

Protein Supplement Patty Recipe - 02/14/2020

Uses the following main ingredients:

- HFCS 55
- AP-23 Protein Supplement Powder (about 1.15 to 1.25 times more than the HFCS 55)
- Canola Oil

Note: The HFCS 55 (High Fructose Corn Syrup), canola oil and AP-23 (or other equivalent protein supplement) recipe ingredients are by weight, not by volume.

HFCS 55 is not pure High Fructose Corn Syrup. It contains 55% fructose, 41% glucose and 4% other sugars. This means it has 14% fructose unpaired with any glucose. It is NOT the corn syrup you can purchase in a grocery store

HFCS 55 is used instead of a heavy pure sucrose (sugar) syrup because the resulting product will stay soft and pliable for months if refrigerated and longer if frozen. Sugar syrup based patties will dry out and turn into a hockey puck in a matter of a few weeks or sooner.

Canola oil is included as it adds some lipids (“fat”) to the mixture which **when consumed by the bees is beneficial to the bees.**

Canola oil (no more than 4% by weight of the total weight of the HFCS 55 and the protein supplement powder/flour).

Additional Ingredients:

- Amino B Booster 1 teaspoon or less per pound of HFCS 55
- Honey B Healthy 1 teaspoon or less per pound of HFCS 55
- Honey B Healthy Plus 1 teaspoon or less per pound of HFCS 55
- Vitamin B Healthy ½ teaspoon or less per pound of HFCS 55

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Example:

Measure out and weigh your HFCS 55 into a container first. Then adjust the other ingredients as needed.

For this example we have poured and weighed 2 lbs 6 oz of HFCS 55.

Measure (i.e. weigh) 3 lbs of the protein flour into a separate container. This results in at least a total combined net weight of 5 lbs and 6 oz lbs (86 ounces) of the HFCS and the protein supplement.

Canola Oil Calculation: 4 % of 86 oz = 3.44 ounces

$86 \times .04 = 3.44$ (you can round it up to 3.5 oz of canola oil)

Combine the 3.5 oz canola oil and all of the other optional (but recommended) wet ingredients listed below into the HFCS 55.

- 1 Teaspoon of Amino B Booster
- 2 Teaspoons of Honey B Healthy
- 2 Teaspoons of Honey B Healthy Plus
- 1 Teaspoon of Vitamin B Healthy

Mix well to ensure all the wet ingredients are incorporated.

Slowly add the AP-23 protein supplement to the liquid while mixing. Continue to mix until there is not any dry protein left in the pot.

If the resulting mixture is too sticky, gradually incorporate granulated table sugar until the excess moisture is absorbed. The desired mixture should be almost a play dough type of consistency. You should be able to roll it into a small ball (about golf ball size) with your hands with very little of it sticking to your hands.

Suggestion: Use nitrile gloves to keep your hands clean, especially important until the mixture goes from the sticky to a slightly tacky composition similar to play dough

It should yield 5 lbs+. Depending on the patty size it should produce 32 to 40 patties.

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Ingredient List for 5+ lb batch

- HFCS 55 2 lbs 6 oz
- Protein Supplement Powder **(3 lbs)**
- Canola Oil (4% of weight) (3.5 oz)
- Amino B Booster 1 Teaspoon
- Honey B Healthy 2 Teaspoon
- Honey B Healthy Plus 2 Teaspoon
- Vitamin B Healthy 1 Teaspoon
- Wax Paper
- Stainless Steel Pot
- Scale to measure ingredients (preferably digital)
- Optional – Heavy duty mixer or a corded electric drill with a heavy duty stirring attachment.

Measure HFCS 55 into a stainless steel container until you have approximately 2 lbs and 6 oz (the container should be on a zeroed out digital scale).

Combine all the other wet ingredients with the HFCS 55

Slowly incorporate the protein supplement powder into the wet ingredients until there is not any dry protein flour/ powder left.

If you are mixing by hand with a spoon, it may take 10 to 15 minutes or longer to incorporate all of the HFCS 55. If needed, add dry table sugar until desired consistency is achieved.

You can start making patties now or let the mixture rest overnight.

The mixture should be soft and pliable and approximately the consistency of play dough or a ground meat mixture.

You should be able take a small quantity of the mixture out of the pan with a spoon or hive tool and then roll it into a ball.

Mixture too sticky - Gradually add granulated sugar.

Mixture is too dry (i.e. ball flakes, crumbles or falls apart)? - Gradually add small amounts of HFCS 55 until mixture is soft and pliable like play dough.

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Place the ball of mixture between two sheets of wax paper and flatten to a thickness which will enable the patty to easily fit between the inner cover and the top bar of the frames in the hive (or under a wood bound queen excluder).

Store finished patties in refrigerator or freezer. Use wax paper between the patties and use FREEZER Ziploc type plastic bags... do not use the Storage type.

Suggestion: Cut the patty into strips before placing across the frames in the hive instead of the whole patty. The strips will provide more surface space for the bees to work the protein supplement at the same time.

