



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

| (51) International Patent Classification <sup>6</sup> :<br><b>A23K 1/14, 1/18</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>A1</b> | (11) International Publication Number: <b>WO 99/51108</b><br>(43) International Publication Date: <b>14 October 1999 (14.10.99)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |            |      |         |        |      |         |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
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| <p>(21) International Application Number: <b>PCT/US99/07259</b></p> <p>(22) International Filing Date: <b>2 April 1999 (02.04.99)</b></p> <p>(30) Priority Data:<br/><b>09/055,538</b>      <b>6 April 1998 (06.04.98)</b>      <b>US</b></p> <p>(71) Applicant: <b>THE IAMS COMPANY [US/US]; 7250 Poe Avenue, Dayton, OH 45414-5801 (US).</b></p> <p>(72) Inventor: <b>SUNVOLD, Gregory, Dean; 651 Snedsted Drive, Baton, OH 45320 (US).</b></p> <p>(74) Agents: <b>HAGAN, Timothy, W. et al.; Killworth, Gottman, Hagan &amp; Schaeff, L.L.P., One Dayton Centre, Suite 500, One South Main Street, Dayton, OH 45402-2023 (US).</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |           | <p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b><br/><i>With international search report.<br/>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> |            |      |         |        |      |         |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| <p>(54) Title: <b>COMPOSITION FOR IMPROVING GLUCOSE AND INSULIN METABOLISM IN COMPANION ANIMALS</b></p> <div data-bbox="303 1187 1340 1792"> <table border="1"> <caption>Estimated Glucose Levels (mg/dl) from Graph</caption> <thead> <tr> <th>Time (min)</th> <th>Corn</th> <th>Wheat</th> <th>Barley</th> <th>Rice</th> <th>Sorghum</th> </tr> </thead> <tbody> <tr> <td>BASELINE</td> <td>85</td> <td>85</td> <td>85</td> <td>85</td> <td>85</td> </tr> <tr> <td>10</td> <td>91</td> <td>91</td> <td>86</td> <td>82</td> <td>82</td> </tr> <tr> <td>20</td> <td>94</td> <td>94</td> <td>87</td> <td>83</td> <td>83</td> </tr> <tr> <td>30</td> <td>94</td> <td>94</td> <td>87</td> <td>84</td> <td>84</td> </tr> <tr> <td>45</td> <td>101</td> <td>94</td> <td>88</td> <td>85</td> <td>85</td> </tr> <tr> <td>60</td> <td>100</td> <td>94</td> <td>89</td> <td>86</td> <td>86</td> </tr> <tr> <td>120</td> <td>88</td> <td>90</td> <td>88</td> <td>84</td> <td>84</td> </tr> <tr> <td>180</td> <td>90</td> <td>91</td> <td>89</td> <td>86</td> <td>86</td> </tr> <tr> <td>240</td> <td>88</td> <td>88</td> <td>88</td> <td>88</td> <td>88</td> </tr> </tbody> </table> </div> <p>(57) Abstract</p> <p>A composition is provided to improve glucose and insulin metabolism in companion animals by controlling the postprandial glycemic and/or insulin response in those animals. The composition includes a source of protein, a source of fat, and a source of carbohydrates from a multiple grain source.</p> |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Time (min) | Corn | Wheat   | Barley | Rice | Sorghum | BASELINE | 85 | 85 | 85 | 85 | 85 | 10 | 91 | 91 | 86 | 82 | 82 | 20 | 94 | 94 | 87 | 83 | 83 | 30 | 94 | 94 | 87 | 84 | 84 | 45 | 101 | 94 | 88 | 85 | 85 | 60 | 100 | 94 | 89 | 86 | 86 | 120 | 88 | 90 | 88 | 84 | 84 | 180 | 90 | 91 | 89 | 86 | 86 | 240 | 88 | 88 | 88 | 88 | 88 |
| Time (min)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Corn      | Wheat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Barley     | Rice | Sorghum |        |      |         |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
| BASELINE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 85        | 85                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 85         | 85   | 85      |        |      |         |          |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |     |    |    |    |    |    |
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