

THE ENVIRONMENTAL CONSEQUENCES OF DEFORESTATION IN INDONESIA AND  
MALAYSIA FOR PALM OIL PLANTATIONS: A PRESENTATION BOARD FOR THE USE  
BY REID PARK ZOO TO EDUCATE THE PUBLIC ON ORANGUTAN CONSERVATION

By

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## Abstract

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The following thesis is a presentation board made for the use by Reid Park Zoo to educate the public on the deforestation of the rainforests of Indonesia and Malaysia for the purpose of establishing palm oil plantations, and its negative impact on the conservation of orangutans and other critically endangered species. Volunteers at the Reid Park Zoo will be able to take the display board on grounds and educate the public on ways in which they can limit their purchasing of products containing palm oil. The following text will be used as an aid to help educate the zoo's volunteers initially, and then can be taken out on grounds to assist them as well.

# SAVE OUR HOME AVOID PALM OIL!

### What is palm oil?

Palm oil is a vegetable oil made from the seeds of the African Oil Palm tree (*Elaeis guineensis*).

93.5% of palm oil is composed of Palmitic Acid. This acid gets its name from the African Oil Palm.

Palm oil is not very healthy! It contains 47% saturated fat. This means that it adds fat to your diet, increases the chance of heart disease, and increases the risk of obesity.

### Problems with palm oil?

#### Environmental

Indonesia and Malaysia are some of the largest producers of palm oil in the world. The palm tree has a high rate of deforestation in the past few decades. In 2008, Indonesia alone reported 44 billion lbs. of oil in 2008. Malaysia reported 4.4 billion lbs. in 2008.

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Atmospheric

Deforestation releases a large amount of carbon into the atmosphere. This is because the trees that were cut down were storing carbon. When they are cut down, the carbon is released into the atmosphere.

### Where does it come from?

The African Oil Palm grows best in warm and wet climates, especially those that experience the equatorial South East Asia.

The countries of Indonesia and Malaysia supply 90% of the world's supply of palm oil.

In 2008, Indonesia alone reported 44 billion lbs. of oil in 2008. Malaysia reported 4.4 billion lbs. in 2008.

Human Rights

Palm oil plantations often displace the local people of the area without warning or compensation. The displacement of the villagers leaves the villagers with little choice but to work for the plantation, usually with long hours and no benefits.

Consider purchasing products that have the GreenPalm label. This means that they are produced using responsibly grown palm oil. The Roundtable on Sustainable Palm Oil (RSPO) is a coalition of industry leaders and environmental groups that have developed these standards for palm oil production with limited negative impact on the environment. Although these standards are not yet perfect, they are a step in the right direction.

### How is it used?

Palm oil can be found in approximately 40% of processed foods in much of the developed world (USA, Canada, England, and Australia).

Palm oil is extremely popular because of its high crop yield and profitability.

Palm oil plantations require 10 times less space for the same amount of oil compared to other varieties.

From processed in pre-packaged foods such as burgers, pizzas, pastas, cereals, and much more.

Algebra Products used in many foods, detergents, shampoos, and makeup.

### How can you help?

Check to see if the products you buy contain palm oil.

The current laws don't require the nutrition label to explicitly state that palm oil is used, and might have a slightly different name such as palmitic, palmitoleic, palmoleic acid, etc.

If palm oil is included in the products you like to purchase, write to the company and explain to them that this issue is important to you as a consumer. If that fails, consider purchasing a palm oil free alternative.

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### **What is palm oil?**

- Vegetable oil made from the mesocarp of the palm fruit
  - Most commonly made from the fruit of *Elaeis guineensis*, the African Oil Palm Tree
  - Also sometimes use *Elaeis oleifera* (the American oil palm) and *Attalea maripa* (the South American maripa palm)
- Unprocessed oil red in color due to beta-carotenes
- 41% saturated fat
  - Solid but soft and spreadable at room temperature
  - 43.5% palmitic acid (16 carbon saturated fat)
  - 36.6% oleic acid (18 carbon saturated fat)

### **Where does palm oil come from?**

- Warm and wet environments: tropical rainforests
  - 10 degrees north/south of the equator
- Indonesia and Malaysia
  - 2011 - 90% of global market from these two countries

### **How is palm oil used?**

- Cooking oil in developing countries across Africa and Southeast Asia
- Food Industry
  - Baked goods, confectionary
  - Butter and margarine substitutes
- Cosmetics
  - Soaps, shampoo, detergents
- Biofuel
  - Mixed with other vegetable oils and fuels to form palm oil biodiesel

### **Why is it so popular?**

- Very cheap to grow and produce
  - Palm oil can be harvested 12 months a year
  - Palm oil requires 10 times less land than other vegetable oil crops
- High saturation (solid at room temperature)
- Found in 40-50% of household products in the USA, Canada, England, and Australia

### **How much palm oil is being grown and used?**

- Worldwide Exports
  - 1962 - 500,000 tonnes
  - 1982 - 2,400,000 tonnes
  - 2008 - 48,000,000 tonnes
  - 2011 - 54,000,000 tonnes

- 2050 – expected to be 240,000,000 tonnes
- Indonesia
  - Largest producer of palm oil
  - 2011 - 35,000 square miles of land used for palm oil production
    - Approximate size of the state of Maine
  - 2006 – 20,900,000 tonnes
  - Production expected to double by 2020
- Malaysia
  - Second largest producer of palm oil
  - 2012 – 18,790,000 tonnes
  - 19,000 square miles of farm land

### **What are the problems with palm oil?**

- Environmental
  - Deforestation to clear space for crops
    - Area the size of 300 football fields of rainforest is cleared every hour for palm oil production
    - Destroys natural habitat for an estimated 300,000 species of animals
    - 1/3 of mammal species in Indonesia are considered to be critically endangered
    - Roads built through rainforests make it easier for poachers to reach animals, instead of having to trek through jungle
    - Pushing orangutans to the edge of extinction
      - Orangutan – potential extinction in the wild in 5-10 years
        - The orangutan is a keystone species which contributes to the wellbeing of the entire ecosystem
        - 90% of orangutan habitats have been destroyed in the last 20 years
        - 50,000 orangutans killed in the last two decades
        - 1000-5000 orangutans are killed every years
        - 2006 - 1500 orangutans were clubbed to death by plantation workers
        - Baby orangutans are often taken by poachers and villagers to become entertainment attractions
    - Other animals endangered
      - Sumatran Tiger – wild extinction in 3 years
      - Sumatran rhinoceros
      - Sun Bear
      - Pygmy Elephant
      - Clouded Leopard
      - Proboscis Monkey
- Atmospheric
  - Deforestation produces large amount of CO<sub>2</sub> emission
    - Burning trees to clear land released large amount of smoke

- Rainforest deforestation is responsible for 18% of the world's carbon emissions annually
    - Most of the cleared rain forests sit on peat bogs, which are carbon sinks
    - Indonesia has become the third largest producer of CO<sub>2</sub> emissions
  - Human Rights
    - Displace native populations for farm lands
    - Locals left with no choice but to work for the palm oil companies
    - Cruel working conditions with low wages and long days
    - Child labor often unpaid
    - Wilmar, the world's leading palm oil producing company is involved in over 100 human rights lawsuits in Indonesia alone

### **What to look for on the label?**

- Palm oil can be listed on labels using different terms
- Possible names on labels:
  - Palm oil, Palmate, Palmitate, Palmitic Acid, etc.

### **How can you tell if your product is made with sustainable palm oil?**

- Roundtable on Sustainable Palm Oil (RSPO)
  - Committee created in 2004 that established international standards for sustainable palm oil cultivation
  - Includes growers of palm oil, companies who purchase palm oil, and environmental groups
  - Approved products can carry the **Certified Sustainable Palm Oil** distinction
  - Still has a way to go, since there is little incentive for companies to purchase sustainable palm oil due to its higher cost
  - 12% of palm oil is grown sustainable. Only 6% carries the RSPO certification
- GreenPalm
  - Label that can be placed on products when the company has met the RSPO standards for the palm oil they purchase

### **What can you do to help?**

- Educate others about the issue surrounding palm oil
- Contact your local government representatives and let them know this is an issue that you care about
  - Ask for better labeling of foods for palm oil
- Stop buying products that contain palm oil
  - Inform the companies why you have stopped buying their product, so they understand that their use of palm oil is important to consumers
  - If you need to purchase products containing palm oil, try to find ones using sustainable palm oil

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