



UNIVERSITÀ DEL PIEMONTE ORIENTALE



ARS.UNI.VCO

Beyond the agriculture: the alpine hemp as a resource for territorial sustainable development. The SATIVA project

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Grassau, 14th October 2016

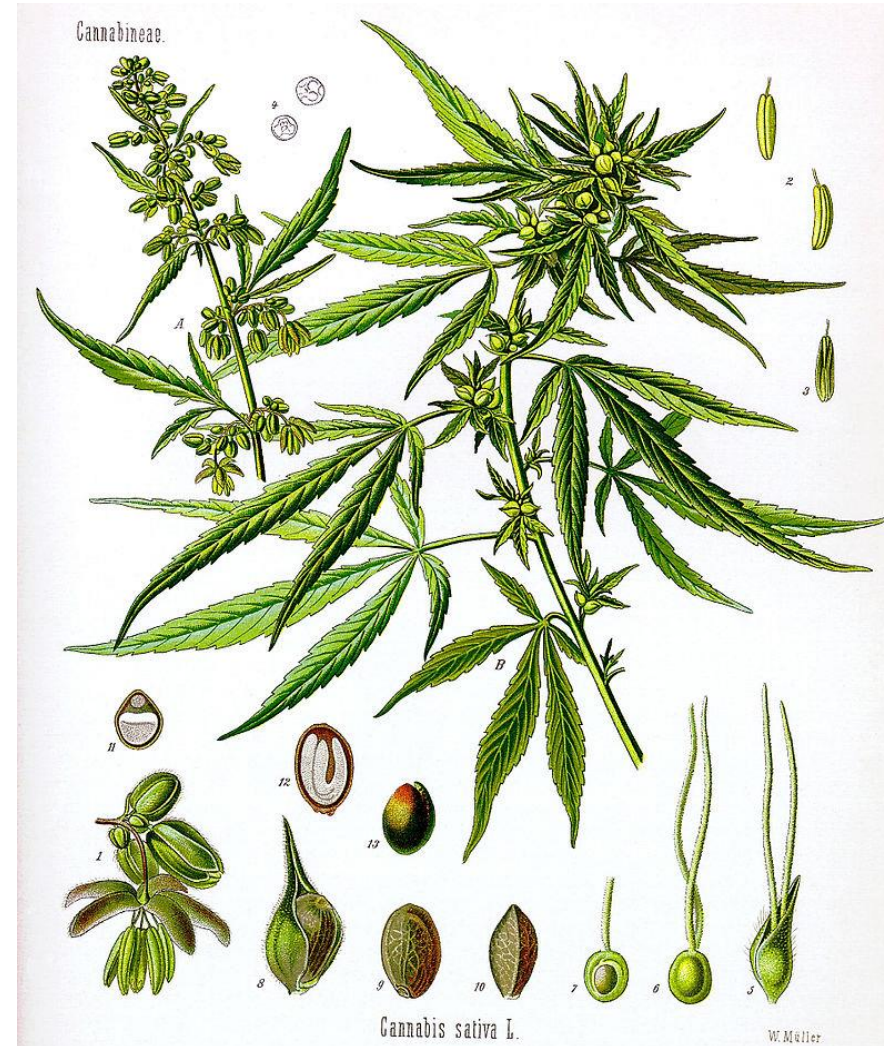
AlpWeek
Alps & People

HEMP'S HISTORY AND USES

Sativa hemp is **one of the oldest plants** known and used by humanity.

Hemp use dates back to the **Stone Age**, with hemp fiber imprints found in pottery shards in China over 10,000 years old.

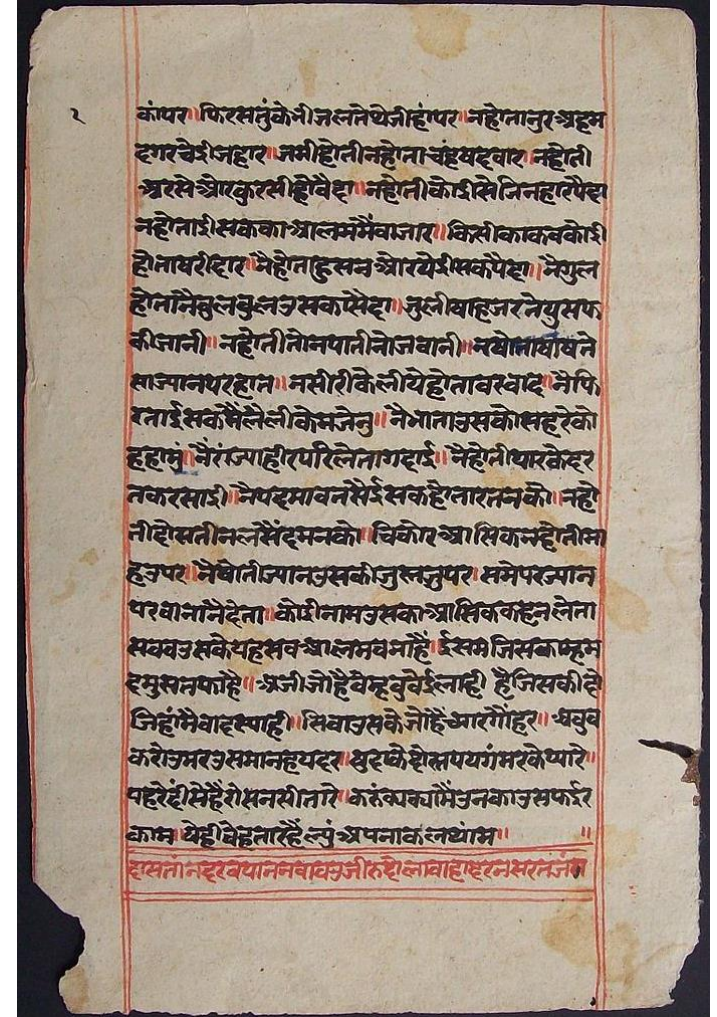
Native to the regions of **Central Asia**, over the centuries has spread almost **around the world**, overcoming all kinds of environmental adversity.

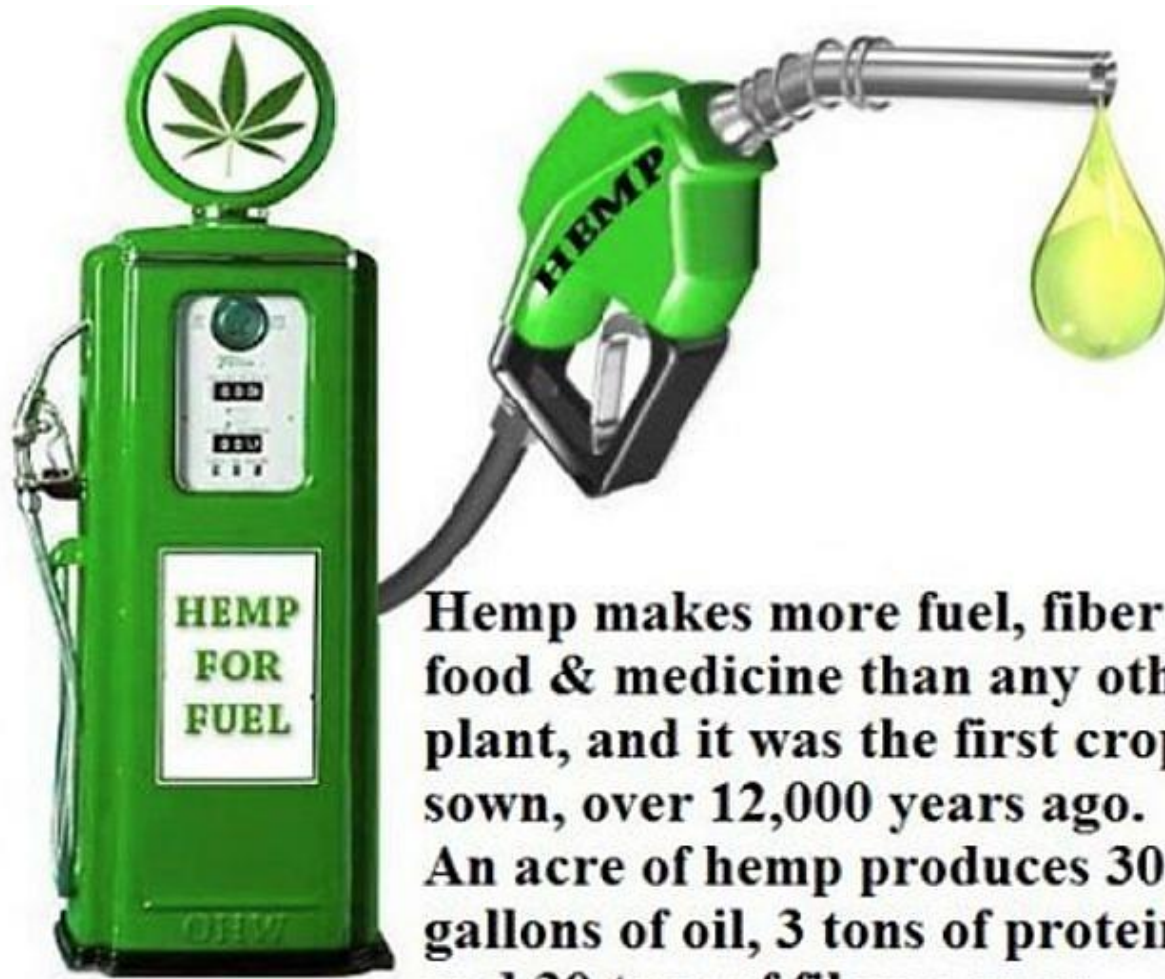


- In 100 BC, hemp paper was invented in China using hemp and mulberry.
- Since 100 AD, when the Romans wrote a guide to farming hemp it has since been farmed all over the known world.
- From the Germans, Franks, Vikings, Chinese (who have never prohibited the use of hemp all-throughout history), English, Canadians, Egyptians, and even Americans all grew, produced, and thrived off of hemp.
- In 1150 AD, Muslims created the first paper mill and for the next 700 years hemp paper was what most civilizations wrote upon.
- ...
- During the Napaleonic Era, ship's sails, ropes, and sailor's clothing were made from hemp.

Ancient Sanskrit on Hemp based Paper.

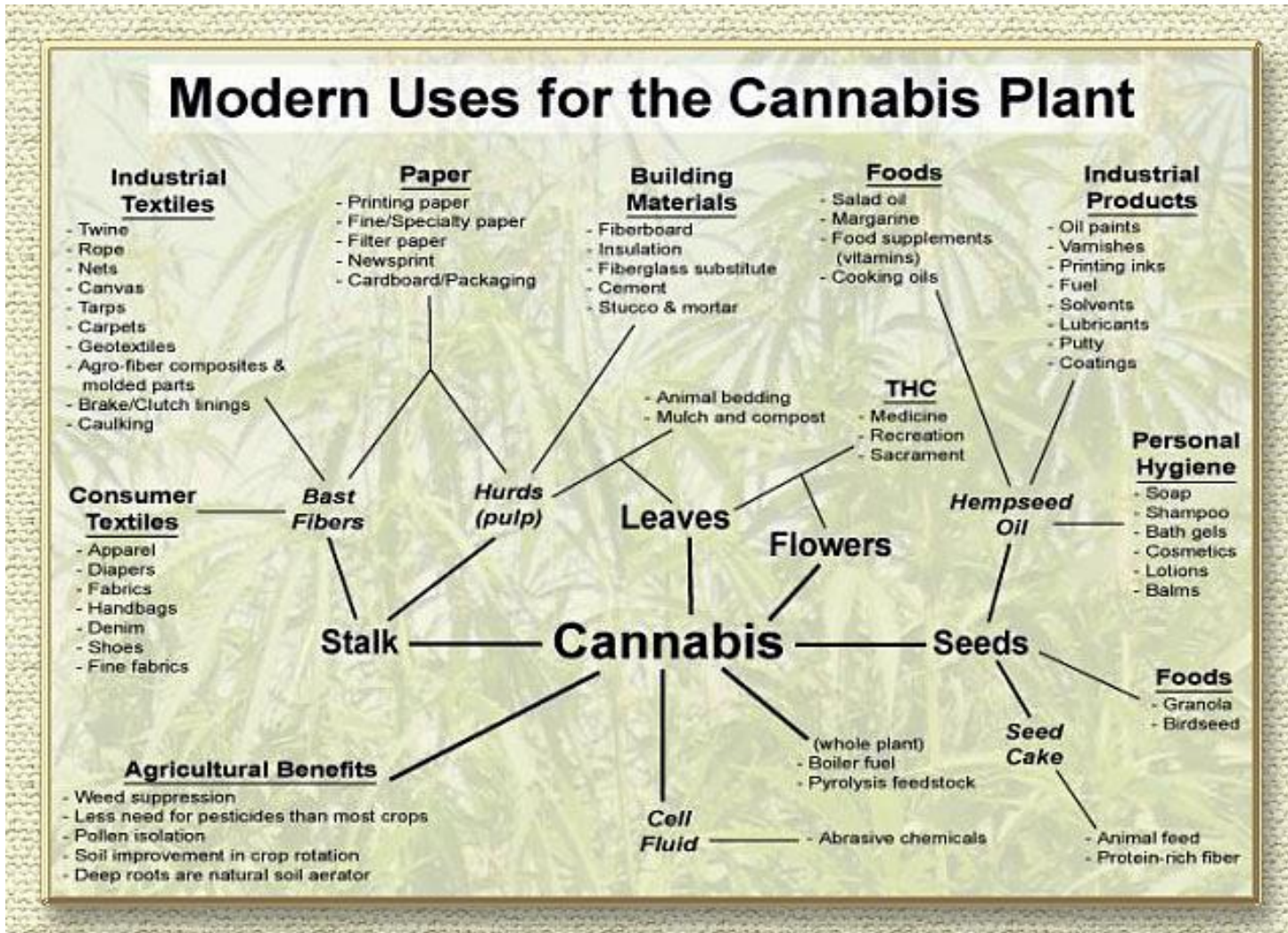
Hemp Fiber was commonly used in the production of paper from 200 BCE to the Late 1800's





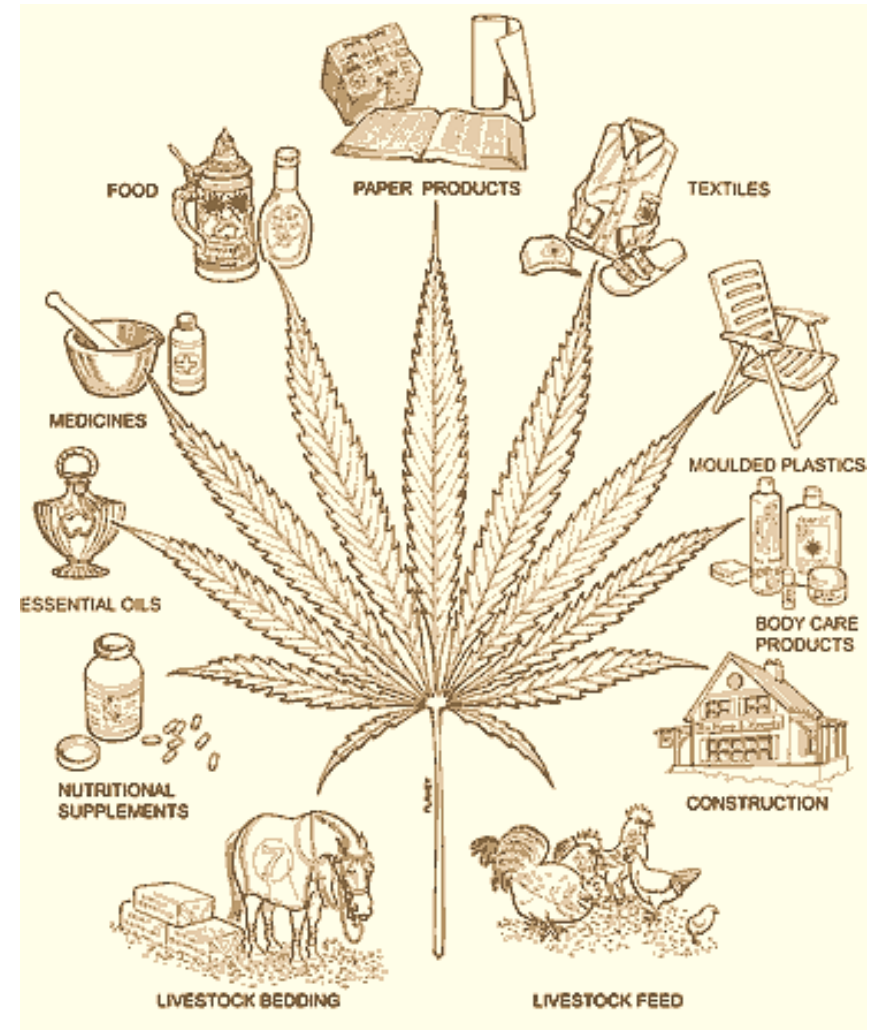
Hemp makes more fuel, fiber food & medicine than any other plant, and it was the first crop sown, over 12,000 years ago. An acre of hemp produces 300 gallons of oil, 3 tons of protein, and 30 tons of fiber a year.

HEMP FOR TODAY AND THE FUTURE



In the **last decade hemp** has been widely promoted as a **crop for the future**. This is stimulated by **new technologies** which make hemp suitable for industrial paper manufacturing, use as a renewable energy source (biofuel), and the use of hemp derivatives as replacement for petrochemical products.

The increased demand for health food has stimulated the trade in shelled hemp seed. Hemp oil is increasingly being used in the manufacturing of bodycare products.



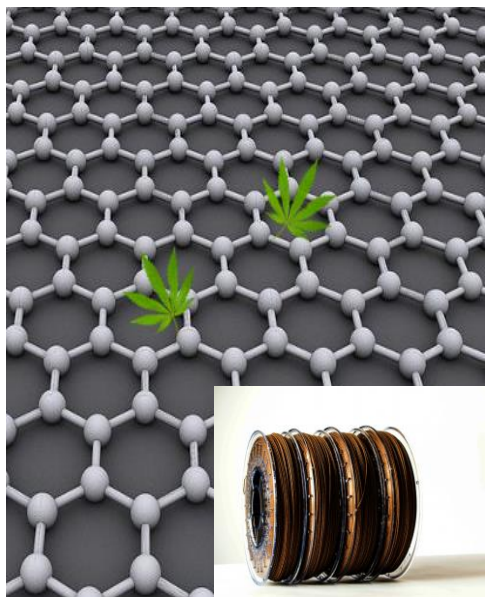
BIOPLASTICS

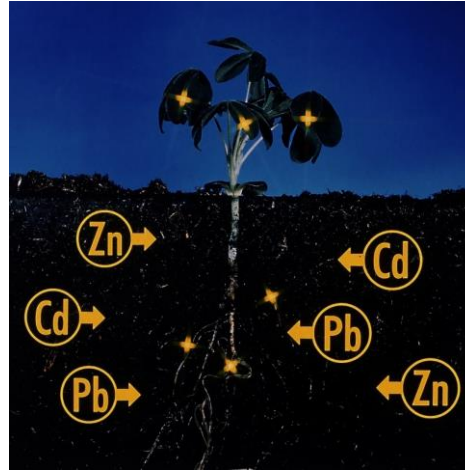
HEALTH

HEALTHY
FOOD

TYPICAL
PRODUCTS

NICHE
PRODUCTS





RECOVERY VEGETATION ON
ABANDONED AND POLLUTED
LANDS

REVIVAL OF
TRADITIONS
AND POPULAR
CULTURE



HEMP AND SUSTAINABILITY

Hemp offers many different uses that can promote a more sustainable world.

Our current reliance on fossil fuels and petroleum based products has created a substantial impact on our environment.



Some **alternative possibilities using hemp** include the following:

- Food Resources
- Material Products Non Toxic
- Bio-Fuel Better than Ethanol
- Disease and Pest Resistant
- Green Jobs
- Help Eliminate Greenhouse Gases
- Durable products
- Eliminate Forest Exploitation
- Recovery of Terraces
- ...



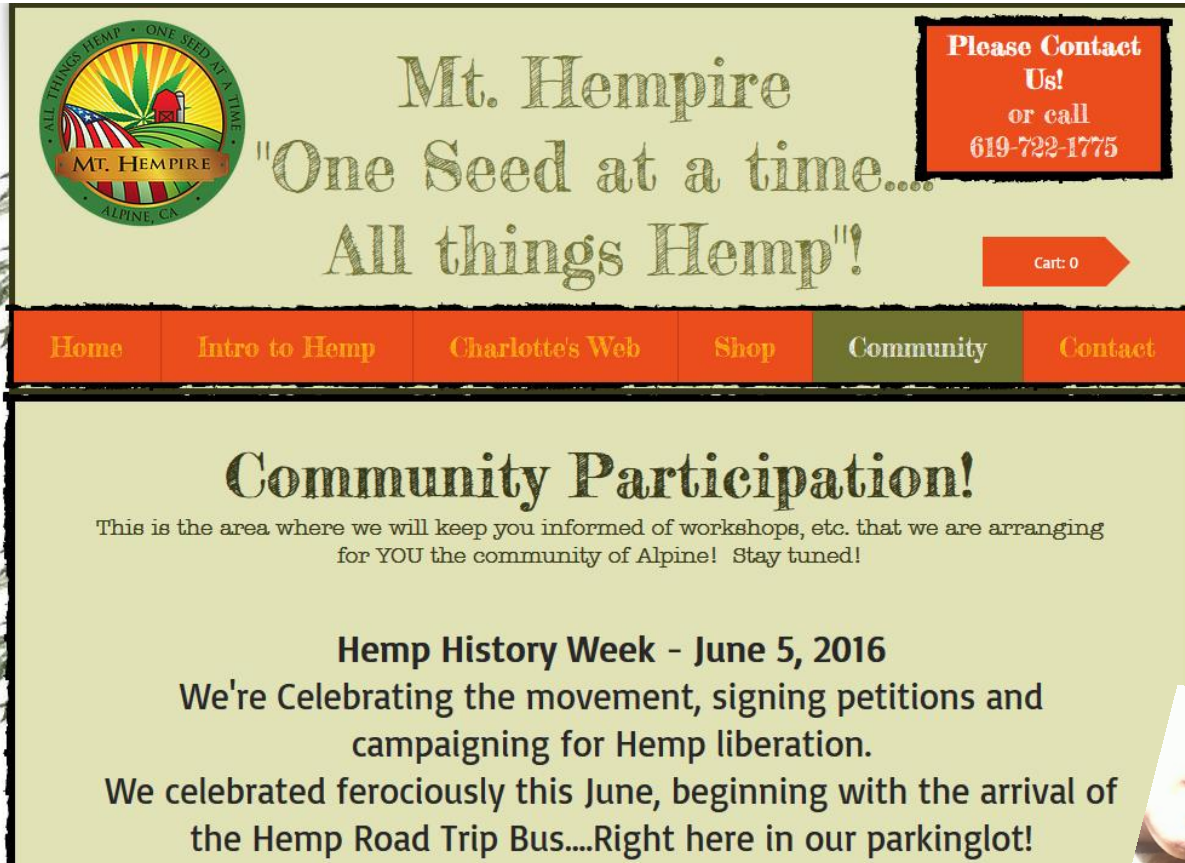
AND WHAT ABOUT THE ALPINE HEMP ???



Precize control for maximum output

- + Grow your plants highly efficiently!
- + Fully programmable / Preset programs
- + Fits any room with 80cm x 80cm space
- + LED powered for low cost running
- + Best growing for medical purposes
- + Quiet, Discreet, No Odor
- + Hydro / soil option

Alpine hemp is a indoor growing box unit, which we are developing to make growing plants easy and efficient to Everyone. It's mainly developed for a medic purposes and other users who will be able to breed plants for personal needs with a little effort and even smaller costs!



Mt. Hemp
 "One Seed at a time..."
 All things Hemp!"

Please Contact Us!
 or call
 619-722-1775

Cart: 0

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Community Participation!

This is the area where we will keep you informed of workshops, etc. that we are arranging for YOU the community of Alpine! Stay tuned!

Hemp History Week - June 5, 2016

We're Celebrating the movement, signing petitions and campaigning for Hemp liberation.

We celebrated ferociously this June, beginning with the arrival of the Hemp Road Trip Bus....Right here in our parkinglot!



HEMP&ALPS

The climate in some regions of the Alps, with the exposure to the sun, the composition of the soil, and the altitude is very favourable for growing medicinal and aromatic plants, such as the hemp.

For centuries, several inhabitants and farmers have cultivated the hemp, a plant well adapted for many uses in their everyday lives (ropes, textiles, bricks as well food). It wasn't an industrial production, but of subsistence.



At the beginning of the 20 Century - and in particular after the II world war - people abandoned the cultivation of hemp in the Alps. The reasons are related to the depopulation of the mountains and to the strong industrial development.

BUT SOMETHING HAS BEEN STARTED TO CHANGE DURING THE LAST FEW DECADES...



BACK TO THE MOUNTAIN BUT ALSO...

...BACK TO THE MOUNTAIN AGRICULTURE - BACK TO THE SUSTAINABLE MOUNTAIN AGRICULTURE - BACK TO THE ALPINE TRADITIONS - BACK TO THE FUTURE...



BACK TO THE HEMP

S.A.T.I.V.A PROJECT

*~~S~~Ave a ~~T~~erritory ~~I~~ncreasing
Value of ~~A~~griculture*



THE IDEA

In 2014 within the course of “Mountain Territories and Local Development: Projects and European Funds” organized by ARS.UNI.VCO Association in Domodossola, some participants have developed the idea of a project for the reintroduction of hemp-growing “SATIVA” in the province of Verbano-Cusio-Ossola.

As evidenced by research on documents dating back to Medieval times, in west alpine regions hemp had always been grown, processed and used.



THE MARK

Deemed worthy and interesting by teachers evaluators of the course, on their explicit suggestion, the Working Group decided to proceed to the formal registration of an **individual mark at the Italian Patent and Trademark Office**; the mark has been called **SA.T.I.V.A. - Save a Territory Increasing Value of Agriculture**.

The SATIVA group then decided to give to ARS.UNI.VCO Association the free use of the trademark to verify the opportunity to develop the project.

ARS.UNI.VCO has created an internal committee to the association to build up a research line on sperimental hemp in Verbano Cusio Ossola mountain areas.

THE SATIVA COMMITTEE

SATIVA COMMITTEE: Set up by resolution of the Board of Directors ARS.UNI.VCO 25.09.2014, the Committee is an advisory body of the Association, which has the ownership of the project.

Scientific Responsible: Stefania Cerutti (Univ. Piemonte Orientale)

Scientific Coordinator: Andrea Sasso

Components: Moreno Bossone, Stefania Cerutti, Stephen Costa, Edward Costa, Elisa Cristina, Sara Ielmoli, Paola Marchi, Riccardo Milan, Andrea Sasso.

THE AIMS

The SA.T.I.V.A. project aims to:

1. rediscover and re-evaluate the hemp as a typical alpine natural resource
2. identify new opportunities for economic growth and for social development
3. preserve and pass on the material and intangible local culture.

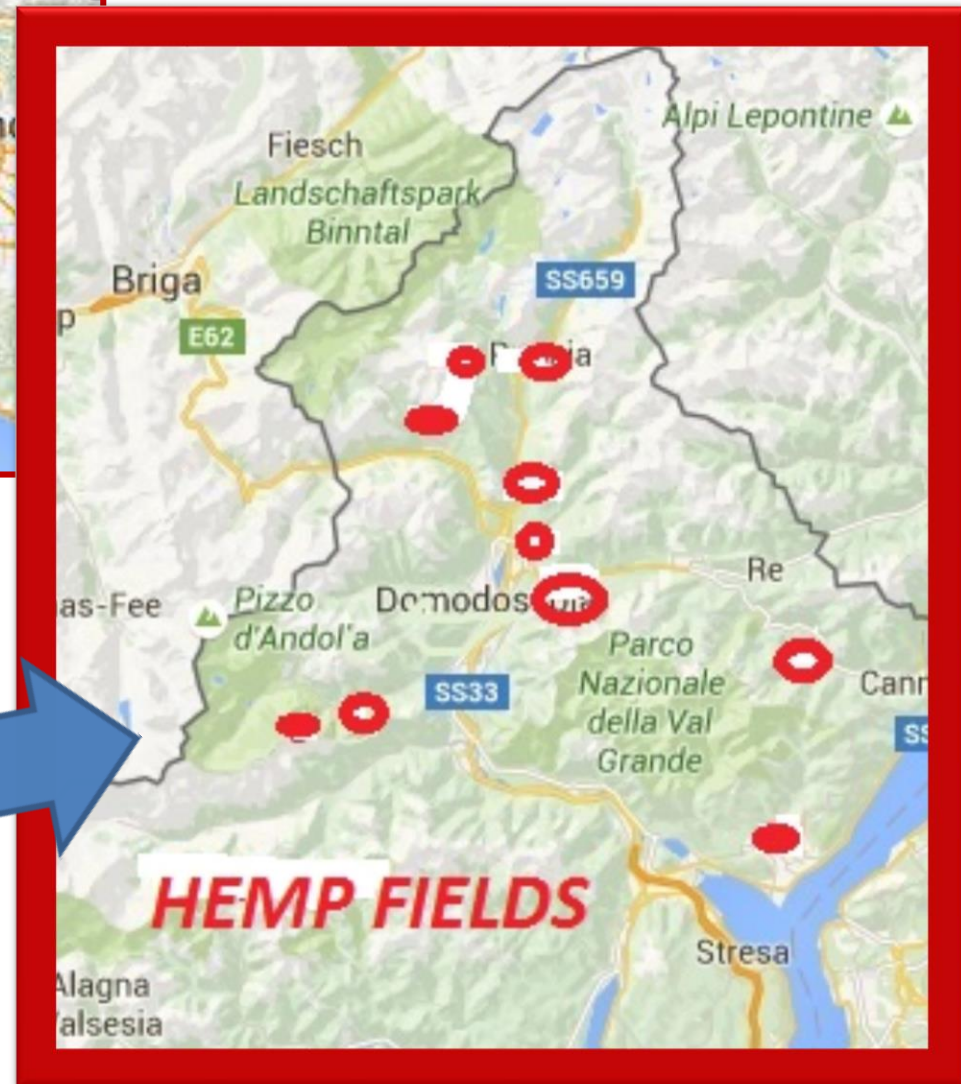
THE EXPERIMENTAL PROJECT

In 2015 it was decided to identify an aspect of immediate application of the project considering:

- the availability of agricultural land abandoned or unused
- the availability of institutions and local associations to support this initiative.

The project has been started in March 2015, and lasted for the whole year.

All activities were carried out at no cost.



THE AIMS

- recovering of abandoned mountain territory
- countering hydrogeological risk
- check hemp varieties suitable for cultivation in the Alps
- determine issues of growing, harvesting, processing and use of the products
- determine types and quantities of cannabinoids present in flowers and leaves
- creating a specific teaching curriculum for the various production sectors
- evaluate the interest and cooperation of the private.
- keep the local culture linked to the cultivation and use of cannabis (fabrics, ropes, shoes, special permits).
- generate interest to rethink local economic development by stimulating the conversion of production currently in crisis

THE ACTIONS

Recovery of the territory:

- identification of the operating method (communication methods of measuring data)
- provision of some municipal areas (towns of Baceno Bannio Anzino, Verbania) and private lands to be dedicated to the cultivation of hemp
- collaboration with the owners for any stage of the growing and of harvesting

Contrast the hydrogeological risk:

- currently they have not yet been realized specific actions on monitor data

Check cultivars most suitable:

- Request seeds

Detection issues:

- Collecting feedback from participants in the experimental process

Enhancement places and work tools:

- collect information about the places in which hemp was processed and find still existing and working hemp tools
- collect studies and investigations already carried out by various local organizations (municipalities, associations, museums, CAI)

Preservation of the local culture:

- Identification of associations with which to make the network in the future
- create interest to rethink local economic development.
- Collecting opinions and level of interest from private and public subjects

ACTIONS IN NETWORK

Detection types and quantities cannabinoids in flowers and leaves: sent samples to analyze at University of Milan - Department of Sciences for Food, Nutrition and Environment Section of Chemical Sciences and biomolecular.

Creating educational training specific to the various productive sectors:

- partnership with the Institute Agrarian "Fobelli" of Crodo
- laboratory for schools "In a thread of hemp" in collaboration with the Cooperative and the National Park Valgrande.

Evaluation of the interest and cooperation of private:

- public meetings open to the public: conference, project promotion, festivals.

RESULTS

1. **Recovery of the territory:**

- large participation - still growing interest and number of participants
- strong demand for new collaboration for 2016 both for privates and for public subjects; growing pilot areas for subjects already participating.

2. **contrasting to hydrogeological risk:**

- This aspect is under analysis

3. **Verify the most suitable hemp varieties:**

- the variety of hemp seed used for 2015 has been very successful; it would be interesting to be able to compare and test some other varieties, especially Italian ones

4. **Problems detected:**

- strong legislative limits to production and sale of hemp products
- particular mechanization needs and necessity of more costly tools
- adequate space for storage
- shortage (and distance) of centers for handling food crops

5. Analyzing of types and of cannabinoids quantity inside flowers and leaves:

collaboration with University of Milan

6. Training:

- the Agrarian Institute “Fobelli” of Crodo has been involved for growing and for harvesting; production of brewing hemp within the school workshops
- in the coming years it's hypothesized a collaboration with other local schools, especially for research and training on the use of products made from hemp (including the hotel management school “Maggia” of Stresa for the food industry)
- active participation of schools for the creation lab ropes “In a thread of hemp”

7. Interests and collaboration of the private subjects:

the project has generated a lot of interest, collaboration, information sharing and historical culture items, networking resources, problems and possible solutions

8. Enhancement places and work tools:

there is much material that would require studies and ad hoc projects especially from an anthropological perspective, with possible developments from the point of view of tourism (almost every countries of our valleys had a *maceratoio* for hemp)

9. Keeping the local culture:

organizations, associations, municipalities, museums, CAI have already developed historical research that should be valued synergistically and made more accessible

10. Generating interest to rethink local economic development:

- the interest by privates and public subjects has been proved, now we need some research for solving problems of product management (legislation, processing, sales channels)
- it is also meaningful, how many have been the demands of interest shown in this little starting project and how this case study has a huge potential for development

PROGETTO SATIVA				
CAMPO	DIMENSIONE	LAVORAZIONE	SEMINA	TRATTAMENTO
Prateria - Domodossola	5000 mq	Aratura e fresatura	25 maggio semina pneumatica	urea
Gurro	110 mq	Lavorato a mano	12 maggio	nessuno
Vanzone San Carlo	100 mq	Lavorato a mano	31 maggio interfila 20/25 cm, di	azoto
Devero	50 mq	Lavorato a mano	1/2 giugno	nessuno
Quarna Sotto	140 mq	Lavorato a mano	11 giugno	nessuno
Cavandone	100 mq	Fresato	12 maggio semina fitta, interfila	diserbo manuale
Crodo - Ist. Fobelli	50 mq	--	11/12 maggio	urea/P e K
Crodo - località Colonia	150 mq	--	12 maggio	nessuno
Crodo - località Molinetto	2 mq	Lavorato a mano	6 maggio	letame di mucca
Baceno - località Croveo	50 mq	--	12 maggio	letame
Baceno - località Cugine	200 mq	--	12 maggio	nessuno
Baceno - località Beola	50 mq	Lavorato a mano	12 maggio	nessuno
Baceno - località Villa Edison	20 mq	Lavorato a mano	15 maggio	nessuno
Baceno - località Ecchio	100 mq	--	12 maggio	nessuno
Baceno - località Cima al Chioso	50 mq	Lavorato a mano	12 maggio	nessuno
Premia - località Pioda	50 mq	--	12 maggio	nessuno
Premia - località Cadarese	100 mq	--	12 maggio metà campo a fila co	nessuno
PROGETTO CANAPA ALPINA				
Bannio Anzino	160 mq	Lavorato a mano	2 maggio	diserbo manuale
Ghesc	100 mq	Fresato	2 maggio	nessuno
Masera	800 mq	Fresato	2 maggio	nessuno

PROGETTO SATIVA				
CAMPO	RACCOLTA	QUANTITA' SEMI	FIBRA	Note/Eventi
Prateria - Domodossola	8/11 settembre	pulizia non ultimata	in macerazione	piralide/maturazione seme avanzata
Guaro	15 settembre	--	Ritirata da Bannio Anzino	piantine spostate sono morte
Vanzone San Carlo	--	--	--	gelata in germogliazione
Devero	--	--	--	--
Quarna Sotto	--	--	--	mangiato dai cinghiali
Cavandone	--	--	--	foglie e fiori per tisana
Crodo - Ist. Fobelli	metà settembre	20 kg	in macerazione	siccità e piralide
Crodo - località Colonia	metà settembre	--	--	--
Crodo - località Molinetto	metà settembre	--	--	--
Baceno - località Croveo	metà settembre	4 kg	--	raccolta difficoltosa
Baceno - località Cugine	metà settembre	12 kg	--	metà semi non nati/raccolta difficoltosa
Baceno - località Beola	metà settembre	5 kg	--	piralidi non preoccupante/foglie e fiori per tisana
Baceno - località Villa Edison	--	--	--	non è cresciuta
Baceno - località Ecchio	metà settembre	9 kg	--	raccolta difficoltosa
Baceno - località Cima al Chioso	metà settembre	4 kg	--	nessun problema rilevante
Premia - località Pioda	--	--	--	--
Premia - località Cadarese	metà settembre	10 kg	in macerazione	T basse in fase di germogliazione
PROGETTO CANAPA ALPINA				
Bannio Anzino	12 settembre	12 kg	utilizzo in corso	nessun problema rilevante
Ghesc	12 settembre	pulizia non ultimata	utilizzo in corso	nessun problema rilevante
Masera	12 settembre	pulizia non ultimata	utilizzo in corso	piante rade

LET'S GO ON!

Many people showed us high interest to our project, in order to collaborate in the:

- recovering of the knowledge and the know-how of previous generations;
- conservation of places and objects (expanding existing museums or creating new cultural paths);
- reintroduction of hemp-growing for sustainable agriculture and economy. Some local companies, interested in this project, would like to diversify/convert their production currently in crisis (textiles, plastics, construction, pulp and paper, agriculture);
- development of vision and practices of the green economy
- return of inhabitants in the Alps
- ...

SA.T.I.V.A

Save a Territory Increasing the Value of Agriculture

venerdì **16 settembre 2016**, ore **9.00**

Centro Culturale "LA FABBRICA" di Villadossola - I piano



ARS.UNI.VCO



Unione Montana Valle Ossola



Thank you!

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For further information:

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