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Promotion of CO_2 Assimilation Supposed by NOx is Best Way to Protect Global Warming

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Abstract

The earth is warmed up by CO_2 and heart produced by burning of fossil fuel. Fix of CO_2 and absorption of heart by CO_2 assimilation supported by NOx is best way to protect global warming. To promote CO_2 assimilation, supply of nutrient N is critically important. I wish to insist that NOx elimination should be stopped. Because toxicity of NOx is not so serious compared with significant merit of NOx. NOx is essential for plant to grow and produce food. By stopping of NOx elimination procedures, protection of global warming, production of food, increase of CO_2 fix will be accomplished.

Keywords: NOx; Carbon dioxide; thunder; CO_2 assimilation; global warming; anti-aging food; CO_2 balance

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Introduction

The earth is warmed by the fossil fuel burning releasing CO_2 and heat. The plant is growing by CO_2 assimilation absorbing CO_2 producing carbohydrate and O_2. If we can compensate the generation of CO_2 and heart with the absorption of CO_2 and heart by CO_2 Assimilation, global warming can be protected[1-6].

CO_2 Assimilation

CO_2 assimilation produces carbohydrate (glucose) and oxygen absorbing heart 114 kcal.

Assimilation

$$CO_2 + H_2O + 114\ kcal \xrightarrow{Assimilation} 1/6\ C_6H_{12}O_6 + O_2$$

$$CO_2 + H_2O \xleftarrow{Burning} Fossil\ fuel + O_2$$

Burning

To increase the absorption of CO_2 and heat by CO_2 assimilation, we must increase the concentration of nutrient N, and nutrient phosphorous P. Plankton photosynthesis are studied by many investigators[7-25]. These studies including 18 consecutive nature articles[8-25] indicate that CO_2 assimilation is playing very important role for the regulation of climate. Supply of nutrients is important factor for the promotion of CO_2 assimilation. When fossil fuel burned, much NOx is produced. This NOx is major source of nutrient N. If we use produced NOx for the promotion of CO_2 assimilation, protection of global warming can be accomplished.

NOx elimination procedure should be stopped

NOx is playing most important role for the promotion of CO_2 assimilation. But NOx is hated as pollution gas causing illness and acidic rain. Many governments set up very strict law to eliminate all NOx in burned gas and forced to eliminate NOx using ammonia.

$$4\ NO + 4\ NH_3 + O_2 \longrightarrow 4\ N_2 + 6\ H_2O$$

In this paper I wish to explain that NOx is critically important compound and elimination process should be eliminated to protect global warming.

I wish to insist that NOx elimination should be stopped. Because toxicity of NOx is not so serious compared with significant merit of NOx. NOx is essential for plant to grow and produce food. NOx is essential for the promotion of CO_2 assimilation and essential for the production of foods for the promotion of health and for the protection of global warming as shown by nature. Nature is producing huge amount NOx by thunder.

NOx elimination procedures are amplifying global warming by three ways.
1. CO_2 assimilation and the growth of plant are retarded
2. Elimination procedure uses much precious fossil fuel to prepare ammonia.
3. Elimination process produces much CO_2.
Therefore NOx elimination law should be eliminated.

By stopping of NOx elimination we can get 6 advantages
1. Increase of CO_2 fixing, heat absorption
2. Decrease of fuel consumption
3. Decrease of CO_2 generation, heat generation
4. Cost down of electricity price.
5. Increase of fish production
6. Promotion of anti-aging life

Toxicity of NOx

No report as to the serious sick and dead person caused by NOx is reported.

NOx is released at no person district such as sea side far from house. NOx do not give serious damage to persons. NOx is essential for the growth of plant and essential for the production of food and essential for all living biology. Therefore NOx elimination procedure and NOx elimination law should be eliminated.

NOx is a precious gift from nature

Nature has systems to change N_2 to nutrient nitrogen. By thunder, the high temperature at fire place for cooking, warming up of room by burning of wood, by forest fire, by forest burning, by bonfire, and also burning of fossil fuel, NOx is produced.

The earth was born and plant appeared. And plant eats CO_2, H_2O and nutrient N, P and plant is burned then NOx is produced to recover lost plant. When no burning material present, like sea district, thunder storm make NOx.

NOx is a precious gift from nature. We should not against nature. We should not eliminate NOx. We should use NOx as it is. In 2015 fossil 1.4 million tones was burned and CO_2 4.4 million tones and NOx 2.4 million tones are produced. As C/N ratio[26,27] of plant is around 5/1 - 50/1 (average 25/1). Plankton is growing by eating CO_2 and nutrient N and P by the ratio of C/N /P = 56/15/1. This ratio indicates that much nutrient N and P is necessary for the growth of plant and plankton.

NOx promote wood and food production

In 1 liter rain water, 0.8 mg ammonium ion and 0.44 mg nitric acid nitrogen, total 1.2 mg of nitrogen is contained in 1970. As 1200 mm water fall in one year, 120 liter of rain fall in 1 m^2 in Japan, 15 kg nitrogen in 1 hectare area are given as fertilizer to all area irrespective to wood, field or sea. NOx is produced by thunder. Old agriculture such as rice production was carried out without synthetic fertilizer using this natural fertilizer NOx. In Japan, 2.8 x 10^8 hector woods is present. 13.7 tones CO_2 is fixed at 1 hector wood in one year. 2.8 x 10^8 x 13.7 = 3.4 x 10^8 tone CO_2 can be fixed. Tree grew this amount.

Thunder produce NOx and NOx produce yellowtail (buri) and rice

Thunder produce NOx from N_2 and O_2[28-38]. About 4 million thunder in one day and about 30 x 10^6 t NOx is produced by thunder in one year and about 20 - 80% of NOx is produced by thunder in the world. Ott et al[39] estimated that each flash of lightning on average in the turned 7 kg of NOx. With 1.4 billion lightning flashes per year multiplied by 7 kg per lightning per year is 8.6 million tones. NOx emission resulted from fossil fuel combustion are estimated at 28.5 million tone [40]. Old agriculture such as rice production in Japan was carried out using NOx. Old proverb says that many thunderstorm years gives good rice harvest. One thunder lightning give one inch growth of rice. Thunder lightning is written as Inazuma, Ine (rice) tsuma (wife). Because thunder is so precious and essential like rice and wife. Kaminari (thunder) in Japanese character is written Ame (rain) on the top of Ta (rice field). Heavy snow falling (3 meter) district and many thunder district Minami Uonuma is famous for the production of most delicious rice Minamiuonuma koshihikari. Gulf Toyama (Toyamawan) and surrounding sea are rich in nutrient N from thunder produced NOx and filled with plankton produce many fish like Yellowtail (Buri) and Crab (Kani). Therefore thunder is called as Buriokoshi (yellow tail producer) in Japan.

On the contrary, at Set to inland sea (sea between Shikuku and Chugoku in Japan) district, especially east part of Set to inland sea between Okayama and Kagawa Prefecture, fewest rain fall district in Japan, thunder is very rare, once in 5 years. Therefore no NOx is produced by thunder at this district. Fish industry and Nori (sea weed to make Makizushi containing 30% protein) manufacture of this district were destroyed completely since the supply of NOx was stopped by NOx elimination law. These facts indicate that NOx is playing very important role for the growth of plant, production of foods and protection of global warming.

CO_2, NOx and heat balance in the world

Fossil fuel 1.4 x 10^{10} tones was burned at whole world in 2015 and about 4.4 x 10^{10} tones CO_2 and 7.4 x 10^{15} k cal were produced and 2.5 x 10^9 tones NOx is produced. If we use this 2.5 x 10^9 tones NOx for CO_2 assimilation, we can fix CO_2 50 x 10^9 tones (25 x 2.5 x 10^9). The amount of NOx produced is around 2.5 x 10^9 tones in whole world. To eliminate NOx 2.5 x 10^9 tones, equimolar ammonia 11.3 billion ton is used. To make ammonia 11.3 billion tones, 2 billion tones hydrogen gas i.e. used. To make 2 billion tones hydrogen, butane 6.4 billion tone is used. As the result, 17.6 billion tones CO_2 is released. If NOx elimination is stopped, 17.6 billion tones CO_2 release can be stopped. And 17.6 x 25 = 440 billion tones CO_2 can be fixed.

CO_2, NOx and heat balance in Japan

Fossil fuel 1.4 x 10^{10} tones was burned at Japan in 2015 and about 4.4 x 10^{10} tone CO_2 and 7.4 x 10^{13} kcal were produced and 2 x 10^6 tone NOx is produced.

In Japan, 2.8 x 10^8 hector woods are present. 13.7 tones CO_2 is fixed 1 hector wood in one year. 2.8 x 10^8 x 13.7 = 3.8 0 x 10^9 tones CO_2 can be fixed at wood. In Japan, 4.5 x 10^7 hector cultivated land is present. 14.7 tone CO_2 is fixed at 1 hector in one year. 4.5 x 10^7 x 14.7 = 6.3 x 10^8 tones CO_2 can be fixed in one year at cultivated land. Therefore 3.8 x 10^9 + 6.3 x 10^8 = 4.4 x 10^9 tones CO_2 is fixed land. This is far from production of CO_2. Therefore we must promote CO_2 assimilation by the supply of nutrient N, NOx.

In Japan, 2 x 10^6 tones NOx is produced. If we use this 2 x 10^6 tones NOx for CO_2 assimilation, we can fix CO_2 50 x 10^6 tone (25 x 2 x 10^6). In Japan 0.64 million tone butane is used for the elimination of NOx. If we stop the elimination procedure, we can save the production of 1.76 millions tones CO_2. In Japan 0.64 million CO_2 is produced for the burning of garbage at high burning incinerator. If we stop the use of this incinerator, we can save the generation of 0.64 million tones CO_2. In Japan about 60 million tone fossil is used for the generation of electrify for purification of drainage. If we stop the elimination of nutrient N, P of drainage, we can save the release of 150 million tones CO2. These methods are not enough, 4.4 x 10^{10} - 4.4 x 10^9 = 4.x 10^{10} CO_2 is still remain. This CO_2 must be fixed at sea. The promotion of CO_2 assimilation by increase of nutrient N and P is essential. Area of Seto inland sea (sea between Shikoku and Chugoku in Japan) is 47000 km^2. If we can get assimilation efficiency by the addition of nutrient N, P as rice field, 1.47t x 47 x 10^5 = 69 x 10^6 t CO_2 can be absorbed, and 114 x 47 x 10^6 = 5.3 x 10^{10} kcal heat will be absorbed. If we extend sea area to all Japan sea area, we can fix 30 times more CO_2 2.1 x 10^8 tones.

Elimination of NOx , nutrient N and P resulted in the retardation of CO_2 assimilation

Seto inland sea (Sea between Shikoku and Chugoku in Japan) Fish industry was glorious proving much fish and. Nori (sea weed to make Norimakisushi) in 1970. Many petrochemical combines, and iron factories, power plants were built around this sea. Much CO_2 and NOx were produced at this district. Japan government established Environment Ministry. This ministry established very strict laws to inhibit the release of NOx and nutrient phosphorous.

These laws stopped the CO_2 assimilation at Seto inland sea. About 60 persons were engaged in Nori (sea weed to make Sushi, Onigiri, Norimaki contain 30% protein) culture at Hojo, Ehime, prefecture, Japan at 1978. But since Nitrogen elimination Law for air and drainage, every person stopped Nori culture 1983 at this district. 90% of Nori is produced at Seto inland sea in 1973. But now production at Seto inland sea dropped to 10%.

In Japan, by insufficient supply of nutrient N by NOx elimination law, fish industry suffered critical damage at Kuroshio (poor nutrient N.P) running sea especially at Seto inland Sea district.

Bream (tai), Octopus (tako), Sea eel (anago) and weed (nori) decreased to 0%. Many fisherman lost job. Fish price increased five times and fish became much expensive than meat now. We Japanese can alive longest by eating fish as main protein source. But now we cannot buy fish easily. Japanese may lose long life record. Men 80.50 (third), women 86.63(top).

Fish is a best anti-aging food

People are looking for materials effective for anti-ageing and long life for many years.

Dr Nabeshima found anti aging gene named Klotho. The mouse having this anti aging gene can alive 30% longer. Klotho can keep homeostasis and keep health and give long life. Dr. Nabeshima also found that Klotho was co-working with di-saccharide having mass 843.28 Th-His-Gln-O-D-3- sulso-glucronosyl-glucopyranoside. The author synthesized 5 disaccharides, anti-aging reagents, having similar structure from known structure compound. Disaccharides are sulfo-glucuronosyl(1-3) glucoside, sulfo-glucronosyl(1-3) galactoside[41-44]. Old proverb says "Keep umbilical cord (connecting tubes between placenta of mother and unborn-baby for the supply of nutrition) in the chest drawer. When get incurable sick, boil it for long time and drink the boiled water". Hyaluronic acid is a main constitutional substance of naval string, an umbilical cord. Hyaluronic acid, glucosamine, chondroitin are precursor of anti-aging reagents and now used as health food by many persons in Japan.

Suntory sold 19 million bottles of glucosamine and chondroitin as nutrition supporting food. Setagaya shizenshokuhin sold 200 million bags of glucosamine, hyaluronic acid and chondroitin as health food for 11 years. Taisho seiyaku are selling glucosamine and chondroitin. Average life in Japan: male is 80.50 (third), female is 86.83 (top in the world). The author believe that long life of Japanese come from the habit to eat fish containing glucosamin, hyaluronic acid and chondroitin as a main protein source . For good health, anti-ageing and long live, I advise you to eat fish, if possible, whole body of fish if you wish to live longer[41-47], Hyaluronic acid is found in the highest concentrations in fluids in the eyes and joints.

Electricity generation by solar cell system

Construction of solar mega system by the sacrifice of wood is not clever way. 1 hector wood can absorb heart 3.8 x 10^6 kcal and can fix 13.7 tones CO_2 i. Heart absorption efficiency of solar system cell is 1/3 of green leaf of tree. Solar system cell cannot fix CO_2. For the preparation of solar cell material, much fossil fuel is necessary generating almost same amount of CO_2 in compared with the generation of CO_2 and electricity by burning of fossil fuel. Therefore I think construction of solar mega system by the sacrifice of wood should be stopped.

Electricity generation should be done by coal

Japan government asking electricity generation by oil and natural gas than coal, because coal generates more CO_2 than oil. But I think coal is better for the generation of electricity. Because the difference of CO_2 generation by both fuels is not much CO_2 increase can be saved by the decrease of CO_2 emission by stopping NOx elimination procedure. When we compare buried amount, coal (132 years) is 3 times as much as oil (42 years) and natural gas (60 years). We can manufacture many kind of chemical and plastic from oil. Oil is more convenient as transportation fuels. Therefore oil and natural gas are 3 times more precious than coal. Price of coal is 1/3 of oil. Therefore we can generate electricity by coal at low price. The price of electricity is very important for the competition of productive industry. We can enjoy our civilized life longer by saving the consumption of oil and natural gas.

Conclusion

Promotion of CO_2 assimilation supposed by NOx is best way to protect global warming. NOx elimination in burned gas should be stopped. NOx is playing very important role for the growth of plant and CO_2 assimilation. Protection of global warming and production of food and wood are possible by effective use of NOx.

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