

## MODULE 2 - TEACHER PLANTS

Since man first walked the earth, teacher (sacred) plants have been with us. They have nourished, healed and uplifted mankind. They have been man's companion in the great evolution of consciousness. Our evolution is tied to theirs and theirs to ours.

The 11 Teacher Plants are:

- Peyote (San Pedro)
- Iboga
- Mushrooms
- Salvia
- Tobacco
- Cannabis
- Ayahuasca
- Kava
- Cacao
- Datura
- Blue Lotus

In this module you were asked to the following two questions. Responses to these questions have been fantastic and serve as a great learning tool for all. Please read the below responses to help gain a better understanding of the workings of our amazing teacher plants:

### Questions:

1. Name the predominant naturally occurring chemical in each of the two teacher plants that creates a "psychotropic effect". Give two examples for each of generally observed effects of these chemicals in human beings, when used respectfully.
2. Giving two examples for each, describe how these plants can be used for healing (1 paragraph only for each example)

### Responses:

#### Cannabis:

- Tetrahydrocannabinol (THC) is a naturally occurring chemical in Cannabis with a psychotropic effect. When used respectfully, THC can induce an expansive mood, creating a relaxed state and meditative mindset. In this heightened state of awareness, our capacity to hear intuitive wisdom may be enhanced. Cannabis is an incredible healer. It activates the endocannabinoid system (ECS) by binding to CB1 and CB2 receptors in our body. This connection facilitates the flow of communication, improving the body's metabolic and immune response. It eases pain, enhances awareness and induces an altered state of consciousness. Cannabis is a teacher that offers an alternative lens from which to perceive,

so that those working together respectfully undergo a process of healing and transformation.

### **Mushrooms:**

- Psilocybin is the naturally occurring psychoactive chemical found in certain mushrooms. It binds with serotonin receptors in the brain which creates a psychedelic effect. Psilocybin activates new neural connections, creating space for a shift in consciousness. Psilocybin has a psychedelic effect, altering our conscious state and creating new neural pathways in the mind. When worked with respectfully, psilocybin assists the individual in breaking free from trauma cycles, addiction and anxiety. It expands the mind, allowing space for new information thus enabling the 'letting go' of past experience. Both of these incredible Teacher plants connect us to that which is greater than ourselves. When we commune with Nature the illusion of separation dissolves. When we see beyond our limitations, we foster an appreciation and reverence for Life, experiencing each day as a blessing.
- Golden Teacher Mushrooms (*Psilocybe cubensis*). The main active ingredients are psilocybin and psilocin. Golden teachers offer a mild psychedelic effect and are best known and loved for their spiritual effects. They facilitate a deeper connection to the natural world, expanded self-knowledge and self-awareness and a profound feeling of relaxation and ease. As with all mushrooms, set and setting are paramount and the plant should always be approached with reverence. Currently, psilocybin therapy is showing remarkable success in treating addiction, anxiety, depression, PTSD, cluster headaches and in improving end of life for the terminally ill.
- Psilocybin (magic mushrooms) is naturally occurring and is a psychedelic or hallucinogen and there are more than 200 fungi species. Psilocybin is a tryptamine compound with a chemical structure which has been linked to an ethylamine substituent and it is chemically related to the amino acid, tryptophan. It is also structurally similar to the neurotransmitter, serotonin. It has been classified as a psychoactive substance because it produces changes in perception, mood and cognitive functions. It also has a euphoric effect on the senses, can alter thinking, distort time, can produce intense emotional reactions and cause hallucinations (seeing and/or hearing non-existent things). Psilocybin has been found to be beneficial for anxiety, depression and to be especially valuable for people undergoing cancer treatments. There have been positive results with alcohol use disorder and for the treatment of resistant depression.
- The active Ingredient in mushrooms is psilocybin and/or psilocin. Effects include spiritual experiences and heightened senses. The idea that psychedelics might be used to treat mental illness emerged in the 1950s, before their use was subsequently banned by governments across the world. The recent psychedelic renaissance has seen a resurgence in clinical trials and evidence suggests that even one single treatment of psilocybin has the potential to treat depression, obsessive compulsive disorder, alcohol addictions, and cancer-related or other end-of-life psychological distress. It has been shown to be particularly

effective when used as a tool in conjunction with psychotherapy in the treatment of post-traumatic stress disorder.

- Mushrooms or psilocybin. Psilocybin was first isolated in 1957. The psilocybin found in mushrooms, or certain mushrooms, is a naturally occurring compound & has, according to many studies from around the world, shown to have a profound effect on curing with a large % result of non-relapse, on anxiety and depression. The psilocybin component of the mushroom allows the brain to break out of its repetitive and rigid formats of thinking or programming. By changing patterns of thought & beliefs, the brain is then able to increase connectivity to neurons to open consciousness and see the world differently.

According to studies psychedelics activate the 5HT<sub>2a</sub> receptor in the brain, boosting mood & lessening stress, by reducing cortisol & adrenaline production. This receptor is thought to be responsible for aiding and enhancing sensitivity in nerve cells to learning & unlearning, context and cognition. Psilocybin works by regulating nervous connections enabling the client to not perceive existing illness as a long-term threat. Completely dissipating depression, anxiety and stress related illnesses. Studies show long term benefits in curing anxiety & depression with no adverse side effects, nor dependence on the substance, nor any physical or mental health problems. The downregulation of 5HT<sub>2a</sub> receptors & the binding ability of psilocybin on these receptors is thought to promote anti anxiety & ant depressive effects. (Van Oekelen et al. 2003) HEALING, The psilocybin mushrooms are now known to cure both depression and anxiety in the majority of cases having no relapse. Other studies and now also used, psilocybin has profound effects on addiction recovery. The potent compounds found in mushrooms reduces withdrawal symptoms and enhances thinking abilities so the addicted client may make better logical judgements and choices. By psilocybin working on the neurons withdrawal symptoms are lessened as mood brightens quickly.

#### **Ayahuasca:**

- Ayahuasca: DMT (Dimethyltryptamine) is the predominant natural occurring chemical in the Ayahuasca Plant that creates a psychotropic effect.
  - Observed affects include:
    - Visual hallucinations where volunteers reported increased brightness, sharpness, vibrations in visual field, scenes that were visible with eyes either open or closed.
    - Thought processes & cognition where volunteers experienced enhanced rate of thinking, gaining insight into personal concerns, recalled memories, intensified emotional reactions with experiences similar to dreaming.
  - Ayahuasca as Healing:
    - Current research indicates Ayahuasca may protect brain cells & stimulate neural cell growth, boosting mood, addiction disorders & anxiety. Ayahuasca, has also shown beneficial effects in treating depression with scientific research & evidence after analysing its antidepressant properties in a controlled setting

showed patients with severe depression where given one session of Ayahuasca or a placebo. The ayahuasca group recorded considerably lower on depression tests compared to the placebo group even after one week of re-testing the two groups.

- Ayahuasca for Enlightenment & Spiritual Growth:
  - People have reported a sense of connectedness and compassion with others around them. Some report spiritual awakening leading them to self awareness and clarity regarding personal issues. It enables self reflection, producing changes & healing within the self, allowing the release & resolution of repressed emotions & dysfunctional habits & trauma. Participants often report insights that enable acceptance of previously denied problems and patterns.
- Ayahuasca Banisteriopsis Caapi stalks, B-Carbotine alkaloids combined with either Psychotria Viridis leaves or Diplopterys Cabrerana leaves, N-dimethyltryptamine (DMT); B-carboline alkaloids inhibit the action of monoamine oxidase (MAO,) responsible for breaking down DMT in the liver, allowing DMT to reach the central nervous system (CNS) for prolonged periods of time causing intense alterations in sensory integration and awareness. It has been scientifically observed that the DMT is serotogenic activating Sigma 1 receptor (SIGMAR1), 5HT 2A and 5HT 2B receptors.

In the last 10 years, the neural basis of the effects of ayahuasca have been investigated using SPECT, MRI and fMRI. A SPECT study of acute administration with healthy volunteers showed that ayahuasca increased bilateral activation of the anterior insula/inferior frontal gyrus, right hemisphere activation of the anterior cingulate cortex (ACC) and front medial cortex, and left hemisphere activation of the amygdala and Para hippocampal gyrus<sup>32</sup>. These brain areas are involved in the modulation of emotions, internal feelings and sensations, perception and self-awareness. An fMRI study using an imagery task showed that ayahuasca not only increased activation of the Para hippocampal and frontopolar cortices, but also of the cuneus and lingual gyrus and retro splenial cortex<sup>20</sup>. Interestingly, during the imagery task ayahuasca increased activation of the primary visual area in a manner similar to the activation levels of seeing a natural image with the eyes open. This effect may be one explanation to the vivid effects of the ayahuasca experience. Moreover, a significant correlation was observed between cortical area BA17 activation and BPRS (Brief Psychiatric Ratings Scale) data. Finally, ayahuasca reversed fronto-occipital connectivity, what seems to mean that the visions induced by ayahuasca may be initiated in the primary visual cortex. The difference between this study and the SPECT study, where visual areas were not activated, may be determined by the task since in the fMRI study subjects were instructed to do tasks related with visual stimulation and/or imagery.

Other generally observed effects and how Ayahuasca may be used for healing in human beings when used respectfully used:

- Deep cleansing and purgative effect to eliminate energetic toxins over lifetime(s) (certainly not the most comfortable approach to detox!)

- Increases opportunity for physical/mental/emotional healing of trauma. Deeper understanding of self in the experience of life.
- Enhanced spiritual connection/interconnectedness; elicits spiritual insights.
- Deeper connection to Nature the cure of All perceived separation, we are Nature!
- Gratitude and appreciation for life; new more positive orientation towards life. Enhanced creativity and resourcefulness.
- Freedom from conditioning.
- Mindfulness.
- Changed world views.
- Ego dissolution and transcendence (usually spelled transcendence!)
- Expanded conscious awareness.

Uses for healing include:

- Potential in the treatment of mental illness disorders such as depression.
  - Produces sub-acute and long-term improvements in affect and cognitive thinking styles in non-pathological participants.
  - A 2018 research paper suggests that ayahuasca may be beneficial for people with PTSD.
  - It helps with the retrieval of repressed memories, which may pave the way for the brain to reprogram or extinguish the associated fear response.
  - Assists with convergent thinking improvement for optimising cognitive function.
  - Reduces anxiety through serotogenic receptor activations. Moving through fears of Intimacy; failure or success; what others think about you; the unknown; loneliness; death.
  - Sigma 1 receptor activation may assist with neuroprotection, neuroplasticity, and neuroimmunomodulation in neurodegenerative disorders such as Alzheimer's, Dementia, Huntingtons, also promoting cell survival and many other benefits when approached with honour and respect in its sacredness. Also, all realisations require actualisation - full embodied alignment for lasting effect!
- Ayahuasca: The main psychoactive ingredients in ayahuasca are banisteriopsis caapi (vine) & psychotria viridis, (shrub), a naturally occurring chemical DMT, N-dimethyltryptamine. Also the three beta -carboline ingredients in the ayahuasca plants. Harimine & harmaline, (beta-carbolines), containing anti-inflammatory & neuro protective properties. As the human body breaks down DMT quickly in gut and liver, the tea is combined with monoamine oxidase inhibitors, to prevent breakdown allowing for DMT to be effective. Banisteriopsis caapi is known as the main ingredient of ayahuasca, the other being psychotria viridis. Life altering, long term benefits from an ayahuasca journey include the insight to see beyond the veil, meeting spirits or higher beings, to experience other realms, to access ancient innate wisdom for self and collectively and planetary. These insights may improve overall psychological health and wellness. May help us heal the world. May also improve moods and emotions. Some studies suggest Ayahuasca may stimulate neural cell growth and protect brain cells from damage. Depression, addiction and PTSD are also showing positive results & benefits on health and mental wellbeing in all studies being done around the globe. PTSD being a prominent in mental health, the ayahuasca may help with past

memories and bring them to light in a safe and sacred environment, enabling the person to deal with these without bringing hardcore emotion to the experience. This may also bring these feelings up hardcore but the person is able to deal with these emotions with guidance of the shaman.

#### **Kava:**

- Kava Kavalactones is the predominant natural occurring chemical in Kava that creates a psychotropic effect:
  - Observed affects include:
    - Kava has been used by native islanders for centuries as both a medicinal treatment and a part of religious ceremonies due to its sedative, euphoriant, and psychotropic properties, it affects the brain & other parts of the central nervous system. People experience euphoria when taking kava and relaxation with calming and mood boosting effects. Traditionally, its been used for acquiring inner knowledge.
  - Kava As Healing:
    - As it passes through the bloodstream & absorbed the plant acts as a muscle relaxant helping with anxiety. People that regularly consume kava say that the herb induces a calming sensation they are able to remain clear headed while under the influence of Kava. Some people take Kava because they feel it boosts their mood and helps them fall asleep more easily. Due to these relaxing properties, High doses can cause the drinker to fall in a deep state of sleep, creating a state of rest & rejuvenation.

#### **Salvia Divinorum (Diviner's Sage):**

- Salvia is a potent psychedelic which produces unique visionary experiences and can be used to treat pain, addiction and depression as well as support self-awareness and personal growth. It can be chewed, smoked or taken as a tincture.

At low doses, people tend to report thins such as a tingling sensation in the body, increased awareness of the body, enhanced clarity and presence of mind. At higher doses, reported effects include a loss of self-awareness (boundary dissolution), fast changing visual hallucinations, dizziness and revelatory mystical experiences. Other reports include tunnel vision, a sense of merging with or becoming objects, seeing entities or beings, hearing voices, laughter and experiencing overlapping realities or worlds.

The Mazatec Indians revere the plant as an incarnation of the Virgin Mary and use it for divination and healing. In the west, it is becoming more widely used to treat depression, enhance meditation and connect to spirituality. Given that experiences with the plant can be disorienting, especially to newcomers, it is recommended to have a sitter and lie down as the plant is experienced.

The active ingredient is Salvinorin A, which is a dopamine reducing kappa-opioid receptor antagonist that is believed to be responsible for the hallucinogenic effect of this plant. Salvia

leaves can be chewed, juiced or vaporised and the plant is primarily absorbed through the oral mucosa. It can also be made into a tincture, again to be taken orally and held in the mouth to facilitate absorption.

The plant was primarily used by Mazatec Indians in healing rituals to produce an altered state of consciousness, and also as a general medicine for things like headaches, diarrhea, rheumatism and anemia. There is some evidence that it has an anti-depressant and anti-anxiolytic effect, as well as increasing feels of relaxation and enhancing self-awareness. Other research shows that it reduces pain perception associated with neuropathic and inflammatory pain. There is also early research indicating that it may be useful for treating schizophrenia and drug addiction.

### **San Pedro Cactus (Peyote):**

- San Pedro Cactus (*Trichocereus pachanoi*). The naturally occurring chemical is mescaline which is a psychoactive alkaloid promoting radical introspection healing and a scene of wonder and awe. Dissolves preconceptions and elicit fresh perspectives on reality. Creates excitation of neurons in prefrontal cortex. It is an agonist binding to and activating the serotonin 5HT<sub>2A</sub> receptors (dopamine receptors.) Serotonin is the key hormone that stabilizes mood feelings of wellbeing and happiness. This hormone impacts your entire body-enabling brain cells and nervous system cells to communicate and helps with sleeping eating and digestion. Great in the treatment of alcoholism and depression which is linked to serotonin deficiencies. Helps people solve problems, access their creativity and leaves people with greater sense of wellbeing, inner strength and vitality. Increases blood flow and activity in the prefrontal cortex the area of the brain which relates to planning, problem-solving, emotional regulation and behaviour - low activity in this area is linked to depression and anxiety.
- Peyote is a small, spineless cactus with psychoactive alkaloids particularly, mescaline. Peyote is a Spanish word meaning caterpillar cocoon or to glisten. The cactus is native to Mexico and southwestern Texas. It flowers from March to May and sometimes in September. The flowers are pink with thigmotactic anthers. Peyote is used by indigenous North Americans for ritual and medicinal purposes, and it contains the hallucinogen mescaline which is known for its psychoactive effects and is said to be similar to LSD. Mescaline induces mystical feelings and produces intense physical, visual and perceptual changes which users have described as euphoric feelings, insightful experiences, increased tactile sensations and visual intensifications. Peyote has been used for its psychoactive properties in psychotherapy. Some Native American tribes use the plant for its curative properties such as toothache, childbirth pain, fever, breast pain, skin diseases, rheumatism, diabetes, colds and blindness.
- San Pedro (*Trichocereus/Echinopsis Pachanoi*). The psychoactive component is Mescaline (3,4,5-trimethoxy-beta-phenethylamine). Mescaline a phenethylamine cactus also contains hordenine (a natural antibiotic), anhalonidine (mildly sedative effect), anhalonine,

tricoherence, tyramine and several other substituted phenethylamines besides mescaline. Mescaline binds to virtually all serotonin receptors in the brain and has a stronger affinity for the A1 and 2A/B/C receptors and is structurally similar to LSD.

The psychoactive effects of Mescaline are due to its action of serotonin 2A receptors. Mescaline also has an affinity for the dopamine receptors, either as a selective reuptake inhibitor or as a dopamine receptor agonist. In respectful and sacred ceremony, has generally been observed as an empathogenic promoting deep introspection, healing, and a sense of wonder and awe. It is known to alleviate psychological disorders such as anxiety, depression, PTSD and addiction. Mescaline has also been shown to help people solve problems, access their creativity, be more environmentally conscious, and improve learning. In its original use, the plant medicine was also used to treat a number of ailments, including snake bites, wounds, skin conditions, and general pain.

#### **Blue Lotus:**

- Blue Lotus (*Nymphaea caerulea*). This plant contains psychoactive alkaloid aporphine (feeling of calming euphoria) which activates serotonin receptors and a-adrenergic receptors. It is thought to contain nuciferan (a natural anti spasmodic), creates a cheerful state of mind, empathic feelings, relaxation, more social comfortability. People are often aroused and flooded with feelings of wellbeing and pleasant lethargy. Used for Parkinson's as it stimulates dopamine receptors and improves motor function. It is also used as a sleep aid and to reduce anxiety. It can also be used as a sedative to treat insomnia and depression. and erectile dysfunction. It teaches us to live in balance and harmony with compassion and understanding and shows us how to love, respect and honour all things. Reduces suicidal thoughts and Apomorphine can play a role in the treatment of Alzheimers.

#### **Tobacco:**

- Nicotine is predominate naturally occurring chemical. It's a stimulant, which raises the heart rate and increases the speed of sensory information processing, easing tension and sharpening the mind. Parkinson's Dyskinesia is abnormal or impairment of voluntary movements. This is a symptom of Parkinson disease medication. Nicotine can control these movements as, in short, it stimulates dopamine production. ADHD: Nicotine is a stimulant, which may have properties similar to stimulant medications (e.g. Ritalin) used to treat ADHD. Nicotine may increase attention and reduce hyperactivity and impulsivity and, thus, may regulate behaviour in individuals with ADHD.

#### **Iboga:**

- The active ingredient in Iboga is Tabernanthe. Effects include awakened dream state (visual experience) and heightened introspection. Traditionally iboga has been used ceremonially to connect to a higher level of spirituality and a deeper understanding of the self. This usually comes about due to the personal insights gained in the egoless state that iboga can produce. People often receive powerful insights into the personal issues they're facing and feel a greater connection to the world around them. In this context, iboga can be a tool for both personal and spiritual development in myriad forms. It has helped people deal with depression, anxiety and PTSD. Ibogaine is widely known as a treatment for addiction, easing

the withdrawal process for people detoxing from opiates, cocaine, amphetamines and alcohol and helping to increase abstinence to these substances.

**Cacao:**

- Cacao is a wonderful nutritive plant and is a great way to increase nutrients when there is a deficiency. Wonderfully restorative to the system cacao contains Magnesium, Iron, Chromium, Manganese, Zinc, Vitamin C plus many more. Cacao is often used as an entheogen for opening the Heart and the Third Eye. Bringing in a sense of calm awareness. Used to soften the exterior in order to nurture and accept allowing conscious awareness and insight with a touch of creativity so that we can create and understand our innate wisdom.