**The Whole Grain Connection**

**Newsletter May 2022**

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| **Government intervention to increase whole grain availability**              The *Healthy Hunger Free Kids Act*was passed in 2010 and came into effect in schools with the final rule in 2012. The result was an updating of the meal pattern and nutrition standards for the *National School Lunch and Breakfast programs,* so that they matched the *Dietary Guidelines for Americans*. That rule included a required increase in the availability of whole grains, as well as fruits and vegetables. These are well known to aid in the reduction of obesity and associated diseases.              Fast forward to 2022. After a decade of studying the effects of these changes, in [**a recently published study**](https://r20.rs6.net/tn.jsp?f=001bN6AlsfsSAHcguVnH0VQXJLCS73S5HU4HLPVGwe8N7uyu4lNo6gZEoJAgE5fGrYNUu_m4Ef7SXLqVx3Uj6iEVJnFZeWMgIVTN9ZEaQOxGtT9vrdxrN2TirofJcIV37XBQ5X2vTsiwCPNARhsAxlaBXqZqaKgxSj9ELsbV-s4_VWsaMFEKOO4tqclG2MAq8wi6H8-jX9m_Z4=&c=7DYa8xBr4sUXDcLO9_jLxLJBn4rIRLVVg9FjNjkqohIn_e3_vhcVnA==&ch=6iPIFCMpbuuWetS3nxoNPQYftT4nGOazoZ7iOtfRM4bYZQ6c094oig==), researchers found that poor children were much less likely to quickly become obese on free school lunch and breakfast, than previously. In other words, government legislation can indeed be used to increase the availability of whole grain foods, and so reduce refined grain and sugar related obesity. We need federal and state legislation to make whole grain foods much more available for grown-up too!!              Here's the quote of the day, May 9, 2022 from *[MedPage Today](https://r20.rs6.net/tn.jsp?f=001bN6AlsfsSAHcguVnH0VQXJLCS73S5HU4HLPVGwe8N7uyu4lNo6gZEoJAgE5fGrYNtUocjxU52WRBZrCHBbJI2rwio8SvqhgwEfD5b1_9Ilg2U5166hlDvJsdUOUQ5Vv3Gzp587gdGd7PB2um80diMg==&c=7DYa8xBr4sUXDcLO9_jLxLJBn4rIRLVVg9FjNjkqohIn_e3_vhcVnA==&ch=6iPIFCMpbuuWetS3nxoNPQYftT4nGOazoZ7iOtfRM4bYZQ6c094oig==" \t "_blank)*:  *Obesity related conditions include heart disease, stroke, type 2 diabetes, and certain types of cancer, all of which are among the leading causes of preventable death. Obesity is also responsible for $248 billion in annual medical expenditures and estimated to incur $524 billion in lifetime Medicare expenditures for current beneficiaries with obesity.*              However, in all the discussion the burden is still being placed on the consumer to make the change in their diets to whole grain foods and more fruits and vegetables. Expecting the consumer, especially the poor consumer, to find whole grain foods given the prevailing refined flour commodity system, is completely unreasonable. Enough whole grain foods are just not being provided.              The alternative system that could supply everyone with the option to eat 100% whole grain foods would be to store grain locally, to mill it locally to fresh whole grain flour and to distribute and use it locally. For 120 years, the centralized commodity system stolidly standing behind their refined flour milling equipment have managed to stymie most, but thankfully, not all efforts to create this much needed alternative system.              And on May 10, 2022, another observation from *MedPage Today* is that midlife obesity is a prime risk factor for dementia later in life.              There is also no doubt that[**those who were most affected by covid infections were the obese**](https://r20.rs6.net/tn.jsp?f=001bN6AlsfsSAHcguVnH0VQXJLCS73S5HU4HLPVGwe8N7uyu4lNo6gZEoJAgE5fGrYNmG7fMmYMxVAF9iURtvj-eIeRgMy6BRRtqA36VqnkD9zk3xOicXz0aXWilRmHsdXSoOUPG2g0lgTLb937wKJVszRJ7VFWb59du-yDHaT1TLXqCcWfjAyeK2nnZ3G4Zos44jfztksV6eHP8aMMURtxlRQfIFoNGne98e8Q0f6UCaj_4grEcpEAIg==&c=7DYa8xBr4sUXDcLO9_jLxLJBn4rIRLVVg9FjNjkqohIn_e3_vhcVnA==&ch=6iPIFCMpbuuWetS3nxoNPQYftT4nGOazoZ7iOtfRM4bYZQ6c094oig==).              It’s a dreadful story and very costly. We need people-willed government intervention to overcome the wastage resulting from the commodity refined flour system!              The commodity system currently fails to provide enough 100% whole wheat foods for everyone, with much less than 10% of the total wheat flour output as 100% whole wheat flour. Government intervention is desperately needed to bring the market of commodity grain products back into a balance that would provide everyone who so wished. with all their grain foods in the whole grain form.  Since at least the 1970s guidelines from the USDA have advocated for this to no avail. Bakers even have the audacity to say that they are achieving this market balance by producing bread containing 51 % whole grains. These bakers and awfully, some cereal scientists, condone this by allowing such bread to be labelled *whole grain*.  How can the public ever experience the wonderful health-giving effects of eating all their grain foods in the whole grain state?! Without a sufficient commercial supply, it takes extra effort and time for people to eat all their grain foods 100% whole, and for the poor it is much too expensive to do so.  [**CDFA Farm to School grant program**](https://r20.rs6.net/tn.jsp?f=001bN6AlsfsSAHcguVnH0VQXJLCS73S5HU4HLPVGwe8N7uyu4lNo6gZEoJAgE5fGrYNuWx7B7CyJu8cShgBJrM7WYZW_tI8zD1PqSfgqJ-kiyzcrQo9Fm59t4ycV3Q_kyNAlNY3phsKGMow3u475BbYeIu_yRxFG9WH&c=7DYa8xBr4sUXDcLO9_jLxLJBn4rIRLVVg9FjNjkqohIn_e3_vhcVnA==&ch=6iPIFCMpbuuWetS3nxoNPQYftT4nGOazoZ7iOtfRM4bYZQ6c094oig==)              Schools, with their breakfast and lunch programs, are bound to be customers for fresh 100% whole grain flour. Entrepreneurs, here is your chance to strengthen your links in the supply chain for schools: farmer, processor, miller, baker or pasta-maker, for a grant to make all the steps to 100% whole grain foods for schools possible. Schools, here is your chance to obtain subsidies for the higher costs of localized smaller scale production of whole grain foods. Especially, we need localized grain storage and 100% whole wheat flour milling and grain processing systems. At last, we have some government intervention to help us provide these missing links so that schools can have a supply of locally produced fresh, 100% whole grain flour, and the deliciously healthy products that it can be made into. |

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**Buns galore!**

**100% whole wheat soft sandwich buns for schools – here’s hoping!**

            Beyond the convenience of sliced bread for a sandwich, is the sliced bun! School lunch and breakfast programs need kid-pleasing soft 100% whole wheat buns. That’s my perception. Among artisan bakers 100% whole grain baking, is most often towards the crusty loaf. Wonderful for teenagers and adults with strong teeth, but a soft bun is also likely to please young children.

            For buns, after the whole wheat flour, water, salt and natural sourdough leavening, increased softness can come from such ingredients as base malt (enzyme active wheat malt), milk, olive oil and egg. However, the most important condition is to keep the dough moist all the way through the baking stage. Simple steaming will do this, but if steam can be maintained in an oven at say 350ºF, the cooking time is reduced compared with the simple steaming time, and the bun will be somewhat browned.

            To this end I now have an ANOVA precision steam oven on my kitchen counter. Since acquiring it last December I have not used my standard home kitchen electric oven for bread! Instead, I bake soft buns every few days in this steam oven. I am not whole-heartedly endorsing this oven, since I see flaws in its function; it needs to be turned off manually, whereas my regular oven can be set to turn off at the end of a cooking time! Also, I have yet to manage a connection with it to the internet, which I suppose might alter the way in which it can be controlled. Perhaps I have not persevered sufficiently! There are other home steam ovens on the market that could be chosen. Nevertheless, I can make soft 100%whole wheat buns in this oven, and its steam-baking function seems to be comparable with the commercial *Combi-Ovens*used in some school kitchens and bakeries. My goal is to provide pleasing recipes that can be easily used in school kitchens and bakeries.

            Recipes for soft 100% whole wheat buns that I have developed are purposely simple and similar in method, so that the many variations of wheat and optional ingredients are easy to interchange. These recipes will be posted on the [**recipe page**](https://r20.rs6.net/tn.jsp?f=001bN6AlsfsSAHcguVnH0VQXJLCS73S5HU4HLPVGwe8N7uyu4lNo6gZEse5ez8uJQ0OeeiUvbEHa5U089kDv0jeaiJWVDjJQ0nsnq0D5geLMULE5bTTZY-3YLbpzUn3MvrsmN4wBKUjkk9U62NwD_iag4b5grOMMcu_IfxNaq33l04=&c=7DYa8xBr4sUXDcLO9_jLxLJBn4rIRLVVg9FjNjkqohIn_e3_vhcVnA==&ch=6iPIFCMpbuuWetS3nxoNPQYftT4nGOazoZ7iOtfRM4bYZQ6c094oig==)at [**www.wholegrainconnection.org**](https://r20.rs6.net/tn.jsp?f=001bN6AlsfsSAHcguVnH0VQXJLCS73S5HU4HLPVGwe8N7uyu4lNo6gZEvHPhjtnZRTwUHytEXl8fIxoTdZxy__N2wWyw0CCrM2QCbH-_wLAV_pQxoGDA1EkK8jkesOM2sEbeiGd2u7WzgEJaEvb9O7SlOO6zy73ARug&c=7DYa8xBr4sUXDcLO9_jLxLJBn4rIRLVVg9FjNjkqohIn_e3_vhcVnA==&ch=6iPIFCMpbuuWetS3nxoNPQYftT4nGOazoZ7iOtfRM4bYZQ6c094oig==) towards the bottom of the list, as they are developed.

**Dreamy 100% whole grain pasta**

     A decade has gone by since we had *Sonora* grain grown by Fritz Durst, stone milled by *Giusto’s Specialty Foods*, made into ribbon and spiral pasta by *Pasta-Sonoma*and sold at the local farmer’s market. At the time this 100% whole wheat pasta seemed to be as good as it could be, almost but not quite so supple after cooking as refined semolina pasta, but with a versatile creamy wheat flavor and light golden color.

   In 2021 I made the mistake of trying to mill very hard *India-Jammu*wheat for pasta very finely on a carborundum stone kitchen mill. I think I ground the stones together; this was not at all sensible, but I did not realize that I had the stones touching instead of being minutely separated. My idea from this was that a wet milling method might be more effective for producing a fine pasta dough from very hard wheat grain.   Below is my brief experience and commentary as to why wet milling starting with the grain, does not seem to be appropriate for wheat. I give you my conclusion now: ground wheat mixed with water allows the gluten protein strands to come together and give the typical elastic texture. This texture requires extra energy for wet milling, over and above that normally needed for wet milling grains such as corn that do not contain gluten.

      Previously I have used my food processor with a blade to make [**sprouted wheat bread**](https://r20.rs6.net/tn.jsp?f=001bN6AlsfsSAHcguVnH0VQXJLCS73S5HU4HLPVGwe8N7uyu4lNo6gZEoJAgE5fGrYN6goW0fHlqJkoeistB_cgLLxw_ej3Uf_D_d8tbFmB-v5ULZyK68VgQeTfvnWL_7qeTQds3xHOsFblygGFu6bYv427qmcyL9Zc-Z_gDJKsQEChyIpvNdtfmV0TfQdjmC5kGr0HCnKkPFOdCRD1u0_R1PuF56UdMrVG3y-m21Us5KoSqzw1VPkzt6oZ-VJgFfTb&c=7DYa8xBr4sUXDcLO9_jLxLJBn4rIRLVVg9FjNjkqohIn_e3_vhcVnA==&ch=6iPIFCMpbuuWetS3nxoNPQYftT4nGOazoZ7iOtfRM4bYZQ6c094oig==) dough, but thought that the machine should not be run continuously. The result was the production of a very coarse dough, which certainly gave an interesting sweet and gooey-dense bread texture, because it was unleavened.

      My courage to run the food processor for as long as 5, 10 or even 15 minutes continuously came from learning on-line that almond butter could be made in a food processor. *Almonds can take 5-10 minutes in the food processor to become almond butter. If the almonds are lightly roasted (30 minutes at 300ºF) and kept in a covered bowl for 12 hours to equilibrate, before grinding in the food processor, the grind time will be minimized.*

      Starting with hard *India-Jammu* grain I tried wet milling to produce a pasta dough: The process was begun by tossing the grain with 10% water and keeping it covered for 12 hours to equilibrate. A further 50% water was added to the grain before producing the dough in the food processor. In 5-10 minutes, a lovely smooth dough resulted. With an *Atlas* Italian pasta-roller it was easily possible to produce the thinnest sheets of dough and any of the cut pasta possibilities, including *capellini*.

      By the way, I am convinced that whole wheat pasta is best made by rolling and cutting, rather than extrusion, since a few outsized bran pieces do not interfere except in the narrowest cuts. Even then, this can be accommodated by producing short pieces of the finest *capellini*. However, for extruded shapes, especially the finest *vermicelli*, a few outsized pieces of bran cannot be accommodated because they block the extruder orifice.

      As in all pasta making it is necessary to know precisely how much water is needed to produce the required final dough consistency from each lot of grain. On repeating, it became evident that the dough becomes very hot if too little water is added and the grinding is prolonged. It is thus wasteful of energy to process directly from the grain.

      In conclusion this food processor method for making pasta dough directly from hard grain involves excessive energy use that is absorbed as heat in the final dough. A better strategy might be to first prepare a pasta dough from whole grain flour and water. Quite coarse whole durum or hard white wheat flour produced in a stone mill, without attempting to make it especially fine, could be used. If the dough texture is not smooth enough, it could perhaps be made finer in a food processor at this last stage. In this way food processor energy use will be minimized, and the dough should not become overheated. Anyway, this I shall try next time I make pasta with coarse ground whole hard wheat flour.