

# **TOBACCO: SOURCE TO CONSUMER**

## **(THE FACTS)**



# Plants that Produce Nicotine

Nicotine is created in the roots of the plant and then collects in the leaves. Nicotine is a powerful stimulant and creates the dependence caused by smoking. It is considered a nerve poison and is also used in a number of insecticides.

# Effects & Overdoes in Humans

Health effects of consuming nicotine include:

Joint or nervous system disorders

Digestive problems

Loss of calcium in bone

Increase of calcium in soft tissue

Over consumption of nicotine can cause a fatal reaction  
in humans.

Symptoms include:

Dizziness

Dry Mouth

Respiratory

Vomiting

Distress

Severe Irritation

# Tobacco's Effect on Humans

Tobacco harms nearly every organ in the body and causes many diseases. Smoking kills over 440,000 Americans each year.

Center for Disease and Control

Smoking is the most preventable cause of death in America today.

National Institute on Drug Abuse

Smoking is responsible for 1/3 of all cancers and 3/4 of all lung cancers.

[www.cancernewsincontext.org](http://www.cancernewsincontext.org)

# Nicotine's Effect on the Body

Nicotine is the “perfect drug.” It increases dopamine levels at the same time that it decreases inhibition.

Nicotine induces pleasure and reduces stress and anxiety. Smokers use it to modulate levels of arousal and to control mood. This occurs when nicotine is absorbed into the blood through the lungs, upon reaching the brain dopamine is released into the body resulting in a feeling of pleasure.

# Drugs Change the Brain

The brain controls everything to include -  
Memory, feelings of pleasure, emotion & reward

Science has linked dopamine to most drugs.  
Drugs activate the reward system causing the  
neurons to release large amounts of dopamine.

Meth and Tobacco are the only drugs to increase  
dopamine receptors over 200%

Overtime the sensation of pleasure is diminished  
because brain damage occurs

# Neurochemical & Related Effects of Nicotine

N  
I  
C  
O  
T  
I  
N  
E

➔ Dopamine	➔ Pleasure, reward
➔ Norepinephrine	➔ Arousal, appetite suppression
➔ Acetylcholine	➔ Arousal, cognitive enhancement
➔ Glutamate	➔ Learning, memory enhancement
➔ Serotonin	➔ Mood modulation, appetite suppression
➔ B-Endorphin	➔ Reduction of anxiety and tension
➔ GABA	➔ Reduction of anxiety and tension

**"Nicotine is the most addictive drug we deal with. More addictive than Heroin, Methamphetamine or even Alcohol."**

**Margaret I. Yonekura M.D.**

California Hospital Medical center in Los Angeles

**Dr. Richard Fitch Director of Addictive Medicine for Valley Hope, quotes the American Society of Addictive Medicine stating,**

**“If you enter treatment using nicotine and continue to use when you leave, you have a 40% chance of relapse in the first 12 months.”**

# **According to SAMHSA...**

**(The Substance and Mental Health Services Administration)**

**“Smoking tobacco causes more deaths among clients in substance abuse treatment than the alcohol or drug use that brings them to treatment.”**

**Tobacco Companies ADMIT  
to putting in 599 additives in  
tobacco products!!**

*BBC World Service, "What's in a cigarette"*

# Two of Them Are...

**UREA:**

**is used as a  
flavor additive**

**(A protein in the body and  
excreted in urine.)**

**AMBERGRIS  
TINCTURE :**

**is used as an  
aroma additive**

**(another name for whale  
vomit)**

*www.dictionary.com*

*BBC World Service, "What's in a cigarette"*

# Tobacco Companies also use THESE additives!

Beet Juice  
Apricot Extract  
Chocolate  
Basil Oil  
Cinnamon Leaf Oil & Bark  
Coconut Oil  
Dandelion Root  
Honey  
Dill Seed  
Lavender Oil  
Lemongrass Oil  
Grape Juice  
Menthol

Ammonia  
Benzyl Alcohol  
Benzyl Benzoate  
Ethyl Acetate  
Isoamyl Acetate

## BENZYL ALCOHOL

(a clear, colorless liquid with a mild pleasant aromatic odor)

~used as a preservative and is the active ingredient in head lice treatment and is a solvent. It is also known to be a neurotoxin.

## ETHYL ACETATE

(a clear, colorless, flammable liquid with a pleasant fruity odor)

~In animals it is a respiratory tract irritant.

## ISOAMYL ACETATE

(a clear, colorless liquid with a banana like odor)

~short time exposure of 100 to 300 parts per million causes irritation of the eyes, nose and throat. In animals it is an irritant of the eyes and mucous membranes.

**OSHA**

## BENZYL BENZOATE

~used to treat lice and scabies infestations, and is believed to be absorbed by the lice and mites and to destroy them by acting on their nervous systems.

# AMMONIA

Is added to cigarettes to aid in the “free-base effect”, nicotine exists in two forms acid and base, ammonia helps nicotine convert to the base form.

The base form can vaporize more easily from the smoke particles into the gas phase, enabling it to deposit directly on the lung tissue and immediately diffuse throughout the body. (Channing Robertson, a Stanford University professor of chemical engineering)

**Robertson, a Stanford University professor of Chemical Engineering states;**

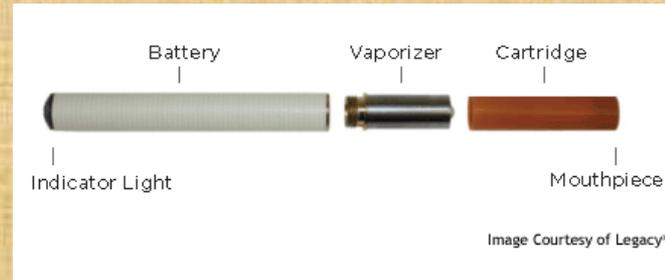
**“Ammonia increases the nicotine potency of cigarettes by increasing the amount of nicotine contained in the vapor smokers inhale.”**

**“Tobacco Under Attack” CNN 1998**

**“By 1989, documents showed that tobacco companies were using more than 10 million pounds of ammonia compounds each year,”  
Robertson said.**

**“Tobacco Under Attack” CNN 1998**

# Electronic Cigarettes & Hookahs



- ❑ Cartridges come in a large array of flavors
  - ❑ Food, fruit, liqueur, etc.
- ❑ Nicotine strengths vary from 0 to 24 mg
  - ❑ Ranges from placebo effect to smoking multiple traditional cigarettes at once
- ❑ Fatal dose of nicotine:
  - ❑ Adults 30-60 mg
  - ❑ Children 10 mg



**“Its illegal for e-cigarettes to be marketed as a smoking cessation aid. A [U.S. District Court of Appeals] judge said if they make medical claims, like the product helps people quit smoking, they’d need to go through a formal FDA process.”**

**Dr. Tim McAfee,**

**CDC’s director of the Office on Smoking and Health**

# Electronic Cigarettes

- Vendors claim electronic cigarettes are cessation devices, however there is no scientific research to support these claims
  
- Electronic cigarettes are becoming popular with youth nation wide
  - from 2011 to 2012 the number of teens who have tried electronic cigarettes doubled
  - In 2012 1.78 million middle and high school students reported trying electronic cigarettes

# Electronic Cigarettes

## Facts:

- ❑ In Nebraska electronic cigarettes are not banned by the Smoke-Free Air Law because they are not lit or burning
- ❑ There is currently no minimum purchase age for buying electronic cigarettes
- ❑ The contents of cartridges are not regulated by the FDA
- ❑ The effects of second hand vapor are not yet known
- ❑ Electronic cigarettes are not the only delivery device for vaping



## Contact Information



Sandy Yager  
Prevention Coordinator  
Tobacco Free Hall County  
219 W. 2<sup>nd</sup> St.  
Grand Island, NE 68801  
(308) 385-5520  
sandy@kdsi.net

Find us on the web:

[www.tfhc.net](http://www.tfhc.net)

[facebook](#)

[twitter](#)

[YouTube](#)

# References

- [www.worldshealthiestfoods.org](http://www.worldshealthiestfoods.org). Accessed: 10/26/11
- [www.ehow.org](http://www.ehow.org). Accessed: 10/26/11
- Margaret I. Yonekura M.D. , California Hospital Medical center in Los Angeles, Spit This! The Hazards of Smokeless Tobacco, 2009.
- [www.sciencedaily.com](http://www.sciencedaily.com) Accessed: July 2010.
- [www.merriam-webster.com/dictionary](http://www.merriam-webster.com/dictionary) Accessed: July 2010; September 2011.
- “Tobacco Under Attack”, [www.cnn.com/US/9802/04/minnesota.tobacco/](http://www.cnn.com/US/9802/04/minnesota.tobacco/) Accessed: September 2011
- National Institute on Drug Abuse, “Tobacco Addiction”, Nora D. Volkow, M.D. 2009.
- NIH Public Access, “Nicotine Addiction”, Neal L. Benowitz, M.D.  
[www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov). Accessed: 11/03/11
- Nebraska Training on Substance Abuse Prevention, “The Brain and Drugs”.
- Richard Fitch, M.D., Director of Addiction Medicine, Valley Hope.
- Siteman Cancer Center. More than Half of Cancer is Preventable Now. 28 March 2012. 3 April 2012 <<http://www.cancernewsincontext.org/>>.
- Occupational Safety and Health Administration (OSHA)
- [http://dhhs.ne.gov/publichealth/Pages/tfn\\_arr\\_tfncig.aspx](http://dhhs.ne.gov/publichealth/Pages/tfn_arr_tfncig.aspx) Accessed: Feb. 19, 2014