



## Effects of Pyroligneous Acid on Plants

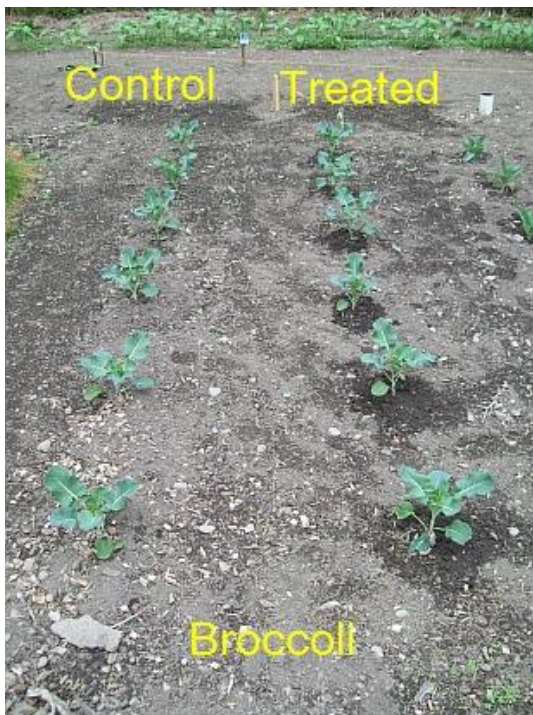
### Acid on Plants Polly Psychic ©2012

Preliminary Assessment: Due to a few reports in the literature that pyroligneous acid has an effect on plant growth; this supposed effect was investigated during the spring/summer 2009.

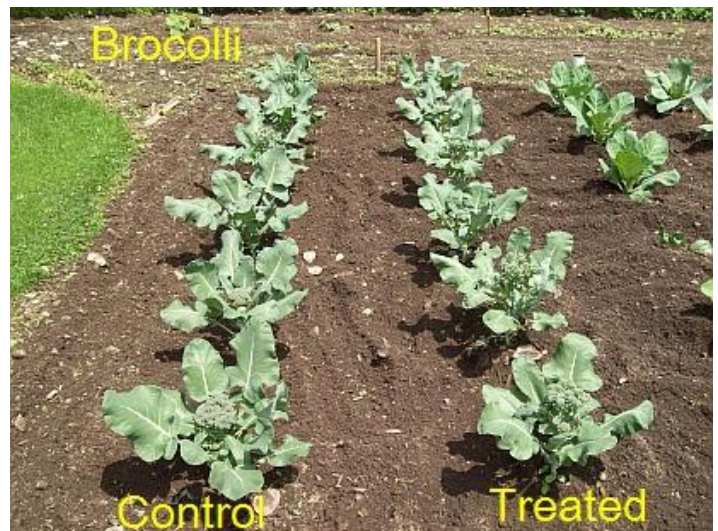
The effect of boiled pyroligneous acid was first noted in 2004 when an attempt was made to kill a rogue dandelion plant. Although covered in tar, instead of killing the plant, it grew larger with a leaf spread of about 24 inches.

The purpose of the experiment is merely to determine the effect of Pyroligneous acid on plant growth if any, not to quantify any effects.

Pyroligneous acid was mixed at a ratio of 5 ml. per 1000ml well water (1: 200) and was applied to the leaves of plants (foliar feeding- thoroughly wetted) at weekly intervals or until weather or other conditions (overgrowth) prevented application.



Broccoli plants on 06-11-2009.  
Treated plants are larger.



06-26-2009 Control plants are larger.  
Heads harvested following week.



Cabbage plants 06-11-2009.  
Treated plants are larger.



Cabbage plants 06-29-2009. Control





Typical control cabbage. Heads weigh 5-7 lbs.



Typical treated cabbage. Heads weigh 2-3 lbs.



Treated coneflower is taller than controls due to increased stem growth. Treated petunias in foreground tend to grow upright as compared to controls in background.

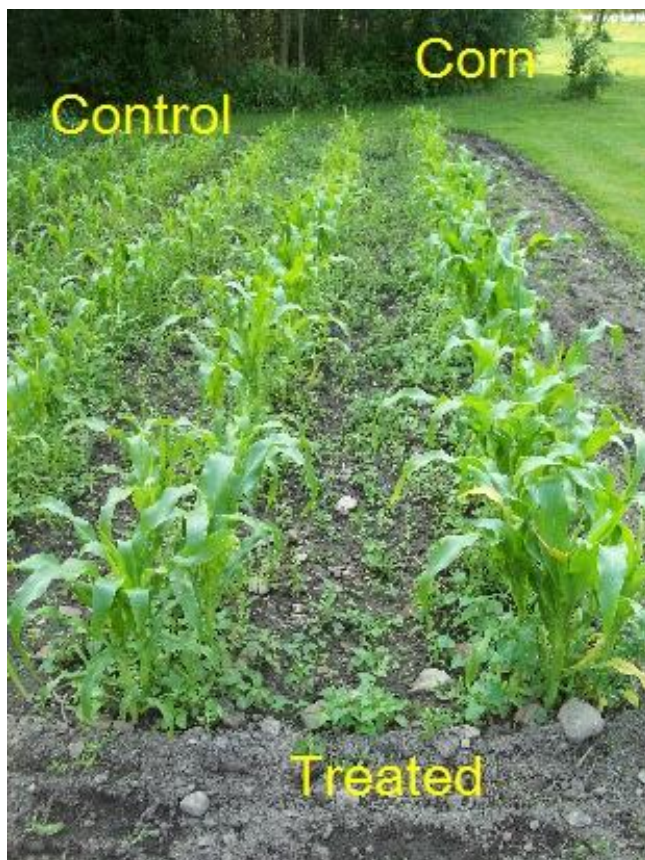




Control coneflower before petal droop.  
Flowers approximately 2 1/2 - 3



Treated coneflower before petal droop.  
Flowers approximately 3 1/2 - 4 inches.



Type to enter text Two rows of treated  
sweet corn are larger than the three rows  
of controls.



Center row of cucumbers which were  
treated are further ahead of the control





Male pumpkin flower (control).



Male pumpkin flower (treated).



Control petunia. Usually grows 4 – 6 inches tall before becoming a spreading ground plant.



Treated petunias grow 12 – 16 inches upright before becoming top-heavy.



Control pumpkin plants 06-11-2009.





Treated pumpkin plants on 06-11-2009. Noticeable differences are leaf shape and leaf stem length. Same variety.



Pumpkin plants on 07-20-2009. Treated plants have longer vines.

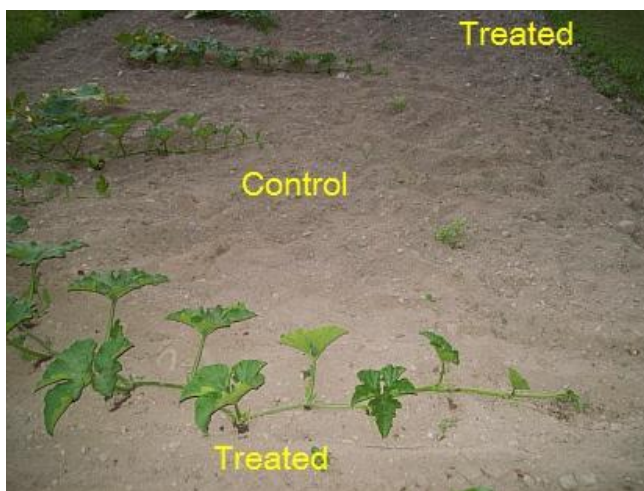


Pumpkins on 07-11-2009. Control pumpkins are more compact plants and sooner blooming as compared to the treated pumpkins which have longer vines.



Pumpkin plants on 07-16-2009. Treated plants have longer vine length between leaf nodes.





Pumpkin plants on 07-20-2009. Treated plants have longer vines.



Treated plants grow ten to twelve feet tall but become top-heavy and fall over from the weight.



Another twelve foot sunflower plant. Flower heads measure about 16 inches across.





Wood creosote (acidic) is soluble in alkali forming a thick red-brown mixture. Creosote was dissolved in sodium hydroxide solution until it was neutral. This took several weeks. Despite the anti-fungal, anti-bacterial, general antiseptic properties attributed to creosote, it does seem to support some form of mould growth! Creosote left in a damp environment will also develop a soft green-gray mould.

## Conclusions and Comments

Pyroligneous acid does seem to contain some form of plant growth hormone. This could be an auxin. Most noticeable effects are increase of stem length and flower size even at low concentrations.

Foliar feeding appears to be more applicable on young plants and is difficult to apply to taller growing varieties. Foliar feeding does not work well on plants with waxy leaves like cabbage, broccoli, garlic and onions.

Pyroligneous acid tends to stunt the growth of cabbage and broccoli. It promotes growth in all other plants tried (including potatoes, tomatoes, ornamental corn, and peppers).

Pyroligneous acid does keep the population down of squash beetles but has a minimal effect on the Colorado potato beetle.