Post Holdings, Inc. Form 424B7 May 11, 2015 Table of Contents

Filed pursuant to Rule 424(b)(7) Registration No. 333-204057

CALCULATION OF REGISTRATION FEE

Title of each class of	Amount to be	Offering price	Aggregate	Amount of
securities offered	registered	per share	offering price	registration fee
Common Stock	1,878,931(1)	\$45.50(2)	\$85,491,360.50	\$9,934.10

(1) The registration also relates to such additional shares of our common stock as may be issued in connection with a declaration or distribution by us of stock splits, stock dividends or other capital distributions.

Estimated solely for purposes of calculating the amount of the registration fee. In accordance with Rule 457(c) and Rule 457(r) of the Securities Act of 1933, as amended, the price shown is the average of the high and low

selling prices of the Common Stock on May 6, 2015, as reported on the New York Stock Exchange.

PROSPECTUS SUPPLEMENT (To Prospectus dated May 11, 2015)

Post Holdings, Inc.

1,878,931 shares of Common Stock

This prospectus supplement will be used from time to time by the selling shareholders identified herein to resell certain shares of our common stock. The shares of our common stock that may be offered by each selling shareholder using this prospectus supplement represent shares of our common stock that we issued to such selling shareholder in connection with our acquisition of MOM Brands Company, which we refer to as MOM Brands. We have registered for resale by the selling shareholders the shares of our common stock offered hereby as required by a registration rights agreement that we entered into with the selling shareholders upon completion of the MOM Brands acquisition. We will not receive any proceeds from the shares of common stock sold by the selling shareholders. Our common stock is listed on the New York Stock Exchange and trades under the symbol "POST." On May 8, 2015, the last reported sale price of our common stock on the New York Stock Exchange was \$49.89 per share. The selling shareholders may sell the shares of common stock described in this prospectus supplement in a number of different ways and at varying prices. See "Plan of Distribution" beginning on page S-14 of this prospectus supplement for more information about how the selling shareholders may sell their shares of common stock. Investing in our common stock involves risks. See "Risk Factors" beginning on page S-6 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement concerning factors you should consider before investing in our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement. Any representation to the contrary is a criminal offense.

Prospectus Supplement dated May 11, 2015.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this common stock offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement or any "free writing prospectus" we may authorize to be delivered to you and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this prospectus supplement or such free writing prospectus, as the case may be. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in the accompanying prospectus—the statement in the document having the later date modifies or supersedes the earlier statement.

We have not authorized, and the selling shareholders have not authorized, anyone to provide you with information other than the information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference into the prospectus supplement and the accompanying prospectus. Neither we nor the selling shareholders take responsibility for, and nor can either of us provide assurance as to the reliability of, any information that others may give you. The information contained in this prospectus supplement or the accompanying prospectus, or incorporated by reference herein, is accurate only as of the respective dates thereof, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our common stock. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the documents incorporated by reference herein and therein, in making your investment decision. You should also read and consider the information; Incorporation by Reference" in this prospectus supplement and in the section entitled "Where You Can Find More Information; Incorporation by Reference" in the accompanying prospectus, respectively.

Neither we nor the selling shareholders will make an offer to sell securities in any jurisdiction where the offer or sale is not permitted.

Except as otherwise indicated or unless the context otherwise requires, all references to "we," "our," "us," "Post" or the "Company" refer to Post Holdings, Inc., a Missouri corporation, together with its consolidated subsidiaries. References in this prospectus supplement to "Ralcorp" refer to Ralcorp Holdings, Inc. and its consolidated subsidiaries (other than Post). On January 29, 2013, Ralcorp was acquired by ConAgra Foods, Inc. by means of the merger of a wholly-owned subsidiary of ConAgra Foods, Inc. into Ralcorp and as a result Ralcorp is now a wholly-owned subsidiary of ConAgra Foods, Inc. References in this prospectus supplement to the "separation" refer to the separation of Post from Ralcorp on February 3, 2012. "Post cereals business" refers to the branded ready-to-eat cereals business of Post or, if prior to the separation, of Ralcorp. All references to "we," "our," "us," "Post" or the "Company" in the context of historical results prior to the separation refer to the Post cereals business. Unless we have indicated otherwise or the context so requires, references in this offering memorandum to "\$" or "dollars" are to the lawful currency of the United States.

FORWARD LOOKING STATEMENTS

Forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933, as amended, which we refer to as the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, which we refer to as the Exchange Act, are made throughout this prospectus supplement. These forward-looking statements are sometimes identified by the use of terms and phrases such as "believe," "should," "expect," "project," "estimate," "anticipate," "intend," "plan," "will," "can," "may," or similar expressions elsewhere in this prospectus supplement. Our results of operation and financial condition may differ materially from those in the forward-looking statements. Such statements are based on management's current views and assumptions, and involve risks and uncertainties that could affect expected results.

Those risks and uncertainties include but are not limited to the following:

our ability to realize the synergies contemplated by the acquisition of MOM Brands;

our ability to promptly and effectively integrate the MOM Brands business;

our high leverage and substantial debt, including covenants that restrict the operation of our business;

our ability to service our outstanding debt or obtain additional financing, including both secured and unsecured debt; the recent avian influenza outbreak in the U.S. Midwest;

our ability to continue to compete in our product markets and our ability to retain our market position;

our ability to identify and complete acquisitions, manage our growth and integrate acquisitions;

changes in our cost structure, management, financing and business operations;

significant volatility in the costs of certain raw materials, commodities, packaging or energy used to manufacture our products;

our ability to maintain competitive pricing, introduce new products or successfully manage our costs;

our ability to successfully implement business strategies to reduce costs;

impairment in the carrying value of goodwill or other intangibles;

the loss or bankruptcy of a significant customer;

allegations that our products cause injury or illness, product recalls and product liability claims and other litigation; our ability to anticipate and respond to changes in consumer preferences and trends;

changes in economic conditions and consumer demand for our products;

disruptions in the U.S. and global capital and credit markets;

labor strikes, work stoppages or unionization efforts;

legal and regulatory factors, including advertising and labeling laws, changes in food safety and laws and regulations governing animal feeding operations;

our ability to comply with increased regulatory scrutiny related to certain of our products and/or international sales; the ultimate impact litigation may have on us, including the lawsuit (to which our Michael Foods business is a party) alleging violations of federal and state antitrust laws in the egg industry;

our reliance on third party manufacturers for certain of our products;

disruptions or inefficiencies in supply chain;

our ability to recognize the expected benefits of the closing of our Modesto, California and Boise, Idaho manufacturing facilities;

fluctuations in foreign currency exchange rates;

consolidations in the retail grocery and foodservice industries;

change in estimates in critical accounting judgments and changes to or new laws and regulations affecting our business;

losses or increased funding and expenses related to our qualified pension plans;

loss of key employees;

our ability to protect our intellectual property;

changes in weather conditions, natural disasters, disease outbreaks and other events beyond our control;

our ability to successfully operate our international operations in compliance with applicable laws and regulations; our ability to satisfy the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, including with respect to acquired businesses;

business disruptions caused by information technology failures and/or technology hacking;

and

other risks and uncertainties included under "Risk Factors" in this prospectus supplement and those included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission, or SEC, on November 28, 2014 and our Quarterly Report on Form 10-Q filed with the SEC on February 6, 2015.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus supplement and those included in our Annual Report on Form 10-K for the fiscal year ended September 30, 2014 and our Quarterly Reports on Form 10-Q for the quarters ended December 31, 2014 and March 31, 2015, which are filed with the SEC and incorporated by reference in this prospectus supplement, to conform these statements to actual results or to changes in our expectations.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained elsewhere in this prospectus supplement and the accompanying prospectus and in the documents we incorporate by reference. This summary does not contain all of the information that you should consider before deciding to invest in our common stock. You should read this entire prospectus supplement and the accompanying prospectus carefully, including our consolidated financial statements and the related notes and the other documents incorporated by reference herein, before making an investment in our common stock.

The Company

We are a consumer packaged goods holding company, operating in the center-of-the-store, refrigerated, active nutrition and private label food categories. In February 2012, we completed our legal separation via a tax free spin-off from Ralcorp and began trading on the New York Stock Exchange under the ticker symbol "POST." In 2012, we had a single operating segment, our Post branded ready-to-eat cereal business. As a result of acquisitions, during fiscal 2014 we operated in five reportable segments: Post Foods, Michael Foods, Active Nutrition, Private Brands and Attune Foods. For fiscal 2015, we realigned our organization to operate in three segments: Consumer Brands, Michael Foods Group and Private Label. The Consumer Brands segment includes the Post branded ready-to-eat cereal business, as well as the operations of MOM Brands, which we acquired on May 4, 2015, and the active nutrition businesses of Premier Nutrition Corporation, which we acquired in September 2013, and Dymatize Enterprises, LLC, which we acquired in February 2014, as well as the PowerBar and Musashi brands, which we acquired in October 2014. The Michael Foods Group segment is comprised of MFI Holding Corporation, which we acquired in June 2014 and produces value-added egg products, refrigerated potato products and cheese and other dairy case products, as well as the business of Dakota Growers Pasta Company, Inc., which we acquired in January 2014 and manufactures and distributes pasta. The Private Label segment includes the businesses of Golden Boy Foods Ltd., which we acquired in February 2014 and produces private label peanut and other nut butters, as well as dried fruits and snacking nuts, Attune Foods, which produces premium natural and organic granola, cereals and snacks, and American Blanching Company, which we acquired in November 2014 and manufactures peanut butter for national brands, private label retail and industrial markets and provides peanut blanching, granulation and roasting services for the commercial peanut industry.

Our principal executive offices are located at 2503 S. Hanley Road, St. Louis, Missouri 63144, and our telephone number is (314) 644-7600.

The Offering

Securities offered

Common stock being offered by us

Common stock being offered by the selling shareholders

Common stock issued and outstanding after the offering

Selling shareholders

Use of proceeds

S-4

Common stock, \$0.01 par value per share. We are not selling any shares of our common stock in this offering.

Up to 1,878,931 shares.

54,843,957 shares.

The selling shareholders are former shareholders and optionsholders of MOM Brands who received the shares of our common stock offered hereby upon completion of our acquisition of MOM Brands. See "Selling Shareholders." We will not receive any proceeds from the sale of shares in this offering.

	We have no plans to pay cash dividends on our common stock
Dividend policy	in the foreseeable future, and our existing senior credit facility
Dividend policy	and the indentures governing our debt securities restrict, and
	future credit facilities may restrict, our ability to pay dividends.
	You should read the "Risk Factors" section of this prospectus
Risk factors	supplement beginning on page S-6 before deciding to purchase
	shares of our common stock.
Listing	Our common stock is listed on the New York Stock Exchange
	under the symbol "POST."
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The number of shares of our common stock outstanding after this offering is based on 54,843,957 shares outstanding as of May 5, 2015, and excludes as of such date:

4,645,000 outstanding stock options, 557,641 outstanding stock settled restricted stock units and 257,133 outstanding stock-settled stock appreciation rights;

an aggregate of 807,614 additional shares of common stock available for future issuance under our equity compensation plans;

11,030,508 shares of common stock issuable upon conversion of our outstanding 3.75% Series B Cumulative Perpetual Convertible Preferred Stock, which we refer to as the Series B preferred stock, and 2.5% Series C Cumulative Perpetual Convertible Preferred Stock, which we refer to as the Series C preferred stock, at the

conversion rates in effect as of the date of this prospectus supplement; and

any shares of common stock issuable upon the settlement of the purchase contracts comprising a portion of our 5.25% tangible equity units.

The number of shares outstanding after this offering includes 2,454,402 shares of our common stock issued to the shareholders and optionholders of MOM Brands.

RISK FACTORS

Investment in our common stock involves risks. Before acquiring any shares of our common stock, you should carefully consider the risk factors set forth below and those incorporated by reference to our Annual Report on Form 10-K for the fiscal year ended September 30, 2014 and our Quarterly Report on Form 10-Q for the quarter ended December 31, 2014, which are filed with the SEC. The risks described below or incorporated by reference herein are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also materially and adversely affect our business operations. Any of the following risks or those incorporated by reference herein could materially and adversely affect our business, financial condition or results of operations. In such case, you could lose all or part of your original investment.

The price of our common stock may fluctuate significantly.

The trading price of our shares of common stock has from time to time fluctuated widely and in the future may be subject to similar fluctuations. This volatility may affect the price at which you could sell your common stock. The market price of our common stock is likely to continue to be volatile and may fluctuate significantly in response to many factors, including:

operating results that vary from the expectations of management, securities analysts and investors;

developments in our business or in sectors in which we operate generally;

the operating and securities price performance of companies that investors consider to be comparable to us;

announcements of strategic developments, acquisitions and other material events by us or our competitors;

negative economic conditions that adversely affect the economy, commodity prices, the job market and other factors that may affect the markets in which we operate;

publication of research reports about us or the sectors in which we operate generally;

changes in market valuations of similar companies;

adverse market reaction to any additional debt we incur in the future;

additions or departures of key management personnel;

actions by institutional shareholders;

speculation in the press or investment community;

the failure to identify and complete favorable acquisitions in the future or unexpected difficulties or developments related to the integration of recently completed or future acquisitions; and

the realization of any of the other risk factors included in, or incorporated by reference to, this prospectus supplement or the prospectus.

Holders of our common stock will be subject to the risk of volatile and depressed market prices of our common stock. In addition, many of the factors listed above are beyond our control. These factors may cause the market price of our common stock to decline, regardless of the financial condition, results of operations, business or prospects of us and our subsidiaries. It is impossible to assure investors in our capital stock that the market price of our common stock will not fall in the future.

The shares issued in connection with the MOM Brands acquisition and under our outstanding tangible equity units and upon conversion of our preferred stock may adversely affect the market price of our common stock.

The market price of our common stock is likely to be influenced by the 2,454,402 shares of our common stock that we issued to the shareholders and optionholders of MOM Brands upon completion of the MOM Brands acquisition, by the shares of our common stock issuable upon settlement of our 5.25% tangible equity units and by the shares of our common stock issuable upon any conversion of our convertible preferred stock. The shares of common stock issued upon completion of the MOM Brands acquisition are subject to a registration rights agreement (see prospectus supplement under "Selling Shareholders – Registration Rights Agreement") under which we have registered the resale under the securities law of the shares of our common stock acquired by such shareholders and optionholders upon completion of the acquisition, and we expect such shares to become freely transferable in compliance with SEC safe harbor rules six months after completion of the acquisition. We have issued 2,875,000 tangible equity units under which up to 6,027,150 shares of our common stock, at the maximum settlement rate, may be issued upon settlement. We have issued 2,415,000 shares of our 3.75% Series B Cumulative Perpetual Convertible Preferred Stock, which we refer to as the Series B preferred stock, and 3,200,000 shares of our 2.5% Series C Cumulative Perpetual Convertible Preferred Stock, which we refer to as the Series C preferred stock. At the conversion rates in effect as of the date of this prospectus supplement, 11,030,508 shares of our common stock are issuable in the aggregate upon conversion of the Series B preferred stock and the Series C preferred stock. The conversion rates of the Series B preferred stock and the Series C preferred stock are subject to adjustments that could significantly increase the number of shares of our common stock issuable upon such conversion. The market price of our common stock could become more volatile and could be depressed by:

investors' anticipation of the sale into the market of a substantial number of additional shares of common stock received upon completion of the MOM Brands acquisition, conversion of our convertible preferred stock or settlement of the purchase contract component of the units;

possible sales of our common stock by investors who view our convertible preferred stock or the units as a more attractive means of equity participation in us than owning shares of our common stock; and

hedging or arbitrage trading activity that may develop involving our convertible preferred stock, our tangible equity units and the related purchase contracts and our common stock.

Sales of a substantial number of shares of our common stock in the public market by our existing shareholders could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise adequate capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock. As part of the consideration for the MOM Brands acquisition, we issued 2,454,402 shares of our common stock to the shareholders and optionholders of MOM Brands upon completion of the MOM Brands acquisition and entered into an agreement with those shareholders and optionholders to register the public resale of such shares.

There may be future sales or other dilution of our equity, which may adversely affect the market price of the shares of our common stock and/or dilute the value of shares of our common stock.

We are not restricted from issuing, and shareholder approval is not required in order to issue, additional shares of common stock, including securities that are convertible into or exchangeable for, or that represent the right to receive, shares of common stock, except any shareholder approval required by the NYSE. We have in the past, and may in the future, sell such equity and equity-linked securities. Sales of a substantial number of shares of our common stock or other equity-related securities in the public market could depress the market price of our shares of common stock. We cannot predict the effect that future sales of our common stock or other equity-related securities would have on the market price of our shares of common stock. The market price of our common stock may be adversely affected if we issue additional shares of our common stock.

You may not receive dividends on the shares of our common stock.

Holders of our common stock are only entitled to receive such dividends as our board of directors may declare out of funds legally available for such payments. We have no plans to pay cash dividends on our common stock in the foreseeable future, and our senior credit facility and the indentures governing our debt securities restrict, and future credit facilities may restrict, our ability to pay dividends.

Provisions in our articles of incorporation and bylaws and provisions of Missouri law may prevent or delay an acquisition of our company, which could decrease the trading price of our common stock.

Our articles of incorporation, bylaws and Missouri law contain provisions that are intended to deter coercive takeover practices and inadequate takeover bids by making such practices or bids unacceptably expensive and to encourage prospective acquirers to negotiate with our board of directors rather than to attempt a hostile takeover. These provisions include, among others:

our board of directors is divided into three classes with staggered terms;

our board of directors fixes the number of members on the board;

elimination of the rights of our shareholders to act by written consent (except when such consent is unanimous) and to call shareholder meetings;

rules regarding how shareholders may present proposals or nominate directors for election at shareholder meetings; the right of our board of directors to issue preferred stock without shareholder approval;

supermajority vote requirements for certain amendments to our articles of incorporation and bylaws;

anti-takeover provisions of Missouri law which may prevent us from engaging in a business combination with an interested shareholder, or which may deter third parties from acquiring our common stock above certain thresholds; and

limitations on the right of shareholders to remove directors.

These provisions may deter an acquisition of us that might otherwise be attractive to shareholders.

We may issue debt and equity securities or securities convertible into equity securities, any of which may be senior to our common stock as to distributions and liquidation.

In the future, we may issue additional debt or equity securities or securities convertible into or exchangeable for equity securities, or we may enter into debt-like financing that is unsecured or secured by any or all of our properties. Such securities may be senior to our common stock as to distributions. In addition, in the event of our liquidation, our lenders and holders of our debt and preferred securities would receive distributions of our available assets before distributions to the holders of our common stock.

We are a holding company and rely on dividends, distributions and other payments, advances and transfers of funds from our subsidiaries to meet our obligations.

We are a holding company that does not conduct any business operations of our own. As a result, we are largely dependent upon cash dividends and distributions and other transfers from our subsidiaries to meet our obligations. Any agreements governing the indebtedness of our subsidiaries could impose restrictions on such subsidiaries' ability to pay dividends or other distributions to us. The deterioration of the earnings from, or other available assets of, our subsidiaries for any reason could also limit or impair their ability to pay dividends or other distributions to us.

Actual operating results may differ significantly from our guidance.

From time to time, we release guidance regarding our future performance or the expected future performance of companies or businesses that we have agreed to acquire. Any such guidance represents our management's estimates as of the date of release. This guidance, which consists of forward-looking statements, is prepared by our management and is qualified by, and subject to, the assumptions and the other information contained or referred to in such release and the factors described under "Forward-Looking Statements" in this prospectus supplement. Our guidance is not prepared with a view toward compliance with published guidelines of the American Institute of Certified Public Accountants, and neither our independent registered public accounting firms nor any other independent expert or outside party compiles or examines the guidance and, accordingly, no such person expresses any opinion or any other form of assurance with respect thereto.

Guidance is based upon a number of assumptions and estimates that, while presented with numerical specificity, are inherently subject to business, economic and competitive uncertainties and contingencies, many of which are beyond our control and are based upon specific assumptions with respect to future business decisions, some of which will change. We generally state possible outcomes as high and low ranges which are intended to provide a sensitivity analysis as variables are changed but are not intended to represent that actual results could not fall outside of the suggested ranges. The principal reason that we release this data is to provide a basis for our management to discuss our business outlook with analysts and investors. We do not accept any responsibility for any projections or reports published by any such persons.

Guidance is necessarily speculative in nature, and it can be expected that some or all of the assumptions of the guidance furnished by us will not materialize or will vary significantly from actual results. Accordingly, our guidance is only an estimate of what management believes is realizable as of the date of release. Actual results will vary from the guidance. Investors should also recognize that the reliability of any forecasted financial data diminishes the farther in the future that the data is forecast. In light of the foregoing, investors are urged to put the guidance in context and not to place undue reliance on it.

Any failure to successfully implement our operating strategy or the occurrence of any of the events or circumstances set forth in, or incorporated by reference into, this prospectus supplement could result in the actual operating results being different than the guidance, and such differences may be adverse and material.

SELLING SHAREHOLDERS

This prospectus supplement and the accompanying prospectus relate to the resale of shares of our common stock by the selling shareholders identified below in the table. See "Plan of Distribution" for more information.

The shares of our common stock offered for resale under this prospectus supplement were issued by us in connection with our acquisition of MOM Brands. Upon completion of that acquisition, we entered into a registration rights agreement, which we refer to as the registration rights agreement, with Shareholder Representative Services LLC, as the representative of the selling shareholders, and certain of the former shareholders and optionholders of MOM Brands, all of whom are selling shareholders listed below. We have prepared this prospectus supplement pursuant to the terms of that agreement.

Except for the ownership of shares of our common stock, or as otherwise set forth in the footnotes to the table below, the selling shareholders do not have, and within the past three years have not had, any position, office or material relationship with us.

The table below sets forth the name of the selling shareholders, the number of shares of common stock beneficially owned by the selling shareholders immediately prior to the date of this prospectus supplement and the total number of shares offered pursuant to this prospectus supplement. The table also provides information regarding the beneficial ownership of our common stock by the selling shareholders as adjusted to reflect the sale of the shares offered under this prospectus supplement. The last two columns of the table assume that all shares covered by this prospectus supplement will be sold by the selling shareholders and that no additional shares of our common stock are subsequently bought or sold by the selling shareholders. The percentage beneficial ownership of our common stock of the selling shareholders is based on 54,843,957 shares of our common stock outstanding as of May 5, 2015. Beneficial ownership is determined in accordance with Rule 13d-3(d) promulgated by the SEC under the Exchange Act. Except where otherwise noted in the footnotes to the table, the selling shareholders named in the following table have, to our knowledge, sole voting and investment power with respect to the shares beneficially owned by them. None of the selling shareholders is a broker-dealer or an affiliate of a broker-dealer.

The following table sets forth, to our knowledge, information for the selling shareholders as of May 5, 2015, based on information furnished to us by the selling shareholders. We have relied on the representations made by the selling shareholders and the information furnished to us.

Name of Selling Shareholder	Shares Beneficially OwnedPrior to the OfferingShares Offered		Shares Beneficially Owned After the Offering		
Name of Senting Shareholder	Number	Percent	Shares Offered	Number	Percent
Christine T. Brooks ¹	2,350	*	2,350	0	
Christopher J. Neugent ²	144,921	*	144,921	0	
Christopher Neugent, Trustee of the					
Christopher Neugent 2014-1 Grantor	10,482	*	10,482	0	
Retained Annuity Trust under agreement	10,482		10,482	0	
dated September 24, 2014 ²					
Douglas Campbell Smith ³	183,560	*	183,560	0	
Douglas Campbell Smith, as Trustee of					
the Isabel Annette C. Smith Irrevocable					
Trust for Douglas Campbell Smith Family	y 12,997	*	12,997	0	
under paragraph $4.2(1)$ of the Trust					
Agreement dated November 4, 2008 ³					
The Douglas C. Smith Grantor Retained	25,759	*	25,759	0	
Annuity Trust F/B/O Andrew M.C. Smith	1 25,757		25,157	0	
The Douglas C. Smith Grantor Retained	25,759	*	25,759	0	
Annuity Trust F/B/O Emma A. Smith	20,100		20,100	0	

Name of Selling Shareholder	Shares Benet Prior to the C Number	ficially Owned Dffering Percent	Shares Offered	Shares Benefi After the Offe Number	cially Owned ering Percent
Elizabeth C. Fort Dorr as Trustee of the Trust F/B/O Elizabeth C. Fort Dorr U.I. Margery C. Fort dated March 27, 1992	101,604	*	101,604	0	_
Jeffrey Brooks Schroeder Jeffrey T. Fort, Trustee of The Margery C	2,350	*	2,350	0	_
Fort Descendants Trust dated September 8, 2006		*	104,354	0	—
Jeffrey T. Fort, Trustee of the Trust, F/B/O Jeffrey T. Fort, under the Grantor Annuity Trust of Margery C. Fort dated March 27, 1992	75,727	*	75,727	0	_
John C. Brooks & Dorsey & Whitney Trust Company LLC, as trustees of the Mitchell S. Brooks 2005 Irrevocable Trus U/A dated March 6, 2002, with John C. Brooks, as donor	st 48,346	*	48,346	0	_
John C. Brooks, Christine T. Brooks and Dorsey & Whitney Trust Company LLC, as trustees of the Christine T. Brooks 200 Irrevocable Trust U/A dated March 6, 2002, with John C. Brooks, as donor ¹ John C. Brooks, Trustee of the John C.	548,369	*	48,369	0	_
Brooks Revocable Trust Under Trust Agreement dated March 18, 2005 with John C. Brooks as Donor	97,562	*	97,562	0	_
John W. Lettmann ⁴ John W. Lettmann, as Trustee of the John	19,813	*	19,813	0	_
W. Lettmann 2009 Five Year Grantor Retained Annuity Trust under Agreement dated December 3, 2009 ⁴	23 879	*	23,879	0	_
John W. Lettmann, as Trustee of the John W. Lettmann 2014 Grantor Retained Annuity Trust under agreement dated October 6, 2014 ⁴	47,006	*	47,006	0	_
Karen A. Brooks GRAT Karen A. Brooks 2014 Grantor Retained	11,751	*	11,751	0	_
Annuity Trust under Agreement dated December 31, 2014	84,635	*	84,635	0	—
Karen A. Brooks 2014 Grantor Retained Annuity Trust under Agreement dated October 24, 2014	47,006	*	47,006	0	_
Katharine Glenn Lindahl ⁵ Margery C. Fort and St. Louis Trust	35,254	*	35,254	0	_
Company, Trustees of The 2011 Margery C. Fort Family Trust U/I/T Margery C. Fort dated December 28, 2011	146,613	*	146,613	0	_

The Liz Dorr Family Trust F/B/O Christopher P. Dorr, Jr. dated December	70,509	*	70,509	0	_
6, 2012					
The Liz Dorr Family Trust F/B/O Meredith H. Dorr dated December 6, 2012	270,509	*	70,509	0	
Mitchell S. Brooks	2,350	*	2,350	0	

Name of Selling Shareholder	Shares Benet Prior to the C Number	ficially Owned Offering Percent	Shares Offered	Shares Benefi After the Offe Number	•
Robert Arthur Schroeder and John					
Campbell Brooks as trustees of the					
Irrevocable Trust for Isabel Amy	27,804	*	27,804	0	—
Schroeder created under agreement dated					
December 23, 2011					
Robert Arthur Schroeder and John					
Campbell Brooks as Trustees of the					
Irrevocable Trust for Jeffery Brooks	25,454	*	25,454	0	—
Schroeder created under agreement dated					
December 23, 2011					
Sarah B. Lindahl ⁵	163,723	*	163,723	0	—
The Wm. Graham Smith Grantor Retaine	d				
Annuity Trust, under Agreement dated	14,101	*	14,101	0	—
September 24, 2014					
Wm. Graham Smith ⁶	191,387	*	191,387	0	—
Wm. Graham Smith, as Trustee of the					
Isabel Annette C. Smith Irrevocable Trust	t				
for Wm. Graham Smith Family under	12,997	*	12,997	0	—
paragraph 4.2(2) of the Trust Agreement					
dated November 4, 2008 ⁶					

The number of shares beneficially owned by Christine T. Brooks prior to the offering does not include 48,369 shares held by John C. Brooks, Christine T. Brooks and Dorsey & Whitney Trust Company LLC, as trustees of the

¹ Christine T. Brooks 2005 Irrevocable Trust U/A dated March 6, 2002, with John C. Brooks, as donor, which shares are beneficially owned by Ms. Brooks.

The number of shares beneficially owned by Christopher J. Neugent prior to the offering does not include 10,482 shares held by Christopher Neugent, Trustee of the Christopher Neugent 2014-1 Grantor Retained Annuity Trust ² under agreement dated September 24, 2014, which shares are beneficially owned by Mr. Neugent. Mr. Neugent is

the Chief Executive Officer of MOM Brands, our wholly-owned subsidiary.

The number of shares beneficially owned by Douglas Campbell Smith prior to the offering does not include shares 3held in various trusts of which Douglas Campbell smith is the trustee, which shares are beneficially owned by Douglas Campbell Smith.

The number of shares beneficially owned by John W. Lettman prior to the offering does not include 70,885 shares held by John W. Lettmann, as Trustee of the John W. Lettmann 2009 Five Year Grantor Retained Annuity Trust

4under Agreement dated December 3, 2009 and John W. Lettmann, as Trustee of the John W. Lettmann 2014 Grantor Retained Annuity Trust under agreement dated October 6, 2014, which shares are beneficially owned by Mr. Lettmann.

⁵The number of shares beneficially owned by Sarah B. Lindahl prior to the offering does not include 35,254 shares held by Katharine Glenn Lindahl, which shares are beneficially owned by Sarah B. Lindahl.

The number of shares beneficially owned by Wm. Graham Smith prior to the offering does not include 12,997 shares held by Wm. Graham Smith, as Trustee of the Isabel Annette C. Smith Irrevocable Trust for Wm. Graham Smith Family under paragraph 4.2(2) of the Trust Agreement dated November 4, 2008, which shares are beneficially

owned by Wm. Graham Smith.

Registration Rights Agreement

Under the registration rights agreement, we have agreed to file, and have filed, a registration statement covering the resale of the shares of our common stock issued by us to the selling shareholders upon completion of the MOM

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Brands acquisition. Also under the registration rights agreement, we must use reasonable best efforts to cause the registration statement to remain continuously effective for a period that will terminate upon the earlier of (i) the date on which all shares of our common stock covered by such registration statement have been sold, (ii) the date on which all such shares (other than such shares owned by our affiliates) may be sold pursuant to SEC Rule 144 under the Securities Act without being subject to any volume limitation or (iii) May 4, 2016. We must also use reasonable best efforts to prepare and file with the SEC such amendments, post-effective amendments and prospectus supplements to the registration statement and the prospectus used in connection therewith as may be

necessary to keep such registration statement continuously effective, supplemented and amended for the time period required under the registration rights agreement and to comply with the provisions of the Securities Act and the Exchange Act with respect to the distribution of all shares of our common stock covered by the registration statement. We will pay all expenses incurred by us in connection with the registration required under the registration rights agreement, including filing and printing fees, attorneys and accounting fees and expenses, costs associated with clearing the shares of common stock offered hereby for sale under applicable state securities laws and listing fees. We will not be responsible for any discounts, commissions, fees of underwriters, selling brokers, dealer managers or similar securities industry professionals with respect to the shares being sold and fees and expenses of counsel to the selling shareholders. Under the registration rights agreement, we have agreed to indemnify the selling shareholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, or the selling shareholders may be entitled to contribution; likewise, we may be indemnified by the selling shareholders against civil liabilities under the Securities Act that may arise from written information furnished to us by the selling shareholders specifically for use in this prospectus supplement.

We may restrict or suspend offers and sales or other dispositions of the shares under the registration statement of which this prospectus supplement and accompanying prospectus forms a part, subject to certain terms and conditions contained in the registration rights agreement. In the event of such restriction or suspension, the selling shareholders will not be able to offer or sell or otherwise dispose of the shares of common stock under the registration statement, including under this prospectus supplement and the accompanying prospectus.

If one or more of the selling shareholders under the registration rights agreement intends to effect an underwritten offering of all or part of the shares covered by that agreement, we have agreed, subject to the terms and conditions of the registration rights agreement, to enter into and perform our obligations under an underwriting agreement with the managing underwriter or underwriters of such offering. The managing underwriters will be selected by the selling shareholders who own a majority of the shares to be subject to the underwritten offering; the underwriting agreement and any such managing underwriters, however, must be reasonably acceptable to us. We are not obligated to effect more than one underwritten offering pursuant to the registration rights agreement. Upon receiving notice of an intent to effect an underwritten offering, we must amend or supplement the registration statement as necessary in order to enable the subject shares of our common stock to be distributed pursuant to the underwritten offering. If requested by the managing underwriter, if any, or by the sellers' representative under the registration rights agreement on behalf of any selling shareholder, we must also promptly include in a prospectus supplement, post-effective amendment or free writing prospectus such information as the managing underwriters, if any, or any such selling shareholder may reasonably request in order to permit the intended method of distribution of such securities and make all required filings of such prospectus supplement, such post-effective amendment or free writing prospectus.

The foregoing description of the registration rights agreement does not purport to be complete and is subject to, and is qualified in its entirety by reference to, the full text of the registration rights agreement which we filed as Exhibit 10.1 to our Form 8-K filed on May 4, 2015.

PLAN OF DISTRIBUTION

General

The selling shareholders may sell all or a portion of the shares of our common stock beneficially owned by them and offered hereby from time to time in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. The selling shareholders may use any one or more of the following methods when selling shares of our common stock:

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers, including transactions on the New York Stock Exchange or in the over-the-counter market;

block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

settlement of short sales entered into after the effective date of the registration statement of which this prospectus supplement is a part;

through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;

a combination of any such methods of sale; and

any other method permitted pursuant to applicable law.

We are not aware of any plans, arrangements or understandings between any of the selling shareholders and any underwriter, broker-dealer or agent regarding the sale of the shares of our common stock by the selling shareholders. If any selling shareholder notifies us that a material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering or secondary distribution or a purchase by a broker or dealer, we may be required to file a prospectus supplement pursuant to the applicable rules promulgated under the Securities Act. We cannot assure you that the selling shareholders will sell any or all of the shares of our common stock offered by them pursuant to this prospectus supplement. In addition, we cannot assure you that the selling shareholders will not transfer, devise or gift the shares of our common stock by other means not described in this prospectus supplement. Moreover, shares of common stock covered by this prospectus supplement that qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus supplement. From time to time, one or more of the selling shareholders may pledge, hypothecate or grant a security interest in some or all of the shares owned by them. The pledgees, secured parties or persons to whom the shares have been hypothecated will, upon foreclosure, be deemed to be selling shareholders.

The number of a selling shareholder's shares offered under this prospectus supplement will decrease as and when it takes such actions as are described in this prospectus supplement. The plan of distribution for that selling shareholder's shares will otherwise remain unchanged. In addition, a selling shareholder may, from time to time, sell the shares short, and, in those instances, this prospectus supplement and the accompanying prospectus may be delivered in connection with the short sales and the shares offered under this prospectus supplement and the accompanying prospectus may be used to cover short sales.

A selling shareholder may enter into hedging transactions with broker-dealers, and the broker-dealers may engage in short sales of the shares in the course of hedging the positions they assume with that selling shareholder, including, without limitation, in connection with distributions of the shares by those broker-dealers. A selling shareholder may enter into option or other transactions with broker-dealers that involve the delivery of the shares offered hereby to the broker-dealers, who may then resell or otherwise transfer those securities.

In order to comply with various states' securities laws, if applicable, the common stock will be sold in such jurisdictions only through registered or licensed brokers or dealers.

We have agreed to indemnify the selling shareholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act, or the selling shareholders may be entitled to contribution. We may be indemnified by the selling shareholders against civil liabilities, including liabilities under the Securities Act that may arise from written information furnished to us by the selling shareholders specifically for use in this prospectus supplement. We may restrict or suspend offers and sales or other dispositions of the shares under the registration statement, of which this prospectus supplement and accompanying prospectus form a part, subject to certain terms and conditions contained in the registration rights agreement. In the event of such restriction or suspension, the selling shareholders will not be able to offer or sell or otherwise dispose of the shares of common stock under the registration statement, including under this prospectus supplement and the accompanying prospectus.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Section of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is http://www.sec.gov.

Our website address is http://www.postholdings.com. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus supplement or the accompanying prospectus.

This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above. Incorporation by Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus supplement and the accompanying prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus supplement and the accompanying prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement and the accompanying prospectus to the that statement.

We incorporate by reference our documents listed below and any filings made by us with the SEC subsequent to the date hereof under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, until all of the shares of common stock offered hereby are sold or this offering is otherwise terminated. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed "filed" with the SEC, including our Compensation Committee report and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of any Current Report on Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus supplement and the accompanying prospectus incorporate by reference the documents set forth below that have previously been filed with the SEC:

our Annual Report on Form 10-K for the fiscal year ended September 30, 2014 filed with the SEC on November 28, 2014;

our Quarterly Reports on Form 10-Q for the quarterly periods ended December 31, 2014 and March 31, 2015 filed with the SEC on February 6, 2015 and May 8, 2015, respectively;

our Definitive Proxy Statement on Schedule 14A, filed with the SEC on December 12, 2014, to the extent incorporated by reference in our Annual Report on Form 10-K for the fiscal year ended September 30, 2014; our Current Reports on Form 8-K filed with the SEC on October 1, 2014, October 10, 2014, October 14, 2014, November 3, 2014, January 26, 2015 (the third, fourth and fifth Form 8-Ks only), January 28, 2015, February 3, 2015, February 4, 2015, March 3, 2015, March 6, 2015, March 10, 2015, March 12, 2015, March 16, 2015, April 6, 2015, May 4, 2015, May 8 and May 11, 2015;

the first Current Report on Form 8-K filed with the SEC on May 19, 2014, except for Exhibit 99.5 (Unaudited Pro Forma Financial Statements of Post Holdings, Inc.);

the description of our common stock contained in our Form 10 registration statement which was declared effective January 26, 2012; and

additional reports filed with the SEC subsequent to the date hereof under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until we sell all of the shares offered hereby or otherwise terminate the offer of the shares (other than information furnished pursuant to Items 2.02 or 7.01 of any Current Report on Form 8-K).

Documents incorporated by reference are available from us without charge. You may obtain documents incorporated by reference in this prospectus supplement by requesting them in writing or by telephone from:

Post Holdings, Inc. 2503 S. Hanley Road St. Louis, MO 63144 Attention: Investor Relations (314) 644-7600

LEGAL MATTERS

Lewis Rice LLC, St. Louis, Missouri, will pass upon certain legal matters in connection the validity of the common stock.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRMS

The consolidated financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this prospectus supplement by reference to the Current Report on Form 8-K filed May 11, 2015 have been so incorporated in reliance on the report (which contains an explanatory paragraph on the effectiveness of internal control over financial reporting due to the exclusion of certain elements of the internal control over financial reporting of Dakota Growers Pasta Company, Inc., Dymatize Enterprises, LLC, Golden Boy Foods Ltd., and MFI Holding Corporation due to their acquisition by Post Holdings, Inc. during fiscal 2014) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements of MFI Holding Corporation, consisting of the consolidated balance sheets as of December 29, 2012 and December 28, 2013 and the related consolidated statements of earnings and comprehensive income, shareholders' equity and cash flows for the three years in the period ended December 28, 2013, incorporated in this prospectus supplement by reference to our first Current Report on Form 8-K filed on May 19, 2014, have been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report incorporated herein.

PROSPECTUS Post Holdings, Inc.

Common Stock

The selling shareholders to be named in a prospectus supplement may offer and sell shares of common stock of Post Holdings, Inc. from time to time in amounts, at prices and on terms that will be determined at the time of the offering. Each time shares of common stock are offered pursuant to this prospectus, we will provide a prospectus supplement and attach it to this prospectus. The prospectus supplement will contain more specific information about the offering and may also add, update or change information contained in this prospectus. This prospectus may not be used to offer or sell securities without a prospectus supplement identifying the selling shareholders and describing the method and terms of the offering.

We will not receive any proceeds from the sale of the shares of common stock pursuant to this prospectus or any related prospectus supplement. You should read this prospectus and any applicable prospectus supplement carefully before you make your investment decision.

Our common stock is listed on the New York Stock Exchange and trades under the symbol "POST." On May 8, 2015, the last reported sale price of our common stock on the New York Stock Exchange was \$49.89 per share. INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE "RISK FACTORS" ON PAGE 8 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this Prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is May 11, 2015.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the U.S. Securities and Exchange Commission, or the SEC, as a "well-known seasoned issuer" as defined in Rule 405 under the Securities Act of 1933, as amended, using a "shelf" registration process. Under this shelf registration process, selling shareholders over time may offer and sell our common stock in one or more offerings or resales. This prospectus provides you with a general description of the common stock selling shareholders may offer. Each time selling shareholders sell securities, we will provide a prospectus supplement that will contain specific information about the selling shareholder and the terms of that offering. The prospectus supplement and any free writing prospectus may also add to, update, supplement or clarify information contained in this prospectus.

If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement, you should rely on the prospectus supplement. Before purchasing any securities, you should carefully read both this prospectus and the applicable prospectus supplement, together with the additional information described under the heading "Where You Can Find More Information; Incorporation by Reference."

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Neither we nor any selling shareholder has authorized any other person to provide you with different information. Neither we nor any selling shareholders will make an offer to sell securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement to this prospectus is accurate as of the date on its respective cover, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. Except as otherwise indicated or unless the context otherwise requires, all references to "we," "our," "us," "Post" or the "Company" refer to Post Holdings, Inc., a Missouri corporation, together with its consolidated subsidiaries. References in this prospectus to "Ralcorp" refer to Ralcorp Holdings, Inc. and its consolidated subsidiaries (other than Post). On January 29, 2013, Ralcorp was acquired by ConAgra Foods, Inc. by means of the merger of a wholly-owned subsidiary of ConAgra Foods, Inc. into Ralcorp and as a result Ralcorp is now a wholly-owned subsidiary of ConAgra Foods, Inc. References in this prospectus to the "separation" refer to the separation of Post from Ralcorp on February 3, 2012. "Post cereals business" refers to the branded ready-to-eat cereals business of Post or, if prior to the separation, of Ralcorp. All references to "we," "our," "us," "Post" or the "Company" in the context of historical results prior to the separation refer to the Post cereals business. Unless we have indicated otherwise or the context so requires, references in this offering memorandum to "\$" or "dollars" are to the lawful currency of the United States.

FORWARD-LOOKING STATEMENTS

Forward-looking statements, within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, are made throughout this prospectus. These forward-looking statements are sometimes identified by the use of terms and phrases such as "believe," "should," "expect," "project," "estimate," "anticipate," "aim," "intend," "plan," "will," "can," "may," or similar expressions elsewhere in this prosp results of operations and financial condition may differ materially from those in the forward-looking statements. Such statements are based on management's current views and assumptions, and involve risks and uncertainties that could affect expected results. Those risks and uncertainties include but are not limited to the following:

our ability to realize the synergies contemplated by the acquisition of MOM Brands;

our ability to promptly and effectively integrate the MOM Brands business;

our high leverage and substantial debt, including covenants that restrict the operation of our business;

our ability to service our outstanding debt or obtain additional financing, including both secured and unsecured debt; the recent avian influenza outbreak in the U.S. Midwest;

our ability to continue to compete in our product markets and our ability to retain our market position;

our ability to identify and complete acquisitions, manage our growth and integrate acquisitions;

changes in our cost structure, management, financing and business operations;

significant volatility in the costs of certain raw materials, commodities, packaging or energy used to manufacture our products;

our ability to maintain competitive pricing, introduce new products or successfully manage our costs;

our ability to successfully implement business strategies to reduce costs;

impairment in the carrying value of goodwill or other intangibles;

the loss or bankruptcy of a significant customer;

allegations that our products cause injury or illness, product recalls and product liability claims and other litigation;

our ability to anticipate and respond to changes in consumer preferences and trends;

changes in economic conditions and consumer demand for our products;

disruptions in the U.S. and global capital and credit markets;

labor strikes, work stoppages or unionization efforts;

legal and regulatory factors, including advertising and labeling laws, changes in food safety and laws and regulations governing animal feeding operations;

our ability to comply with increased regulatory scrutiny related to certain of our products and/or international sales; the ultimate impact litigation may have on us, including the lawsuit (to which Michael Foods is a party) alleging

violations of federal and state antitrust laws in the egg industry;

our reliance on third party manufacturers for certain of our products;

disruptions or inefficiencies in supply chain;

our ability to recognize the expected benefits of the closing of our Modesto, California and Boise, Idaho manufacturing facilities;

fluctuations in foreign currency exchange rates;

consolidations in the retail grocery and foodservice industries;

change in estimates in critical accounting judgments and changes to or new laws and regulations affecting our business;

losses or increased funding and expenses related to our qualified pension plans;

loss of key employees;

our ability to protect our intellectual property;

changes in weather conditions, natural disasters, disease outbreaks and other events beyond our control;

our ability to successfully operate our international operations in compliance with applicable laws and regulations; our ability to satisfy the requirements of Section 404 of the Sarbanes-Oxley Act of 2002, including with respect to acquired businesses;

• business disruptions caused by information technology failures and/or technology hacking; and

other risks and uncertainties included under "Risk Factors" in this prospectus and those included in our Annual Report on Form 10-K filed with the SEC on November 28, 2014 and our Quarterly Report on Form 10-Q filed with the SEC on February 6, 2015.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, we undertake no obligation to update publicly any forward-looking statements for any reason after the date of this prospectus and those included in our Annual Report on Form 10-K for the fiscal year ended September 30, 2014 and our Quarterly Report on Form 10-Q for the quarter ended December 31, 2014, which are filed with the SEC and incorporated by reference in this prospectus, to conform these statements to actual results or to changes in our expectations.

INDUSTRY AND MARKET DATA

This prospectus and the documents incorporated by reference herein include industry and trade association data, forecasts and information that we have prepared based, in part, upon data, forecasts and information obtained from independent trade associations, industry publications and surveys and other independent sources available to us. Some data also are based on our good faith estimates, which are derived from management's knowledge of the industry and from independent sources. These third-party publications and surveys generally state that the information included therein has been obtained from sources believed to be reliable, but that the publications and surveys can give no assurance as to the accuracy or completeness of such information. We have not independently verified any of the data from third-party sources nor have we ascertained the underlying economic assumptions on which such data are based. Similarly, we believe our internal research is reliable, even though such research has not been verified by any independent sources and we cannot guarantee its accuracy or completeness. Market share data is based on information from Nielsen and is referenced Food, Drug and Mass Merchandisers ("FDM") or Expanded All Outlets Combined ("xAOC"), which includes FDM plus Walmart, club stores and certain other retailers.

TRADEMARKS AND SERVICE MARKS

The logos, trademarks, trade names and service marks mentioned in this prospectus, including Honey Bunches of Oats®, Pebbles[™], Post Selects®, Great Grains®, Post® Shredded Wheat, Golden Crisp®, Alpha-Bits®, Spoon Size® Shredded Wheat, Post® Raisin Bran, Grape-Nuts®, Honeycomb®, Attune®, Uncle Sam®, Erewhon®, Golden Temple[™], Peace Cereal®, Sweet Home Farm®, Willamette Valley Granola Company[™], Premier Protein®, Joint Juice®, PowerBar®, Musashi®, Dymatize®, Supreme Protein®, Papetti's®, All Whites®, Better'n Eggs®, Easy Eggs®, Abbotsford Farms®, Simply Potatoes® and Crystal Farms® brands are currently the property of, or are under license by, Post or its subsidiaries. We own or have rights to use the trademarks, service marks and trade names that we use in conjunction with the operation of our business. Some of the more important trademarks that we own or have rights to use that appear in this prospectus may be registered in the United States and other jurisdictions. Each trademark, trade name or service mark of any other company appearing in this prospectus is owned or used under license by such company.

WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

Available Information

We file reports, proxy statements and other information with the SEC. Information filed with the SEC by us can be inspected and copied at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of this information by mail from the Public Reference Section of the SEC at prescribed rates. Further information on the operation of the SEC's Public Reference Room in Washington, D.C. can be obtained by calling the SEC at 1-800-SEC-0330. The SEC also maintains a website that contains reports, proxy and information statements and other information about issuers, such as us, who file electronically with the SEC. The address of that website is http://www.sec.gov.

Our website address is http://www.postholdings.com. The information on our website, however, is not, and should not be deemed to be, a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained from the SEC or us, as provided below. Statements in this prospectus or any prospectus supplement about these documents are summaries, and each statement is qualified in all respects by reference to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters. You may inspect a copy of the registration statement at the SEC's Public Reference Room in Washington, D.C. or through the SEC's website, as provided above.

Incorporation by Reference

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus modifies or replaces that statement.

We incorporate by reference our documents listed below and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, which we refer to as the "Exchange Act" in this prospectus, between the date of this prospectus and the termination of the offering of the securities described in this prospectus. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed below or filed in the future, that are not deemed "filed" with the SEC, including our Compensation Committee report and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC:

our Annual Report on Form 10-K for the fiscal year ended September 30, 2014 filed with the SEC on November 28, 2014;

our Quarterly Reports on Form 10-Q for the quarterly periods ended December 31, 2014 and March 31, 2015 filed with the SEC on February 6, 2015 and May 8, 2015, respectively;

our Definitive Proxy Statement on Schedule 14A, filed with the SEC on December 12, 2014, to the extent incorporated by reference in our Annual Report on Form 10-K for the fiscal year ended September 30, 2014;

our Current Reports on Form 8-K filed with the SEC on October 1, 2014, October 10, 2014, October 14, 2014, November 3, 2014, January 26, 2015 (the third, fourth and fifth Form 8-Ks only), January 28, 2015, February 3,

November 5, 2014, January 20, 2015 (the unit, fourth and firth Form 8-KS only), January 28, 2015, February 4, 2015, March 3, 2015, March 6, 2015, March 10, 2015, March 12, 2015, March 16, 2015, April 6, 2015, May 4, 2015, May 8, 2015 and May 11, 2015;

the first Current Report on Form 8-K filed with the SEC on May 19, 2014, except for Exhibit 99.5 (Unaudited Pro Forma Financial Statements of Post Holdings, Inc.);

the description of our common stock contained in our Form 10 registration statement which was declared effective January 26, 2012; and

additional reports filed with the SEC subsequent to the date hereof under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until we sell all of the shares offered hereby or otherwise terminate the offer of the shares (other than information furnished pursuant to Items 2.02 or 7.01 of any Current Report on Form 8-K).

Documents incorporated by reference are available from us without charge. You may obtain documents incorporated by reference in this prospectus by requesting them in writing or by telephone from:

Post Holdings, Inc. 2503 S. Hanley Road St. Louis, MO 63144 Attention: Investor Relations (314) 644-7600

THE COMPANY

We are a consumer packaged goods holding company, operating in the center-of-the-store, refrigerated, active nutrition and private label food categories. In February 2012, we completed our legal separation via a tax free spin-off from Ralcorp and began trading on the New York Stock Exchange under the ticker symbol "POST." In 2012, we had a single operating segment, our Post branded ready-to-eat cereal business. As a result of acquisitions, during fiscal 2014 we operated in five reportable segments: Post Foods, Michael Foods, Active Nutrition, Private Brands and Attune Foods. For fiscal 2015, we realigned our organization to operate in three segments: Consumer Brands, Michael Foods Group and Private Label. The Consumer Brands segment includes the Post branded ready-to-eat cereal business, as well as the operations of MOM Brands Company, which we acquired on May 4, 2015, and the active nutrition businesses of Premier Nutrition Corporation, which we acquired in September 2013, and Dymatize Enterprises, LLC, which we acquired in February 2014, as well as the PowerBar and Musashi brands, which we acquired in October 2014. The Michael Foods Group segment is comprised of MFI Holding Corporation, which we acquired in June 2014 and produces value-added egg products, refrigerated potato products and cheese and other dairy case products, as well as the business of Dakota Growers Pasta Company, Inc., which we acquired in January 2014 and manufactures and distributes pasta. The Private Label segment includes the businesses of Golden Boy Foods Ltd., which we acquired in February 2014 and produces private label peanut and other nut butters, as well as dried fruits and snacking nuts, Attune Foods, which produces premium natural and organic granola, cereals and snacks, and American Blanching Company, which we acquired in November 2014 and manufactures peanut butter for national brands, private label retail and industrial markets and provides peanut blanching, granulation and roasting services for the commercial peanut industry.

Our principal executive offices are located at 2503 S. Hanley Road, St. Louis, Missouri 63144, and our telephone number is (314) 644-7600.

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RISK FACTORS

Investment in our common stock offered pursuant to this prospectus and the applicable prospectus supplement involves risks. You should carefully consider the risk factors included in or incorporated by reference to our Annual Report on Form 10-K for the fiscal year ended September 30, 2014 and our Quarterly Report on Form 10-Q for the quarter ended December 31, 2014, which are filed with the SEC, and any other subsequent Annual Reports on Form 10-Q or Current Reports on Form 8-K we file after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement, before acquiring any of such securities. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered common stock.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of shares of common stock by any selling shareholder.

DESCRIPTION OF CAPITAL STOCK

General

Our amended and restated articles of incorporation provide that we may issue up to 300,000,000 shares of common stock. As of May 5, 2015, there were 54,843,957 shares of our common stock issued and outstanding. Common Stock

Voting Rights. The holders of our common stock are entitled to one vote for each share held of record on the applicable record date on all matters voted on by shareholders, including elections of directors, and, except as otherwise required by law or provided in any resolution adopted by the our board of directors with respect to any shares of our preferred stock, the holders of such shares will exclusively possess all voting power. Our articles of incorporation do not provide for cumulative voting in the election of directors.

Dividends. Subject to any preferential rights of any outstanding series of preferred stock created by our board of directors from time to time, the holders of our common stock on the applicable record date will be entitled to such dividends as may be declared from time to time by our board of directors from funds available therefor, and upon liquidation will be entitled to receive pro rata all of our assets available for distribution to such holders.

Other Rights. Our articles of incorporation do not provide for any preemptive rights to purchase or subscribe for any stock or other securities, and there are no conversion rights or redemption or sinking fund provisions with respect to such stock. We are able to issue additional shares of common stock without shareholder approval, subject to applicable rules of the NYSE and Missouri law, for a variety of corporate purposes, including future public or private offerings to raise additional capital, corporate acquisitions and employee benefit plans and equity grants. The existence of unissued and unreserved common stock may enable us to issue shares to persons who are friendly to current management, which could discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise. We will not solicit approval of our shareholders for issuance of common stock unless our board of directors believes that approval is advisable or is required by applicable stock exchange rules or Missouri law.

Preferred Stock

Our board of directors has the authority to issue shares of preferred stock in one or more series and to fix, by resolution, the voting powers, which may be full or limited or no voting powers, designations, preferences and relative, participating, optional or other special rights and the qualifications and limitations or restrictions thereof of the shares constituting any series, without any further vote or action by the shareholders. Any shares of preferred stock so authorized and issued could have priority over our common stock with respect to dividend and/or liquidation rights. Our board of directors is expressly authorized to determine, for each class or series of preferred stock, the following information:

the number of shares constituting such series of preferred stock and the designation thereof;

the rate and times at which, and the conditions, if any, under which dividends will be payable on shares of that series, the status of those dividends as cumulative or non-cumulative and the priority of payments;

the voting rights pertaining to shares of the series;

whether or not the shares of the series are convertible into or exchangeable for other securities, including common stock, and the price and other terms and conditions of conversion or exchange;

the price or prices, times, terms and conditions upon which the shares of the series may be redeemed;

the terms of a sinking fund, if any, to be provided for such shares;

the rights which the holders of shares of the series have in the event of our voluntary or involuntary liquidation, dissolution, or winding up;

whether to include, from time to time, any additional shares of preferred stock in the series; and

any other relative powers, preferences and rights, and any qualifications, limitations or restrictions thereof. Authorizing the board of directors to establish preferred stock eliminates delays associated with seeking shareholder approval of the creation of a particular class or series of preferred stock. The rights of the holders of common stock will be subject to the rights of holders of any preferred stock issued at any time, including in the future. The issuance of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of discouraging, delaying or preventing an acquisition of us at a price which many shareholders find attractive. These provisions could also make it more difficult for our shareholders to effect certain corporate actions, including the election of directors.

We have issued 2,415,000 shares of our 3.75% Series B Cumulative Perpetual Convertible Preferred Stock, which we refer to as the Series B preferred stock. The Series B preferred stock has a \$0.01 par value per share and a \$100.00 liquidation value per share and earns cumulative dividends at a rate of 3.75% per annum payable quarterly on February 15, May 15, August 15 and November 15. The Series B preferred stock is non-voting and ranks senior to our outstanding common stock upon our dissolution or liquidation. The Series B preferred stock has no maturity date; however, holders of the preferred stock may convert their preferred stock at an initial conversion rate of 2.1192 shares of our common stock per share of Series B preferred stock, which is equivalent to a conversion price of \$47.19 per share of common stock at a redemption price equal to 100% of the liquidation preference per share, plus accrued and unpaid dividends if the closing sale price of our common stock has been at least 130% of the conversion price then in effect for at least 20 trading days during any 30 consecutive trading day period.

We have issued 3,200,000 shares of our 2.5% Series C Cumulative Perpetual Convertible Preferred Stock, which we refer to as the Series C preferred stock. The Series C preferred stock has a \$0.01 par value per share and a \$100.00 liquidation value per share and earns cumulative dividends at a rate of 2.5% per annum payable quarterly on February 15, May 15, August 15 and November 15. The Series C preferred stock is non-voting and ranks senior to our outstanding common stock upon the Company's dissolution or liquidation. The Series C preferred stock has no maturity date; however, holders of the preferred stock may convert their preferred stock at an initial conversion rate of 1.8477 shares of our common stock per share of Series C preferred stock, which is equivalent to a conversion price of \$54.12 per share of common stock. Additionally, on or after February 15, 2019, we will have the option to redeem some or all the Series C preferred stock at a redemption price equal to 100% of the liquidation preference per share, plus accrued and unpaid dividends if the closing sale price of our common stock has been at least 150% of the conversion price then in effect for at least 20 trading days during any 30 consecutive trading day period. Certain Provisions of Missouri Law and Our Articles and Bylaws

Amendment of Articles of Incorporation and Bylaws. The General Business Corporation Law of Missouri ("GBCL") provides that a corporation may amend its articles of incorporation upon a resolution of the board of directors, proposing the amendment and its submission to the shareholders for their approval by the holders of a majority of the shares of common stock entitled to vote. Our articles of incorporation provide that the articles of incorporation may be amended in accordance with and upon the vote prescribed by the laws of the State of Missouri, except that: two-thirds of all of the outstanding shares of capital stock then entitled to vote generally in the election of directors, •voting together as a single class, is required to amend, alter, change or repeal, or adopt any provision inconsistent with the provisions relating to directors, and

85% of all of the outstanding shares of capital stock then entitled to vote generally in the election of directors voting together as a single class, is required to amend, alter, change or repeal, or adopt any provision inconsistent with the provisions relating to indemnification of directors, officers and certain other persons, or, unless approved by a majority of the board of directors, any provision relating to certain business combinations.

Anti-Takeover Provisions in Our Articles of Incorporation and Bylaws. Some of the provisions in our articles of incorporation and bylaws and Missouri law could have the following effects, among others:

delaying, deferring or preventing a change in control of us;

delaying, deferring or preventing the removal of our existing management or directors;

deterring potential acquirors from making an offer to our shareholders; and

 limiting our shareholders' opportunity to realize premiums over prevailing market prices of our common stock in connection with offers by potential acquirors.

The following is a summary of some of the provisions in our articles of incorporation and bylaws that could have the effects described above.

Supermajority Voting Requirements for Certain Business Combinations. Our articles of incorporation contain a restriction on transactions defined as "business combinations" (as defined below). No business combination with an "interested shareholder" (as defined below) may be consummated without first being recommended by the board of directors and approved by the affirmative vote of 85% of our then outstanding voting stock of which the interested shareholder is not the beneficial owner. This approval requirement is in addition to any other requirement of law, our articles of incorporation and our bylaws. This approval requirement does not apply to a business combination that: has been approved by a majority of our continuing directors, which generally include our directors who were members of our board of directors prior to the time that any interested shareholder became a interested shareholder and any successors of such members who are designated as continuing directors by a majority of our then continuing directors; or

the consideration paid in the transaction is in cash or in the same form as the interested shareholder previously paid for a majority of shares owned by the interested shareholder, and the value of consideration received is not less than the higher of (i) the highest price paid by the interested shareholder for any shares in the two years immediately preceding the announcement of the business combination or (ii) the market value of the shares on the date the business combination is approved by our board of directors.

"Business combination" generally includes a merger or consolidation, sale or other disposition of a substantial amount of our assets, a plan of liquidation or dissolution of Post, or other transactions involving the transfer, issuance, reclassification or recapitalization of Post securities, in each case benefiting an individual or entity that, together with its affiliates and associates, is the beneficial owner of more than 10% of the outstanding shares entitled to vote in the election of directors. In certain circumstances, our board of directors may approve any of the foregoing in lieu of the super-majority shareholder approval provision. "Interested shareholder" generally includes a person who, together with its affiliates and associates, is the beneficial owners of 20% or more of our then outstanding voting stock. Other Supermajority Voting Requirements. Generally, all matters on which shareholders vote must be approved by a majority of the voting approved of the meting, subject to any voting rights are not be approved by a

majority of the voting power represented at the meeting, subject to any voting rights granted to holders of any preferred stock. However, in addition to the supermajority requirement for amendment of our articles of incorporation and certain business combinations discussed above, our articles of incorporation also provide that a director may be removed by shareholders only "for cause" and only by the affirmative vote of (i) two-thirds of all members of our board of directors, and (ii) the holders of at least two-thirds of our voting stock.

Classified Board of Directors. Our articles of incorporation and bylaws provide that our board of directors is divided into three classes of directors serving staggered three-year terms. Each class, to the extent possible, will be equal in number. Each class holds office until the third annual shareholders' meeting for election of directors following the most recent election of such class.

Directors, and Not Shareholders, Fix the Size of the Board of Directors. Our articles of incorporation and bylaws provide that the number of directors will be fixed from time to time exclusively pursuant to a resolution

adopted by a majority of our board of directors, but in no event will it consist of less than five nor more than twelve directors. Our board of directors currently contains seven members.

Directors are Removed for Cause Only. Missouri law provides that, unless a corporation's articles of incorporation provide otherwise, the holders of a majority of the corporation's voting stock may remove any director from office. Our articles of incorporation provide that shareholders may remove a director only "for cause" and with the approval of the holders of two-thirds of our outstanding voting stock.

Board Vacancies to Be Filled by Remaining Directors and Not Shareholders. Any vacancy created by any reason prior to the expiration of the term in which the vacancy occurs will be filled only by a majority of the remaining directors, even if less than a quorum. A director elected to fill a vacancy will be elected for the unexpired term of his predecessor.

Shareholders May Only Act by Written Consent Upon Unanimous Written Consent. Under our bylaws and Missouri law, shareholder action by written consent must be unanimous.

No Special Meetings Called by Shareholders. Our bylaws provide that special meetings may only be called by the chairman of our board of directors, our president, or a majority of the entire board of directors. Only such business will be conducted, and only such proposals acted upon, as are specified in the notice of the special meeting. Advance Notice for Shareholder Proposals and Nominations. Our bylaws contain provisions requiring that advance notice be delivered to Post of any business to be brought by a shareholder before an annual meeting and providing for procedures to be followed by shareholders in nominating persons for election to our board of directors. Ordinarily, the shareholder must give notice not less than 90 days nor more than 120 days prior to the date of the first anniversary of the prior year's annual meeting; provided, however, that in the event that the date of the meeting is more than 30 days before or more than 60 days after such date, notice by the shareholder must be received not earlier than the 120th day prior to the date of such annual meeting and not later than the close of business on the later of the 90th day prior to the date of such annual meeting or the tenth day following the day on which public announcement of the date of the annual meeting is first made. The notice must include a description of the proposal, the reasons for the proposal, and other specified matters. Our board of directors may reject any proposals that have not followed these procedures or that are not a proper subject for shareholder action in accordance with the provisions of applicable law.

Amendment of Bylaws. Our articles of incorporation and bylaws provide that only two-thirds of the entire board of directors may amend the bylaws.

Missouri Statutory Provisions. Missouri law also contains certain provisions which may have an anti-takeover effect and otherwise discourage third parties from effecting transactions with us, including control share acquisition and business combination statutes.

Business Combination Statute. Missouri law contains a "business combination statute" which is similar to the provision in our articles of incorporation and restricts certain "business combinations" (as defined below) between us and an "interested shareholder" (as defined below) or affiliates of the interested shareholder, for a period of five years after the date of the transaction in which the person becomes an interested shareholder, unless either such transaction or the interested shareholder's acquisition of stock is approved by our board of directors on or before the date the interested shareholder obtains such status.

The statute also provides that, after the expiration of such five-year period, business combinations are prohibited unless:

the holders of a majority of the outstanding voting stock, other than the stock owned by the interested shareholder, or any affiliate or associate of such interested shareholder, approve the business combination; or the business combination satisfies certain detailed fairness and procedural requirements.

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A "business combination" for this purpose includes a merger or consolidation, some sales, leases, exchanges, pledges and similar dispositions of corporate assets or stock and any reclassifications or recapitalizations that generally increase the proportionate voting power of the interested shareholder. An "interested shareholder" for this purpose generally means any person who, together with his or her affiliates and associates, owns or controls 20% or more of the outstanding shares of the corporation's voting stock.

A Missouri corporation may opt out of coverage by the business combination statute by including a provision to that effect in its governing corporate documents. We have not done so. The business combination statute may make it more difficult for a 20% beneficial owner to effect other transactions with us and may encourage persons that seek to acquire us to negotiate with our board prior to acquiring a 20% interest. It is possible that such a provision could make it more difficult to accomplish a transaction which shareholders may otherwise deem to be in their best interest. Control Share Acquisition Statute. Missouri also has a "control share acquisition statute." This statute may limit the rights of a shareholder to vote some or all of his shares. Generally, a shareholder whose acquisition of shares results in that shareholder having voting power, when added to the shares previously held by him, to exercise or direct the exercise of more than a specified percentage of our outstanding stock (beginning at 20%), will lose the right to vote some or all of his shares. In order for the shareholders to grant approval, the acquiring shareholder must meet disclosure requirements specified in the statute. In addition, a majority of the outstanding shares entitled to vote must approve the acquisition. Furthermore, a majority of the outstanding shares entitled to vote, but excluding all "interested shares," such as shares held by the acquiring shareholder or employee directors and officers, must approve the acquisition.

Not all acquisitions of shares constitute control share acquisitions. The following acquisitions do not constitute control share acquisitions:

good faith gifts;

transfers in accordance with wills or the laws of descent and distribution;

purchases made in connection with an issuance by us;

purchases by any compensation or benefit plan;

the conversion of debt securities;

acquisitions pursuant to a binding contract whereby the holders of shares representing at least two-thirds of our voting power agree to sell their shares to the acquirer, provided that such holders act simultaneously and the transaction is not pursuant to or in connection with a tender offer;

acquisitions pursuant to the satisfaction of some pledges or other security interests created in good faith; mergers involving us which satisfy other specified requirements of the GBCL;

transactions with a person who owned a majority of our voting power within the prior year; or

purchases from a person who previously satisfied the requirements of the control share statute, so long as the acquiring person does not have voting power after the ownership in a different ownership range than the selling shareholder prior to the sale.

Takeover Bid Disclosure Statute. Missouri's "takeover bid disclosure statute" requires that, under some circumstances, before making a tender offer that would result in the offeror acquiring control of us, the offeror must file certain disclosure materials with the Commissioner of the Missouri Department of Securities.

Transfer Agent

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

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SELLING SHAREHOLDERS

We may register securities covered by this prospectus for re-offers and resales by any selling shareholders named in a prospectus supplement. We are a well-known seasoned issuer, as defined in Rule 405 of the Securities Act, which allows us to add secondary sales of shares of our common stock by any selling shareholders by filing a prospectus supplement with the SEC. We may register these shares to permit selling shareholders to resell their shares when they deem appropriate. Selling shareholders may resell all, a portion or none of their shares at any time and from time to time. Selling shareholders may also sell, transfer or otherwise dispose of some or all of their shares of our securities in transactions exempt from the registration requirements of the Securities Act. We do not know when or in what amounts the selling shareholders may offer shares for sale under this prospectus and any prospectus supplement. We may pay all expenses incurred with respect to the registration of the shares of common stock owned by the selling shareholders, other than underwriting fees, discounts or commissions, which will be borne by the selling shareholders. We will provide a prospectus supplement naming the selling shareholders, the amount of securities to be registered and sold and any other terms of the securities being sold by the selling shareholders.

PLAN OF DISTRIBUTION

General

The selling shareholders may sell the shares of our common stock covered by this prospectus using one or more of the following methods:

on any national securities exchange or quotation service on which our common stock may be listed or quoted at the time of the sale;

in transactions otherwise than on these exchanges or systems or in the over-the-counter market;

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

privately negotiated transactions;

underwriters in a public offering;

short sales (including short sales "against the box");

through the writing or settlement of standardized or over-the-counter options or other hedging or derivative

transactions, whether through an options exchange or otherwise;

by pledge to secure debts and other obligations;

in other ways not involving market makers or established trading markets, including direct sales to purchasers or sales effected through agents;

a combination of any such methods of sale; and

any other method permitted pursuant to applicable law.

To the extent required by law, or otherwise necessary or appropriate, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. Any prospectus supplement relating to a particular offering of our common stock by the selling shareholders may include the following information to the extent required by law:

the name or names of the selling shareholders and the amounts to be sold by them;

the terms of the offering;

the names of any underwriters or agents;

the purchase price of the securities;

any delayed delivery arrangements;

any underwriting discounts and other items constituting underwriter compensation;

any initial public offering price; and

any discounts or concessions allowed, reallowed or paid to dealers.

The selling shareholders may offer our common stock to the public through underwriting syndicates represented by managing underwriters or through underwriters without an underwriting syndicate. If underwriters are used for the sale of our common stock, the securities will be acquired by the underwriters for their own account. The underwriters may resell the common stock in one or more transactions, including in negotiated transactions at a fixed public offering price or at varying prices determined at the time of sale. In connection with any such underwritten sale of common stock, underwriters may receive compensation from the selling shareholders, for whom they may act as agents, in the form of discounts, concessions or commissions.

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Underwriters may sell common stock to or through dealers, and the dealers may receive compensation in the form of discounts, concessions or commissions from underwriters and/or commissions from the purchasers for whom they may act as agents. Such compensation may be in excess of customary discounts, concessions or commissions. If the selling shareholders use an underwriter or underwriters to effectuate the sale of shares of common stock, we and/or they will execute an underwriting agreement with those underwriters at the time of sale of those securities. To the extent required by law, the names of the underwriters will be set forth in the prospectus supplement used by the underwriters to sell those securities. Unless otherwise indicated in the prospectus supplement relating to a particular offering of common stock, the obligations of the underwriters to purchase the securities will be subject to customary conditions precedent and the underwriters will be obligated to purchase all of the securities offered if any of the securities are purchased.

In effecting sales, brokers or dealers engaged by the selling shareholders may arrange for other brokers or dealers to participate. Broker-dealers may receive discounts, concessions or commissions from the selling shareholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. Such compensation may be in excess of customary discounts, concessions or commissions. If dealers are utilized in the sale of securities, the names of the dealers and the terms of the transaction will be set forth in a prospectus supplement, if required.

The selling shareholders may also sell shares of our common stock from time to time through agents. We will name any agent involved in the offer or sale of such shares and will list commissions payable to these agents in a prospectus supplement, if required. These agents will be acting on a best efforts basis to solicit purchases for the period of their appointment, unless we state otherwise in any required prospectus supplement.

The selling shareholders may sell shares of our common stock directly to purchasers. In this case, they may not engage underwriters or agents in the offer and sale of such shares.

Any underwriters, broker-dealers or agents that participate in the sale of the selling shareholders' shares of common stock or interests therein may be "underwriters" within the meaning of the Securities Act. Any discounts, commissions, concessions or profit they earn on any resale of the shares may be underwriting discounts and commissions under the Securities Act. Selling shareholders who are "underwriters" within the meaning of the Securities Act will be subject to the prospectus delivery requirements of the Securities Act. We will make copies of this prospectus available to the selling shareholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act, if applicable. If any entity is deemed an underwriter or any amounts deemed underwriting discounts and commissions, the prospectus supplement will identify the underwriter or agent and describe the compensation received from the selling shareholders.

We are not aware of any plans, arrangements or understandings between any of the selling shareholders and any underwriter, broker-dealer or agent regarding the sale of the shares of our common stock by the selling shareholders. We cannot assure you that the selling shareholders will sell any or all of the shares of our common stock offered by them pursuant to this prospectus. In addition, we cannot assure you that the selling shareholders will not transfer, devise or gift the shares of our common stock by other means not described in this prospectus. Moreover, shares of common stock covered by this prospectus that qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus.

From time to time, one or more of the selling shareholders may pledge, hypothecate or grant a security interest in some or all of the shares owned by them. The pledgees, secured parties or persons to whom the shares have been hypothecated will, upon foreclosure, be deemed to be selling shareholders.

The number of a selling shareholder's shares offered under this prospectus will decrease as and when it takes such actions. The plan of distribution for that selling shareholder's shares will otherwise remain unchanged. In addition, a selling shareholder may, from time to time, sell the shares short, and, in those instances, this prospectus may be delivered in connection with the short sales and the shares offered under this prospectus may be used to cover short sales.

A selling shareholder may enter into hedging transactions with broker-dealers and the broker-dealers may engage in short sales of the shares in the course of hedging the positions they assume with that selling shareholder, including, without limitation, in connection with distributions of the shares by those broker-dealers. A selling shareholder may enter into option or other transactions with broker-dealers that involve the delivery of the shares offered hereby to the broker-dealers, who may then resell or otherwise transfer those securities. Indemnification

We and the selling shareholders may enter agreements under which underwriters, dealers and agents who participate in the distribution of our common stock may be entitled to indemnification by us and/or the selling shareholders against various liabilities, including liabilities under the Securities Act, and to contribution with respect to payments which the underwriters, dealers or agents may be required to make.

Price Stabilization and Short Positions

If underwriters or dealers are used in the sale, until the distribution of the securities is completed, rules of the SEC may limit the ability of any underwriters to bid for and purchase the securities. As an exception to these rules, representatives of any underwriters are permitted to engage in transactions that stabilize the price of the securities. These transactions may consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of the securities. If the underwriters create a short position in the securities in connection with an offering (that is, if they sell more securities than are set forth on the cover page of the applicable prospectus supplement) the representatives of the underwriters may reduce that short position by purchasing securities in the open market.

We make no representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, we make no representation that the representatives of any underwriters will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

LEGAL MATTERS

Lewis Rice LLC, St. Louis, Missouri, will pass upon certain legal matters in connection the validity of the common stock.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRMS

The consolidated financial statements and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) incorporated in this prospectus by reference to the Current Report on Form 8-K filed May 11, 2015 have been so incorporated in reliance on the report (which contains an explanatory paragraph on the effectiveness of internal control over financial reporting due to the exclusion of certain elements of the internal control over financial reporting of Dakota Growers Pasta Company, Inc., Dymatize Enterprises, LLC, Golden Boy Foods Ltd., and MFI Holding Corporation due to their acquisition by Post Holdings, Inc. during fiscal 2014) of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

The consolidated financial statements of MFI Holding Corporation, consisting of the consolidated balance sheets as of December 29, 2012 and December 28, 2013 and the related consolidated statements of earnings and comprehensive income, shareholders' equity and cash flows for the three years in the period ended December 28, 2013, incorporated in this prospectus supplement by reference to our first Current Report on Form 8-K filed on May 19, 2014, have been audited by Ernst & Young LLP, an independent registered public accounting firm, as stated in their report incorporated herein.

1,878,931 shares Post Holdings, Inc. Common Stock

Prospectus Supplement May 11, 2015

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