

BLOG

WHAT IS EXPRESS® SOYMEAL?

September 14, 2017

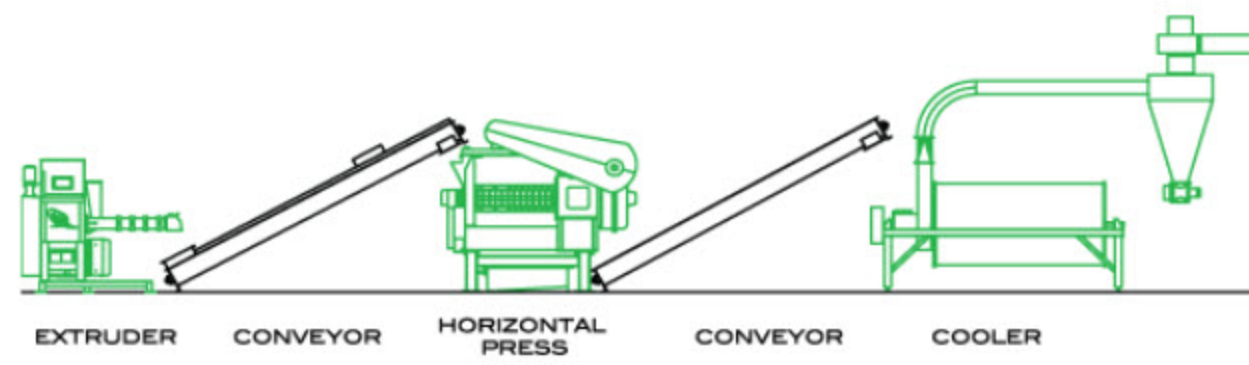
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Soybeans consumed by livestock and poultry animals worldwide are processed through solvent or mechanical extraction then converted to soybean meal.

As the inventor of high shear, dry extrusion, Insta-Pro International® has continued to provide innovative **processing solutions** for oilseeds and other applications. For example, when processing soybeans, we first run them through our extruder then they are pressed using a mechanical oil press to extract the oil. This process, also known as "ExPress® Technology", doesn't require the use of chemicals and results in **high-quality soybean meal** and soy oil.



Compared to solvent extracted soybean meal, ExPress® soybean meal contains highly digestible **protein, energy**. Because of the chemical-free, mechanical process, ExPress® soybean meal has lecithin and natural antioxidant tocopherols. ExPress® soybean meal has higher residual oil and higher amino acid digestibility that allows greater flexibility in feed formulation. As an ingredient, it is highly likely that no additional fat or oil source is required in a dietary formulation when ExPress® meal is used, but not guaranteed. This is the typical ingredient composition, and nutrient levels will vary naturally:

Typical Nutrient Profile of ExPress® Soy meal

Dry Matter	= 95%
Crude Protein	= 43-47%
Fat (acid hydrolysis)	= 6%-8%
Crude fiber	= 5%-7%
Ash	= 5.3%
Free Fatty Acids	= 0.5%
Linoleic	= 4.5%
Linolenic Acid	= 0.9%
Lecithin	= 0.20%
Lysine (total)	= 2.86%

ExPress® soymeal can be used as the major protein source for all species from 15-40% of a formulation.

There are many advantages of using ExPress® meal:

1. Eliminates the need for other soy protein in formulations such as solvent, extracted soybean meal.
2. Can be used in feed formulation at a higher inclusion rate versus full-fat soybean meal.
3. Gives you more control to fine tune the amount of oil used for poultry and swine diets compared to full-fat soybean meal.
4. Reduces the possibility of milk fat depression when fed to dairy cows or lactating sows compared to full-fat soybean meal.
5. Reduces the number of ingredients in your inventory.

Processing your oilseeds with our ExPress® method can help benefit your business in many ways. If you are interested in learning more, [send us a message](#) to learn more.

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Insta-Pro® Extrusion Technology

Analysis of ExPress® Soybean Meal

Proximate Analysis

Dry Matter	94.00%
Crude Protein	43.00% - 46.00%
Crude Fat*	6.00% - 8.00%
Crude Fiber	5.50%
Ash	5.30%
Undegradable Protein	50.00% - 55.00%
	<i>(% of Crude Protein)</i>
Free Fatty Acids	0.50%
Linoleic Acid	3.00%
Linolenic Acid	0.65%
Lecithin	0.20%

*Values vary based on bean type, testing procedures, and operational & maintenance practices.

- Based on the assumption that raw soybeans approximate analysis is within the following ranges:

Moisture	9.00% - 11.00%
Crude Protein	36.00% - 38.00%
Crude Fat	16.00% - 20.00%

Average Bulk Density

Per ft ³	Per m ³
35.75 lbs.	1,262 lbs.
16.25 kg.	574 kg.

Amino Acid Composition % Digestibility***

	<u>As Fed</u>	<u>Poultry*</u>	<u>Swine**</u>
Arginine	3.20	93.20	93.70
Histidine	1.20	89.70	89.42
Isoleucine	2.20	92.00	89.72
Leucine	3.50	92.00	88.48
Lysine	2.86	88.70	90.90
Methionine	0.60	90.60	88.85
Cysteine	0.66	83.40	81.98
Phenylalanine	2.30	93.40	90.01
Tyrosine	1.60	92.10	86.91
Threonine	1.60	87.90	79.14
Tryptophan	0.70	97.10	88.38
Valine	2.40	89.10	87.37

*True digestibility (cecectomized cockerels)

**Apparent ileal digestibility (T-cannulated barrows)

***Extrusion temperature of 320°F (160°C)

Mineral Content

Major: Calcium	0.26%
Phosphorus	0.63%
Sodium	0.04%
Chloride	0.04%
Potassium	2.20%
Magnesium	0.30%
Sulfur	0.30%

Trace: Copper	23 ppm
Iron	120 ppm
Manganese	30 ppm
Zinc	40 ppm

All values are typical analytical results and not guaranteed levels.

Insta-Pro® Extrusion Technology

Analysis of ExPress® Soybean Meal

Energy Content (Dry Matter Basis)

	<u>Kcal/Lb.</u>	<u>Kcal/Kg.</u>
TME _n : Poultry ^a	1535	3385
ME: Swine ^b	1876	4128
	<u>Mcal/Lb.</u>	<u>Mcal/Kg.</u>
NE _m : Ruminants ^c	1.08	2.38
NE _g : Ruminants	0.78	1.72
NE _L : Dairy	1.03	2.27
ME: Ruminants	1.56	3.43
TDN: Ruminants	88.00%	
Neutral Detergent Fiber:	11.00%	
Acid Detergent Fiber:	10.00%	

Typical Inclusion Rates^{1,2}

- May be used as the major source for protein for all specie
- Inclusion rate will vary with specie and the stage of production:
 - Monogastrics: Inclusion from 15% to 40% of the complete diet
 - Ruminants: Inclusion up to 25% of the grain mix

^aParsons et al., 2016

^bKSU, 1998

^cCalculated based on NRC Dairy, 1989, Page 9

All values are typical analytical results and not guaranteed levels.

SOLD TO:

Majestic Milling
PO Box 280
Cassville, MO 65625
Contact: Mark Hudson, Dave Elder
Phone: 417-847-6247
Email: David@majesticmilling.com
Email: Mark@majesticmilling.com

SHIP TO:

Majestic Milling
148 Mill St
Aurora, MO 65605

PURCHASE AGREEMENT 62559-2

DATE OF ISSUE: 7/12/2022

Quote requested by: Craig Briney

APPLICATION INFORMATION:

Application: Express @ Soymeal
Rate: _____
3-Phase Voltage: yes
Hz: tbd

QTY	DESCRIPTION	UNIT COST	TOTAL USD
3	Paired INSTA-PRO Model 2000 Extruder with Top Feeders, (2) 125 hp drive (2) 125 hp (94 kW) Main Drive Motor Paired remote mount PLC Control Panel w/Digital Readout & A/C Frequency Drive, PIP Ready (2) 2 hp (1.5 kW) Variable Speed Feeder Motor Electric Starter for Main Motor not included, but can be quoted upon request. Design is "Open Frame" / Off-Ground & encourages easy cleaning & maintenance	\$ 109,675.00	\$ 329,025.00
6	Customized Wear Parts Package for Extruder Base package of custom selected parts to fit individual applications	\$ 4,874.00	\$ 29,244.00
3	INSTA-PRO 9' x 20' Vented Conditioning Conveyor w/Portable Stand 2hp (1.5 kW) gear motor Carbon Steel construction Vented lid Dual inlet hopper 2-way diverter valve	\$ 17,260.00	\$ 51,780.00
1	Insta-Pro Model 6008 counterflow cooler Exclusive design featuring radial air exhaust and ducted air inlet 2 hp (1.5 kW) feeder 2 hp (1.5 kW) product leveler 36" (91 cm) HE cyclone 40 hp (30 kW) fan 1 hp (0.75 kW) rotary airlock <i>Maximum of 16,000 lbs/h (7272 kg/hr) meal cooling capacity*</i> <i>*based on 32 lbs/ft3 (512 kg/m3) material density and incoming moisture content of 5%</i> Cooler performance subject to local temperature and humidity	\$ 141,860.00	\$ 141,860.00
3	INSTA-PRO MODEL 5005 Extended Cage Continuous Oil Press 8" screw with 63" cage section 60 hp (44.75 kW) main drive motor Gear drive with external thrust housing 0.5 hp oil discharge screw 1-1/2" air diaphragm transfer pump Capacity up to 52 TPD * Chain hoist / cage opener, required for 5005 press, one set per plant location. Electric starter for main motor not included, but can be quoted upon request. Cage length to diameter ratio of 8:1	\$ 199,105.00	\$ 597,315.00
3	Customized Wear Parts Package for Press Base package of custom selected parts to fit individual applications	\$ 9,725.00	\$ 29,175.00
1	Start-Up and Training Service A 5 day (maximum) professional service by 1 Insta-Pro Extrusion Technology Specialist to train plant operators on the use, operation and maintenance of equipment supplied. <u>In addition, the following are for the account of the buyer:</u> * 1 Economy class round trip airfare for 1 Insta-Pro Technology Specialist. * Tourist class accommodation and meals. * Local Transport. The buyer will pay for each day required at site over the maximum (5) days allowed, unless determined and approved in writing by Insta-Pro to be otherwise.	\$ 6,300.00	\$ 6,300.00

(continued on next page)

1	FREE ON-SITE SERVICE VISIT Purchase of the new Insta-Pro Equipment listed above includes a one day on-site service visit; to occur within 12 months following completion of Start-up & Training service or 18 months from date of dispatch, whichever comes first.	Included	Included
1	Steel Surcharge	\$ 70,704.00	\$ 70,704.00

Subtotal	\$ 1,255,403.00
Less Special Discount (valid if deposit received by July 15, 2022)	\$ (29,460.00)
Packaging & Handling	\$ 700.00
TOTAL FCA GRIMES, IOWA USA	\$ 1,226,643.00

*Consignee responsible for customs clearance, import duties and taxes. Incoterms 2020 apply.

Above pricing based on FCA Grimes, Iowa in accordance with Incoterms 2020. Freight not included but can be quoted upon request.

In order to comply with recent changes in sales tax regulations, Insta-Pro may be obligated to collect taxes on this purchase. If you are entitled to sales tax exemption, please send us the completed exemption certificate prior to shipment.

DISPATCH FROM INSTA-PRO: Estimated 24-28 weeks from receipt of confirming deposit and signed Purchase Agreement. Lead times subject to change and are dependent on availability of components at time of order.

VALIDITY: This quote is valid until July 15, 2022

PAYMENT TERMS:

- 25% deposit due to initiate the order (due by July 15, 2022)
- 35% midterm payment due on October 15, 2022
- 35% progress payment due 10 business days prior to dispatch from Insta-Pro
- 5% balance due upon completion of Start-Up or within 6 months of ship date; whichever occurs first

PLEASE REFERENCE THE PURCHASE AGREEMENT WHEN MAKING PAYMENT.

The attached terms & conditions are incorporated into this Purchase Agreement and are a material part hereof.
The attached Project Survey Forms are incorporated into this Purchase Agreement and are a material part hereof.

Karl S. Arnold

Karl Arnold
Vice President, Sales & Marketing

Buyer/Consignee's signature of acceptance of Purchase Agreement terms and conditions is **REQUIRED** along with confirming payment. This allows the order to be confirmed and manufacturing to be initiated.

DocuSigned by:

Mark Hudson
(Signature)

532E8D967AB420...

Mark Hudson

(Please print name here)

NOT INCLUDED UNDER THIS PROPOSAL:

ANY ITEM NOT SPECIFICALLY SET FORTH HEREIN, INCLUDING WITHOUT LIMITATION, SITE WORK OR CONCRETE; BUILDING OR UTILITIES; PERMITS, FEES, OR INSURANCE; FREIGHT; INSTALLATION OR SUPERVISION AT JOB SITE; ELECTRICAL WIRING, HOOKUP, STARTERS OR MOTOR CONTROL CENTER (UNLESS SPECIFIED); EQUIPMENT PLATFORMS OR SUPPORT STANDS (UNLESS SPECIFIED), SPOUTINGS OR FITTINGS; SPARE PARTS FOR AUXILIARY EQUIPMENT; AIR LINES, PIPING, OR COMPRESSOR; OIL LINES, PIPING, OR STORAGE; RAW MATERIAL STORAGE UNLESS SPECIFIED; FINAL PRODUCT STORAGE; UNLESS SPECIFIED ABOVE, ADDITIONAL ITEMS NOT INCLUDED.

INSTA-PRO INTERNATIONAL RESERVES THE RIGHT TO MODIFY ANY EQUIPMENT SPECIFICATION AS NEW TECHNOLOGIES ARE AVAILABLE, WHILE MAINTAINING THE PRODUCTION CAPACITY AND MAINTAINING OR IMPROVING PRODUCT QUALITY.

U.S. GOVERNMENT REGULATIONS APPLY TO THIS TRANSACTION. NO ITEM SOLD BY INSTA-PRO IS TO BE SOLD OR GIVEN TO 'DENIED' PERSONS OR ENTITIES; THEY SHALL NOT BE USED IN A WAY DIFFERENT FROM ITS INTENDED USE AND DIVERSION OF ALL OR SOME OF THE PRODUCTS TO A THIRD COUNTRY IS STRICTLY PROHIBITED. IT IS UNLAWFUL TO EXPORT ANY PRODUCT(S) TO THE FOLLOWING EMBARGOED COUNTRIES, WHETHER DIRECTLY OR VIA A 3RD PARTY: CUBA, IRAN, NORTH KOREA, SUDAN, OR SYRIA. INSTA-PRO INTERNATIONAL RESERVES THE RIGHT TO KNOW WHAT COUNTRY OUR PRODUCTS ARE BEING EXPORTED TO AT TIME OF SALE.



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INSTA-PRO INTERNATIONAL STANDARD TERMS & CONDITIONS

1. **TERMS OF SALE.** These Standard Terms and Conditions ("Terms and Conditions") govern all sales of products ("Products") and services ("Services") by HEARTLAND AGRI PARTNERS LLC D/B/A INSTA-PRO INTERNATIONAL AND ITS AFFILIATES ("Seller") to the individual or entity ("Buyer") set forth on the Purchase Agreement to which these standard terms and conditions are attached ("Purchase Agreement"). Upon execution of the Purchase Agreement, the Terms and Conditions, along with the Purchase Agreement, shall constitute a binding agreement. In case of a conflict between these Terms and Conditions and anything set forth in the Purchase Agreement, the Terms and Conditions shall control unless the provisions set forth in the Purchase Agreement expressly state that they are intended to supersede the Terms and Conditions. No additional, modified or altered terms are accepted by Seller notwithstanding the terms set forth in any writing, purchase order, invoice or other communication from Buyer. Buyer agrees to keep the terms of the Purchase Agreement confidential.

normal wear and tear of internal barrel parts. The use of any unauthorized repair or replacement parts other than original Insta-Pro parts will void the warranty. All claims under this warranty must be made in writing to the Seller at 2100 SE Gateway Drive, Suite 500, Grimes, Iowa 50111, and should include the following: Name, address, and telephone number of the Buyer; date of purchase; model and serial number of the unit; nature of the defect, malfunction and / or complaint.
2. **PRICE AND ACCEPTANCE.** Prices are subject to change in the event of increase in our supplier's prices or extension of delivery date beyond our control and shall become firm only when deposit is received or an approved letter of credit is in place.
3. **DELAYED SHIPMENT.** If equipment is not shipped within 30 days of equipment completion, due to the fault of the Buyer, Buyer shall pay a holding charge of .5% per month on total Purchase Agreement value. After 90 days of such finished equipment storage, Seller may cancel Seller's obligations under the Purchase Agreement, sell the applicable equipment to another purchaser and retain Buyer's deposit in which Buyer's rights will then be forfeited.
4. **SECURITY INTEREST.** Buyer grants to Seller a purchase money security interest in and to all items sold by Seller to Buyer until such time as Buyer has paid all amounts owed to Seller.
5. **CANCELLATIONS.** Buyer may cancel the Purchase Agreement only with Seller's written consent, and in such event Buyer shall forfeit the deposit as well as make a mutually agreed termination payment.
6. **TAXES.** Buyer is responsible for paying all applicable taxes. Buyer warrants that its transactions are exempt from any state and local sales or uses taxes and agrees to provide Seller with appropriate documents evidencing such exemption, otherwise, Buyer agrees to pay Seller any such tax, interest and penalties.
7. **LATE PAYMENT; COLLECTION FEES AND COSTS.** Payments more than 30 days late shall bear interest at 1% per month, and in Seller's discretion, the performance by Seller of the Purchase Agreement may be suspended until such time as Buyer cures all late payments. If Buyer fails to pay pursuant to the terms set forth in the Purchase Agreement and Seller elects to take legal action to collect amounts owed, Buyer shall pay all costs incurred by Seller including, but not limited to: attorney's fees, collection agency fees, court costs, deposition and transcript costs, sheriff's fees, special process server fees, expert witness fees and bond costs.
8. **CONDITIONS BEYOND CONTROL OF SELLER.** Seller will not be liable for any delay or failure to make delivery occasioned in whole or part by Buyer or any person or cause beyond Seller's control, including, without limitation, strikes, lockouts, fire, embargoes, war, terrorists attacks or other outbreaks or hostilities, inability of Seller to obtain shipping space, governmental acts and regulations, accidents, acts of God or other conditions beyond Seller's control.
9. **INSTA PRO BRANDED PRODUCTS LIMITED WARRANTY.** (a) Seller extends to Buyer if the original purchaser of Insta-Pro branded Products only the limited warranty set forth herein.

(b) For a period not to exceed either 18 months from date of shipment from factory or 12 months from date of startup, whichever occurs first and regardless of the accumulated operating hours, Seller warrants, to the original consumer-purchaser, that new equipment will be free from defects in either material or workmanship. This warranty is non-transferable and is valid only if the equipment has been inspected and initial start-up performed by an authorized Insta-Pro technician. This warranty does not apply if it is determined that machines have been altered, abused or not used in accordance with the instructions as listed in the Operator's Manual. This limited warranty does not apply to
10. **WARRANTY DISCLAIMER. THERE ARE NO WARRANTIES EXCEPT AS SET FORTH HEREIN. ALL IMPLIED WARRANTIES ARE EXCLUDED AND DISCLAIMED, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OR ANY LOST REVENUES OR PROFITS DUE TO LOSS OF PRODUCTION TIME. IN NO EVENT SHALL SELLER BE LIABLE FOR DAMAGES IN EXCESS OF THE ORIGINAL PURCHASE PRICE OF THIS PRODUCT.** The Seller reserves the right to change warranty policy at any time, without notification.
11. **APPLICABLE LAW, VENUE.** The Purchase Agreement shall be governed by the laws of the State of Iowa without regard to conflict of laws provisions. The parties agree that any action arising from or relating to the Purchase Agreement shall be filed only in a state or federal court sitting in Polk County, Iowa. The parties hereby submit to the jurisdiction of such state and federal courts and agree and consent not to assert in any proceeding that any such process is brought in an inconvenient forum or that the venue thereof is improper.
12. **ASSIGNMENT; SEVERABILITY.** If any provision of the Purchase Agreement is determined to be unenforceable or invalid, the unenforceable or invalid part shall be deemed severed from the Purchase Agreement and the remaining portions of the Purchase Agreement shall be carried out with the same force as if the severed portions had NOT been part of the Purchase Agreement. The Purchase Agreement may not be assigned by Buyer without the prior written consent of the Seller.
13. **INTELLECTUAL PROPERTY.** Buyer represents that it has provided no information to Seller proprietary to another party and agrees to indemnify, defend and hold harmless Seller from any claim from a third party based in whole or part on infringement of another party's intellectual property rights.
14. **SUPERSEDING CLAUSE.** The Purchase Agreement, including these terms and conditions, contains the terms and conditions upon which Seller offers this quotation for materials and/or services referred herein. Buyer hereby acknowledges that the terms and conditions contained in this document supersede all conflicting or otherwise inconsistent terms and conditions contained elsewhere or any verbal statements made by Seller or anyone acting on Seller's behalf. (Terms updated 5-Apr-2018)

(c) Any designs or descriptions of equipment, processes or other items in any document, drawing, specification or any samples, models, bulletins, process flow or similar material used in connection with this sale are for the sole purpose of identifying the equipment, processes or other items and are not to be construed as an express or implied warranty that the equipment, processes or other items will conform to such description. Any field advisory or installation support is advisory only. There is no warranty expressed or implied related to production rates or other production commitments. The Seller's sole duty and liability under this warranty shall be limited to the Seller's replacement, repair or adjustment, at Seller's option, of a defective item or any defective part of the item. Seller reserves the right to examine the defective material or item to confirm warranty failure, and upon request by Seller, Buyer shall return the item, postage prepaid, to Seller at the address set forth above for such examination. The Buyer shall be responsible for all expenses related to removal, reinstallation, and freight involved in the matters covered by this warranty.

(d) Seller shall (to fullest extent permitted by the terms of such warranties) pass through the benefits of any express warranties received from third party suppliers. Seller shall have no additional obligations relating to any equipment provided and separately warranted by third parties.