeing of our Associates, we impart workshops in different states in order to provide more information about official procedures and also about the practical controls to follow in the production processes of Mezcal.

In the regional offices:
- CDMX (5 courses), San Luis Potosí, Durango, Michoacán, Guerrero and Puebla (6 courses in each state)

In the Oaxaca office, one workshop was given for each of the following topics: How do I certify my Mezcal? NOM-070 SCFI-2016, Labels, Use of Logbooks, Control of Distillation, Good manufacturing practices, CRM en línea