

# ESU 009– Scopes of nutraceuticals & functional foods

## Lecture 3



# Areas covered by Nutraceuticals

All therapeutic areas such as,

1. **Anti- Arthritic**
2. **Sleeping disorders**
3. **Digestion problems**
4. **Prevention of certain cancers (Colorectal cancer)**
5. **Osteoporosis**
6. **Blood pressure**
7. **Cholesterol lowering (garlic)**
8. **Neurological disorders (Autism)**
9. **Diabetes etc..**



# SCOPE OF NUTRACEUTICALS

<b>Disease</b>	<b>Nutraceuticals</b>	<b>Source</b>
<b>1) Joint health</b>	Glucosamine  Chondroitin	Found in ligaments ,cartilages ,tissue, tendons  Proteoglycans of articular cartilage
<b>2) Cardiovascular health</b>	Co Q-10  Melatonin  DHA	Soyabean ,olive oil  Bone marrow ,pineal glands  Fish oil
	Reseveratrol  Caretonoids  Catechin	Grapes, red wine  Carrot ,sweet potato  Tea extracts

<b>Disease</b>	<b>Nutraceuticals</b>	<b>Scope</b>
<b>3) Eye health</b>	DHA	Linseed (flax oil), fish oil
	Pycnogeal	Barley
	Lutein	Spinach
	Carotenoids	Carrot ,sweet potatoes
<b>4) Cancer prevention</b>	DHA	Flax seed, linseed, fish oil.
	Resveratrol	Red wine, grapes
	Lycopene	Tomatoes ,grape fruit
	Tea extracts (ellagic acid)	Strawberry ,Raspberry

# VARIOUS PHYTOCHEMICALS

<b>Phytochemicals</b>	<b>Source</b>	<b>Role</b>
Tocotrienols & tocopherols	Grains	<b>Suppressed the growth of diverse tumors cell</b>
Carotenoids	Fruits & vegetables	Antioxidants, protects against prostate, colorectal, lung and digestive tract cancers

Limonoids	Citrus fruits	Provide protection to lung tissue.
Phytosterols	Various plants	Exhibit anti-inflammatory, decrease cholesterol.
Phenolic constituents	Various plants, wholegrain	Antioxidants, lowers the risk of CHD, diabetes, hypertension etc.

Flavonoids	Grapes, wines	Action against free radicals, free radicals mediated cellular signaling, inflammation, allergies
Catechin & gallic acids	Grapes, berries, cocoa, green tea,	Antioxidants, free radical scavenging ability.
Isoflavonoids	Soybeans	Treating cancers & osteoporosis

Anthocyanidins	Fruits & flowers	<b>Antioxidants &amp; anti-mutagenic</b> properties
Glucosinolates	Cruciferous	Activators of <b>liver, detoxification enzymes</b>
Fiber	Various vegetables, fruits,	Protects against <b>colorectal</b> diseases,



# FRUITS

FRUITS	BODY BENEFITS
1) Apples	High fibre diets can lower high disease risk.
2) Apricots	A good source of beta carotene(which is converted to vit-A by the body)
3) Bananas	They are the great source of potassium ,which plays great role in heart and muscles function
4) Cherries	Heart protective anthocyanins are present and also gives colour
5) Papayas	Loaded with vit-C with b-carotene and calcium

# VEGETABLES

VEGETABLES	BODY BENEFITS
1)Broccoli	This food is loaded with <b>sulphoraphane</b> ,consisting 72 mg of calcium,78 mg of folic acid and vitamin C
2)Cabbage	The indoles in a cabbage makes it a <b>cancer fighter.</b>
3)Carrots	A stellar source of beta-carotene.one carrot contains twice unit of vit-A.
4)Tomatoes	Technically consider as a fruit loaded with cancer fighting lycopene and a great source of vit-A.

# Thank you

Mr. Rahul Thory  
School of Bioengineering and Food Technology  
Shoolini University  
Village Bajhol, Solan (H.P)

+91 9466266628(Mob No.)  
[rahul.560@shooliniuniversity.com](mailto:rahul.560@shooliniuniversity.com)