4 Questions to Answer Regarding Wheat

This information is taken from the book, ***Wheat Belly*** written by Milwaukee cardiologist, Dr. William Davis. Answering these 4 questions boils the book down to its essences and should give the reader plenty of motivation to stop eating wheat if they want optimum health and slow the aging process.

1. **How does Wheat Affect Your Risk of Getting Diabetes?**
2. **How does Wheat Affect Heart Health?** (This one is pretty technical)
3. **How does Wheat Affect Brain Health?**
4. **How does Wheat Affect Aging?**

1. **How does Wheat Affect Your Risk of Getting Diabetes?** *Chapter 7- Diabetes Nation: Wheat and Insulin Resistance. pgs. 95-115.*
   - Explain the ***Gliadin Effect***- appetite stimulant and poor intestinal permeability allowing undesirable foreign matter to enter blood stream via small intestinal villi that have lost their tight/selective junctions. (Look at picture with vocab word: Wheat Agglutinin)
   - P. 101- What are the implications for health budgets?-***22-39% of US adults are prediabetic***
   - Explosion of prediabetes caused by explosion of people who are overweight and obese
   - Explain how weight gain leads to insulin sensitivity with resulting visceral fat.
   - P. 102- 75 million US adults are obese (BMI 30+) Over 75 million are overweight. YIKES!
   - P. 102- Common advice is given from M.D.s- Exercise more, eat less fat, snack less and eat more healthy whole grains. (p.103). Explain why this is dead wrong advice.
   - P. 103- Average person will consume over 133 #s of wheat per year! =’s 200 loaves of bread
   - P. 103- Amount of $$ spent on obesity will dwarf $$ spent on Cancer. What’s your reaction?
   - Explain the 2 types of Diabetes- Type 1 & Type 2. Check for understanding.
     - **Type 1**= ***Insulin dependent***. Pancreas can’t make insulin producing Beta cells anymore and person needs insulin injections daily.
     - **Type 2**= ***Pancreas is still producing Beta cells***, but person’s cells are insulin resistant and pancreas is working overtime to keep up with the demand. Eventually wears out.
   - P. 103- Explain why the relationship of wheat consumption and diabetes is very strong
     - Vicious cycle of glucose- insulin reaching high levels dally provokes growth of visceral fat (wheat belly) =resistance to insulin, leads to higher levels of glucose & insulin.
   - P. 104- High blood sugar cycles cause **Glucotoxicity**=actual damage to pancreatic beta cells. The higher the blood sugar, the more beta cells die. They are never replaced! Discuss this.
   - P. 104- **Lipotoxicity** results when pancreatic beta cells are lost due to increased triglycerides and fatty acids from eating too many carbs. **Inflammation** also results from this. Discuss this.
   - P. 63- ***Visceral fat***=body’s means of storing excess energy produced by excess glucose. Accumulated visceral fat sends out inflammatory signals causing muscles, tissues, liver and other organs to respond less to insulin. This is called **Insulin Resistance**. Pancreas has to produce ever more insulin to metabolize the sugar/glucose. Eventually a vicious cycle of increased insulin production, followed by increased viscera fat, followed by increased insulin resistance, etc. Deadly! Type 2 diabetes is just around the corner. ***Main culprit=Wheat!***

2. **How Does Wheat Affect Heart Health?** *Chapter 10- My Particles are Bigger than Yours: Wheat and Heart Health. Pgs. 146-165 (Claudia's note: This is pretty technical. Do your best or ask group for help.)*
   - Typical blood tests will show levels of LDL, HDL, Triglycerides, and cholesterol. But that is not the best information you need about your body
   - P. 147- Explain what the author says about: high cholesterol, Large LDL, and Small LDL. **Explain why small LDL particles are worse for your heart than large LDL particles.**
   - P. 148 & 150- Explain the granddaddy of them all- VLDL and what it does to the production of LDL, small LDL, Triglycerides, and HDL. Why does this cause challenges for the heart?
   - P. 151- Explain why carbohydrates, especially wheat cause increased VLDL/Triglycerides that in turn trigger the formation of small LDL particles that cause atherosclerotic plaque.
   - P. 153- bottom of pg.- Explain how carbohydrates, which have virtually no triglycerides, stimulate insulin and flood the blood stream with triglycerides.
   - P.154- 2nd paragraph- Half of all calories consumed by adults come from carbohydrates. Explain what that does to the liver- NAFLD
   - P. 158- *Can 'Heart Healthy' cause Heart Disease*? Wheat is wheat, no matter where it comes from; the action on the body is the same. Have your group members take turns reading the paragraphs on pgs. 158-159 (middle of page) about this. Then discuss.

3. **How Does Wheat Affect Brain Health?** *Chapter 11- It's All in Your Head: Wheat & the Brain*
   - Pgs. 166-175
   - P. 166- What are Exorphins? How does wheat affect the tissue of the brain?
   - P. 167- Explain the term **Cerebellar Ataxia**. Have your group members take turns reading the 3 paragraphs on p. 167 about this. Then discuss briefly to check for understanding.
   - P. 168- 1st. par. **Problem**: (with Cerebellar Ataxia). Then go to p. 169 and read 2nd paragraph.
   - P. 168- bottom of pg. Explain what **Peripheral Neuropathy** is. P. 171- bottom of pg. explain loss of sensation and motor control in both legs. Continue to p. 172- top. Explain how peripheral neuropathy just gets worse until the wheat and gluten are removed.
   - P. 172- 2nd par. ***"For wheat- nothing is sacred."*** What does the author mean by that?
   - P. 173- 1st full par. Explain the Mayo Clinic study "***fatal dementia from wheat***." Seizures, too.
   - P. 174- 2nd par. "It's a sobering thought. . ." Read aloud to group.
   - P. 174-75 "***Is It Wheat or Is It Gluten***". Explain what the author means by this.
   - Wheat Brain will be next area to condemn wheat. ***Grain Brain*** is another book about this.

4. **How does Wheat Affect Aging?** *Chapter 9- Cataracts, Wrinkles, and Dowager's Humps: What and the Aging Process Pgs. 130-145*
   - P. 131- top of pg. Explain briefly why/how ***biological age does not = chronological age***
   - P. 133-last 2 paragraphs- Explain the term ***AGE (Advanced Glycation End Products)***
   - P. 134- Have your group members take turns reading the 4 paragraphs on pgs. 134-135 (top of page) about this. Then discuss.

How does Wheat Affect Aging? (cont'd) *Chapter 9- Cataracts, Wrinkles, and Dowager's Humps: What and the Aging Process Pgs. 130-145*

- Pgs. 136-37 Box- ***"What Happens When You AGE?"*** Read and discuss this with group. *Kidney Disease, Atherosclerosis, Dementia, Cancer, Erectile Dysfunction and Eye Health.* Most important: **AGE's reactions are irreversible**! That is why they call it aging.
- P. 125, 140-44, 149 Explain what the term ***"Glycation"*** means. P. 125- 2nd par. *"Glycation represents an irreversible modification of proteins in the bloodstream and in body tissues, including joints such as the knees, hips and hands."* How does wheat aid and abet this? P. 140-142- ***"The Great Glycation Race".*** What does the ***Hemoglobin A1c*** (HbA1c) test do for determining the rate of glycation going on in your body? **What is Hemoglobin?** Glycation also modifies the hemoglobin molecule by means of glucose. P. 142- (middle of pg.) Describe red blood cell health and role in glycation of hemoglobin.
- P. 143- Box- ***"Hey, It's Kind of Blurry in Here"*** **Cataracts, AGE's, glycation and blood glucose**.
- P. 144-45- Explain what the author means by ***"Wheat- Free is Anti-Aging".*** P. 144 bottom: "***If glycation accelerates aging, can NOT glycating SLOW aging?"*** p. 145- Read aloud the last 2 paragraphs.

NOTES: